

**APPENDIX 10.2**

**FEDERAL PERMIT APPLICATIONS  
OR APPROVALS**

**APPENDIX 10.2.1**  
**316 DEMONSTRATIONS**

## 10.2.1 316 Demonstrations

The Crystal River Energy Complex (CREC) holds two National Pollutant Discharge Elimination System (NPDES) permits: No. FL0000159 was issued for Units 1, 2, and 3, and No. FL0036366 covers Units 4 and 5. The cooling water intakes for Units 1, 2, and 3 are subject to Clean Water Act (CWA) Section 316(b); however, Units 4 and 5 are not subject to 316(b), because they withdraw cooling tower makeup from the discharge canal for Units 1, 2, and 3. Compliance with CWA Sections 316(a) for Units 1 through 5 is included as a condition of Permit No. FL0000159.

The earliest studies on the thermal effects of CREC were conducted by the Florida Department of Natural Resources in 1969 and 1970 and by the University of Florida between 1972 and 1974. A number of 316-related studies followed, beginning with studies conducted in 1976 that assessed operations of Units 1 and 2 as a condition of the CREC NPDES permit. A subsequent year-long impingement study was undertaken as required by the Nuclear Regulatory Commission (NRC) with the onset of operations at Unit 3 in March 1977. CREC also implemented quarterly sampling of benthic, zooplankton, seagrass, and salt marsh communities in 1977, which continued through 1981.

A modified NPDES permit issued in 1979 for Units 1, 2, and 3 required 316(a) and (b) studies of the three units. A revised plan of study that included intake and discharge sampling, field studies, and thermal modeling was submitted in October 1982, and the approved plan was implemented between June 1983 and June 1984. Final reports were submitted to the U.S. Environmental Protection Agency (EPA) in January 1985.

Based on the 1983 to 1984 study, the CREC submitted proposed mitigation measures to EPA on August 21, 1986, that included installation of helper cooling towers, seasonal reduction in plant flow during the months of November through April, and construction and operation of a multispecies fish hatchery (also called a mariculture facility). In its September 1, 1988, findings and determinations pursuant to Title 33, Section 1326, United States Code (U.S.C.), EPA determined that alternative thermal limits achieved by the proposed helper towers would be protective under Section 316(a) and that reduction in flow and operation of fish hatchery constituted the best technology available (BTA) under Section 316(b). The mariculture facility became operational in Octo-

ber 1991, and on June 15, 1993, the helper cooling towers became available to operate during the period of May 1 through October 31.

A proposal for information collection (PIC) was developed in January 2006 as a requirement of the Section 316(b) Phase II rule published in July 2004. One year of impingement sampling was conducted, but the study was terminated with the suspension of the Phase II rule in July 2007. No entrainment sampling was undertaken as flow reductions associated with the Unit 4 and 5 cooling towers were believed to meet the Phase II rule's entrainment performance standard.

Revised Administrative Order No. A0-024-TL (revised Order) was issued with the current NPDES permit on April 7, 2014. Item III.29 of the revised Order requires that CREC prepare a feasibility study report to comply with the final regulations for Section 316(b) for operation of the existing units at CREC. The feasibility study report is to be submitted no later than 180 days following the effective date of the final rule, which will be 60 days following its publication in the Federal Register. The Florida Department of Environmental Protection (FDEP) has stated its intent to modify the revised Order for consistency with the study requirements and schedule in the final rule once it is published. The final 316(b) rule for existing facilities was signed by the EPA Administrator on May 19, 2014, and has been released in prepublication form. Based on this version of the final rule, submittals required under Title 40, Part 122.21(r), Code of Federal Regulations (CFR), for operation of the proposed Citrus Combined Cycle (CCC) Project, considered under the rule as new units at an existing facility, must be submitted no later than 180 days prior to the commencement of cooling water withdrawals at the new units (40 CFR 125.95[b]). The design of new CCC cooling water intake system will be compliant with the final rule as the use of closed-cycle recirculating cooling towers represents the best technology available for mitigation of adverse environmental impact due to impingement and entrainment.

Item III.32 of the revised Order requires that CREC prepare a modified biological plan of study and schedule to study the protectiveness of the existing Section 316(a) thermal variance given the retirement of Unit 3. A thermal plan of study was submitted to FDEP on July 3, 2014, that included a phased approach for physical and biological sampling of the CREC thermal discharge. The discharge from the CCC Project will achieve the existing thermal limits for temperature in the CREC permit and will great-



ly reduce the thermal loading to the receiving water relative to CREC Units 1, 2, and 3. Thus, discharge of thermal effluent from the CCC Project will be protective of the balanced indigenous population in the receiving water body.

## **APPENDIX 10.2.2**

### **NPDES APPLICATION/PERMITS**

### **10.2.2 NPDES Application/Permits**

The Crystal River Energy Complex (CREC) is currently authorized to operate under two National Pollutant Discharge Elimination System (NPDES) permits: No. FL0000159 was issued for Units 1, 2, and 3 (see Appendix 10.6.3), and No. FL0036366 for Units 4 and 5.

For the Citrus Combined Cycle (CCC) Project, Duke Energy Florida, Inc. (DEF), is seeking a revision of the existing NPDES industrial wastewater facility permit No. FL0000159 for CREC Units 1, 2, and 3 to include the CCC Project and associated changes in the facility water balance and wastewater discharge plans. The industrial wastewater facility or activity permit application (Florida Department of Environmental Protection [FDEP] Forms 1 and 2CS) and supporting information for the requested permit revision are provided in this appendix. The permit application has also been submitted separately to the FDEP Industrial Wastewater Section, Power Plant NPDES Permitting.



# WASTEWATER FACILITY OR ACTIVITY PERMIT APPLICATION FORM 1 GENERAL INFORMATION

## I IDENTIFICATION NUMBER:

Facility ID FL0000159

## II CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

| SPECIFIC QUESTIONS                                                                                                                                                                                                     | YES | NO | FORM ATTACHED   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|-----------------|
| A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?                                                                                                           |     | X  |                 |
| B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?                              |     | X  |                 |
| C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters? | X   |    | 2CS             |
| D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?                                                                                                  | X   |    | (Separate COC)  |
| E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?                                                           |     | X  |                 |
| F. Does or will this facility discharge non-process wastewater to ground waters?                                                                                                                                       | X   |    | (Separate COC)  |
| G. Does or will this facility discharge stormwater associated with industrial activity to surface waters?                                                                                                              | X   |    | (Separate MSGP) |
| H. Is this facility a non-discharging/closed loop recycle system?                                                                                                                                                      |     | X  |                 |
| I. Is this facility a public water system whose primary purpose is the production of potable water for public consumption and which discharges demineralization concentrate to surface water or groundwater?           |     | X  |                 |

## III NAME OF FACILITY: (40 characters and spaces)

Crystal River Units 1, 2, 3

Facility ID FL0000159

**IV FACILITY CONTACT:** (A. 30 characters and spaces)

|                                          |                            |
|------------------------------------------|----------------------------|
| A. Name and Title (Last, first, & title) | B. Phone (area code & no.) |
| Yowell, Douglas W.                       | 727-820-5228               |

**V FACILITY MAILING ADDRESS:** (A. 30 characters and spaces; B. 25 characters and spaces)

|                                                |           |                 |
|------------------------------------------------|-----------|-----------------|
| A. Street or P.O. Box: P.O. Box 14042, PEF-903 |           |                 |
| B. City or Town: St. Petersburg                | State: FL | Zip Code: 33733 |

**VI FACILITY LOCATION:** (A. 30 characters and spaces; B. 24 characters and spaces; C. 3 spaces (if known); D. 25 characters and spaces; E. 2 spaces; F. 9 spaces)

|                                                                             |                                |                    |
|-----------------------------------------------------------------------------|--------------------------------|--------------------|
| A. Street, Route or Other Specific Identifier: 15760 West Power Line Street |                                |                    |
| B. County Name: Citrus                                                      | C. County Code (if known): 017 |                    |
| D. City or Town: Crystal River                                              | E. State: FL                   | F. Zip Code: 34428 |

**VII SIC CODES:** (4-digit, in order of priority)

|                 |                         |            |           |
|-----------------|-------------------------|------------|-----------|
| 1. Code #: 4911 | (Specify) Electric Svc. | 2. Code #: | (Specify) |
| 3. Code #:      | (Specify)               | 4. Code #: | (Specify) |

**VIII OPERATOR INFORMATION:** (A. 40 characters and spaces; B. 1 character; C. 1 character (if other, specify); D. 12 characters; E. 30 characters and spaces; F. 25 characters and spaces; G. 2 characters; H. 9 characters)

|                                                                                                             |             |                                                                                                             |                               |
|-------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------|-------------------------------|
| A. Name: Duke Energy Florida, Inc.                                                                          |             | B. Is the name in VIII A. the owner?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |                               |
| C. Status of Operator:<br>F = Federal; S = State; P = Private;<br>O = Other; M = Public (other than F or S) | (code)<br>P | (specify)<br>Utility                                                                                        | D. Phone No.:<br>352-501-5682 |
| E. Street or P. O. Box: 15760 West Power Line Street                                                        |             |                                                                                                             |                               |
| F. City or Town: Crystal River                                                                              |             | G. State: FL                                                                                                | H. Zip Code: 34428            |

**IX INDIAN LAND:** Is the facility located on Indian lands? ☐ Yes ☒ No

**X EXISTING ENVIRONMENTAL PERMITS:**

| A. NPDES Permit No.          | B. UIC Permit No. | C. Other (specify) | D. Other (specify) |
|------------------------------|-------------------|--------------------|--------------------|
| FL0000159;<br>MSGP FLR05H479 | N/A               | COC PA 77-09P      | FLA118753 - DWW    |

**XI MAP:** Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

See Form 2CS; See Narrative and Figures in Attachment I

**XII NATURE OF BUSINESS** (provide a brief description)

Crystal River Energy Complex is an electrical power generation plant.

The revision is to add the Citrus Combined Cycle (CCC) Project to the existing NPDES Permit FL0000159.

CCC is a two-unit natural gas-fired combined cycle generator.

**XIII CERTIFICATION** (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

R. Alexander Glenn

A. Name (type or print)



B. Signature

State President Florida

Official Title (type or print)

July 30, 2014

C. Date Signed

# FORM 2CS



## WASTEWATER APPLICATION FOR PERMIT TO DISCHARGE PROCESS WASTEWATER FROM NEW OR EXISTING INDUSTRIAL WASTEWATER FACILITIES TO SURFACE WATERS

Facility I.D. Number: FL0000159

**Please print or type information in the appropriate areas.**

**I OUTFALL LOCATION** For each outfall, list the X,Y coordinates and the name of the receiving water.  
(latitude/longitude to the nearest 15 seconds)

| A. Outfall No. (List) | B. Latitude |      |      | C. Longitude |      |       | D. Name of Receiving Water                                   |
|-----------------------|-------------|------|------|--------------|------|-------|--------------------------------------------------------------|
|                       | Deg.        | Min. | Sec. | Deg.         | Min. | Sec.  |                                                              |
| D-XXX                 | 28          | 57   | 33.2 | 82           | 41   | 54.01 | To the site discharge canal and thence to the Gulf of Mexico |
| I-XX1                 | 28          | 58   | 7.1  | 82           | 40   | 24.92 | Internal Outfall to D-XXX                                    |
| I-XX2                 | 28          | 58   | 7.1  | 82           | 40   | 19.07 | Internal Outfall to D-XXX                                    |
| NA                    | —           | —    | —    | —            | —    | —     | Intentionally left blank                                     |
| NA                    | —           | —    | —    | —            | —    | —     | Intentionally left blank                                     |
| NA                    | —           | —    | —    | —            | —    | —     | Intentionally left blank                                     |
| NA                    | —           | —    | —    | —            | —    | —     | Intentionally left blank                                     |

### II OUTFALL DESIGN

| A. Outfall No. (List) | B. Design Configuration and Construction Materials                                            | C. Distance from shore | D. Diameter | E. Elevation of Discharge Invert (MSL) | F. Receiving Water Depth at POD (MSL) |
|-----------------------|-----------------------------------------------------------------------------------------------|------------------------|-------------|----------------------------------------|---------------------------------------|
| D-XXX                 | Concrete headwall, baffle, and overflow weir that discharges onto a concrete apron and riprap | 0                      | NA          | -11.29                                 | -13.29                                |
| I-XX1                 | HDPE or equivalent                                                                            | NA                     | 30"         |                                        | Internal Outfall                      |
| I-XX2                 | HDPE or equivalent                                                                            | NA                     | 30"         |                                        | Internal Outfall                      |
| NA                    | —                                                                                             | —                      | —           | —                                      | —                                     |
| NA                    | —                                                                                             | —                      | —           | —                                      | —                                     |
| NA                    | —                                                                                             | —                      | —           | —                                      | —                                     |

**III RECEIVING WATER INFORMATION**

For each surface water that will receive effluent, supply the following information:

| A. Name of Receiving Water             | B. Check One             |                                     | C. Classification<br>(See Ch. 62-302, F.A.C.) | D. Type of Receiving Water<br>(canal, river, lake, etc.) |
|----------------------------------------|--------------------------|-------------------------------------|-----------------------------------------------|----------------------------------------------------------|
|                                        | Fresh                    | Salt or Brackish                    |                                               |                                                          |
| Crystal Bay/Gulf of Mexico (WBID 8039) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | Class II                                      | Gulf                                                     |
|                                        | <input type="checkbox"/> | <input type="checkbox"/>            |                                               |                                                          |
|                                        | <input type="checkbox"/> | <input type="checkbox"/>            |                                               |                                                          |
|                                        | <input type="checkbox"/> | <input type="checkbox"/>            |                                               |                                                          |
|                                        | <input type="checkbox"/> | <input type="checkbox"/>            |                                               |                                                          |
|                                        | <input type="checkbox"/> | <input type="checkbox"/>            |                                               |                                                          |

E. Minimum 7-day 10-year low flow of the receiving water at each outfall (if appropriate).

NA – tidal waters

F. Identify and describe the flow of effluent from each outfall to a major body of water. A suitably marked map or aerial photograph may be used.

Cooling water will be withdrawn from the existing CREC intake canal, while cooling tower blowdown will be discharged via the existing discharge canal. See Attachment 1, Figures 1 and 2.

G. Do you request a mixing zone under Rule 62-4.244, F.A.C.? If yes, for what parameters or pollutants?

No

**IV FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES**

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

See Attachment 1, Figures 3-5 and supporting narrative in Attachment 2.

B. For each outfall, provide a description of:

1. All operations contributing wastewater to the effluent; including process wastewater, sanitary wastewater, cooling water, and stormwater runoff;
2. The average flow contributed by each operation; and
3. The treatment received by the wastewater.

Use the space on the next page. Continue on additional sheets, if necessary.



| (1)<br>Outfall No.<br>(List) | (2) Operation(s) Contributing Flow                   |                          | (3) Treatment                                        |                                   |     |
|------------------------------|------------------------------------------------------|--------------------------|------------------------------------------------------|-----------------------------------|-----|
|                              | (a) Operation (list)                                 | (b) Avg. Flow<br>& Units | (a) Description                                      | (b) List Code from<br>Table 2CS-1 |     |
| D-XXX                        | Cooling tower discharge                              | 27.4 MGD                 | Mixing, discharge to surface water                   | 1-O                               | 4-A |
|                              | Flow augmentation to reduce chlorides concentrations | 54.9 MGD                 | Flow augmentation to reduce chlorides concentrations | 1-O                               |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
| I-XX1                        | Internal Outfall CCC Blowdown #1                     | 13.7 MGD                 | Disinfection                                         | 2-F                               |     |
|                              |                                                      |                          | Dechlorination                                       | 2-E                               |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
| I-XX2                        | Internal Outfall CCC Blowdown #2                     | 13.7 MGD                 | Disinfection                                         | 2-F                               |     |
|                              |                                                      |                          | Dechlorination                                       | 2-E                               |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |
|                              |                                                      |                          |                                                      |                                   |     |

| C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?<br><input type="checkbox"/> Yes (complete the following table) <input checked="" type="checkbox"/> No (go to D. below) |                                             |                      |                       |                           |           |                                          |           |                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------|-----------------------|---------------------------|-----------|------------------------------------------|-----------|---------------------------|
| (1) Outfall<br>No. (List)                                                                                                                                                                                                                             | (2) Operation(s)<br>Contributing Flow(List) | (3) Frequency        |                       | (4) Flow                  |           |                                          |           |                           |
|                                                                                                                                                                                                                                                       |                                             | (a) Days per<br>Week | (b) Months<br>per Yr. | (a) Flow Rate<br>(in mgd) |           | (b) Total Volume<br>(specify with units) |           | (c) Duration<br>(in days) |
|                                                                                                                                                                                                                                                       |                                             | (specify avg.)       | (specify<br>avg.)     | Long Term Avg             | Max Daily | Long Term Avg                            | Max Daily |                           |
|                                                                                                                                                                                                                                                       |                                             |                      |                       |                           |           |                                          |           |                           |
|                                                                                                                                                                                                                                                       |                                             |                      |                       |                           |           |                                          |           |                           |
|                                                                                                                                                                                                                                                       |                                             |                      |                       |                           |           |                                          |           |                           |
|                                                                                                                                                                                                                                                       |                                             |                      |                       |                           |           |                                          |           |                           |

D. Describe practices to be followed to ensure adequate wastewater treatment during emergencies such as power loss and equipment failures causing shutdown of pollution abatement equipment of the proposed/permitted facilities.

Power generating facilities are interconnected to the electrical grid, and, therefore have a reliable backup power supply. However, in the unlikely event of complete power loss, the cooling tower circulating water pumps for internal Outfalls I-XX1 and I-XX2 would cease to operate, thereby preventing a discharge to Outfall D-XXX.

E. List the method(s) and location(s) of flow measurement.

Flow from Internal Outfalls I-XX1 and I-XX2 will be measured continuously via bubble-tube type flow meters, ultrasonic level indicator/weir, or equivalent at the blowdown flow point from each cooling tower.

## V PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ Yes (complete Item V-B)    ☐ No (go to Section VI)

B. Are the limitations in the applicable guideline expressed in terms of production (or other measure of operation)?

☐ Yes (complete Item V-C)    ☒ No (go to Section VI)

C. If you answered "yes" to Item V-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

| 1. AVERAGE DAILY PRODUCTION |                     |                                                  | 2. Affected Outfalls<br>(list outfall nos.) |
|-----------------------------|---------------------|--------------------------------------------------|---------------------------------------------|
| a. Quantity per Day         | b. Units of Measure | c. Operation, Product, Materials, Etc. (specify) |                                             |
| N/A                         |                     |                                                  |                                             |

**VI IMPROVEMENTS**

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement order, enforcement compliance schedule letter, stipulations, court orders, and grant or loan conditions.

☒ Yes (complete the following table) ☐ No (go to Item VI-B)

| 1. Identification of Condition,<br>Agreement, Etc | 2. Affected Outfalls |                        | 3. Brief Description<br>of Project | 4. Final Compliance Date |              |
|---------------------------------------------------|----------------------|------------------------|------------------------------------|--------------------------|--------------|
|                                                   | a. No.               | b. Source of Discharge |                                    | a. Required              | B. Projected |
| See Attachment 2                                  |                      |                        |                                    |                          |              |

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ Mark "X" if description of additional control programs is attached.

**VII INTAKE AND EFFLUENT CHARACTERISTICS**

A, B, & C: See instructions before proceeding--Complete one set of tables for each outfall -- Annotate the outfall number in the space provided. NOTE: Tables VII-A, VII-B, and VII-C are included on separate sheets number VII-1 through VII-9.

See Attachment 2 for narrative on intake and effluent characteristics and Attachment 3 for Antidegradation Demonstration.

D. Use the space below to list any of the pollutants listed in Table 2CS-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

| 1. Pollutant | 2. Source | 1. Pollutant | 2. Source |
|--------------|-----------|--------------|-----------|
| N/A          |           |              |           |

### VIII POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item VII-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or by-product?

☐ YES (list all such pollutants below)      ☒ NO (go to IX)

### IX BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES (identify the test(s) and describe their purposes below)      ☐ NO (go to Section X)

Acute and/or chronic WET testing performed in conjunction with treatment of the Unit 3 heat decay system using Betz CT 1300 Testing performed by Hydrosphere Research, 11842 Research Circle, Alachua, Florida 32615.

FL-NELAP Cert. # EE82295

In addition, chronic WET testing has been performed on cooling tower blowdown for Units 4 and 5 (NPDES No. FL0036366)

### X CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☒ YES (list the name, address, telephone number, and certification number of, and pollutants analyzed by each such laboratory or firm below)      ☐ NO (go to Section XI)

| A. Name                                             | B. Address                                               | C. Telephone<br>(area code & no.) | D. Pollutants Analyzed (list)                                           |
|-----------------------------------------------------|----------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------|
| Pace Analytical Services, Inc.<br>FL DOH No E83079  | 8 East Tower Circle,<br>Ormond Beach, FL 32174           | (386) 672 5668                    | All parameters (excluding fecal coliform, low-level mercury, and rads.) |
| Pace Analytical Services, Inc.<br>FL DOH No. E84973 | 1209 Tech Blvd., Suite 207<br>Tampa, FL 33619            | (813) 627-0003                    | Fecal coliform                                                          |
| Pace Analytical Services, Inc.<br>FL DOH No. E87683 | 1638 Roseytown Road, Suite 2-3-4<br>Greensburg, PA 15601 | (724) 850-5600                    | Gross alpha, gross beta, Total Ra and Ra 226                            |
| Pace Analytical Services, Inc.<br>FL DOH No. E87948 | 1241 Bellevue Street, Suite 9<br>Green Bay, WI 54302     | (920) 469-2436                    | Low-level mercury                                                       |



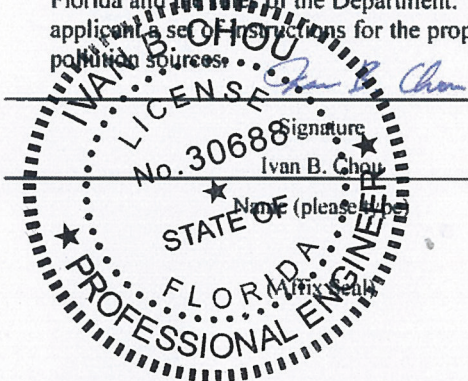
**XI CONNECTION TO REGIONAL POTW**

A. Indicate the relationship between this project and area regional planning for wastewater treatment. List steps to be taken for this industrial wastewater facility to become part of an area-wide wastewater treatment system.

N/A

**XII-A CERTIFICATIONS FOR NEW OR MODIFIED FACILITIES**

This is to certify the engineering features of this pollution control project have been designed by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department. It is also agreed that the undersigned, if authorized by the owner, will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.



Environmental Consulting & Technology, Inc.

Company Name

Address 3701 Northwest 98<sup>th</sup> Street

Gainesville, Florida 32606

Florida Registration No.: 30688

Telephone No.: (352) 332-0444

Date August 1, 2014

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

R. Alexander Glenn, State President Florida

Name & Official Title (Please type or print)

(727) 820-5587

Telephone No. (area code & No.)

*[Signature]*  
Signature  
July 30, 2014  
Date Signed

## XII-B CERTIFICATIONS FOR PERMIT RENEWALS

This is to certify the engineering features of this pollution control project have been examined by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department.

Not applicable.

|                             |                                    |
|-----------------------------|------------------------------------|
| _____<br>Signature          | _____<br>Company Name              |
| _____<br>Name (please type) | _____<br>Address                   |
| _____<br>(Affix Seal)       | _____<br>Florida Registration No.: |
|                             | _____<br>Telephone No.:            |
|                             | _____<br>Date                      |

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

|                                                       |                      |
|-------------------------------------------------------|----------------------|
| _____<br>Name & Official Title (Please type or print) | _____<br>Signature   |
| _____<br>Telephone No. (area code & No.)              | _____<br>Date Signed |



PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

## VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

| 1<br>Pollutant                                  | 2 Effluent        |          |                    |          |                    |          |                  | 3 Units         |        | 4 Intake (optional)   |          |                  |
|-------------------------------------------------|-------------------|----------|--------------------|----------|--------------------|----------|------------------|-----------------|--------|-----------------------|----------|------------------|
|                                                 | a Max Daily Value |          | b Max 30-day Value |          | c Annual Avg Value |          | d No of Analyses | a Concentration | b Mass | a Long Term Avg Value |          | b No of Analyses |
|                                                 | (1) Conc          | (2) Mass | (1) Conc           | (2) Mass | (1) Conc           | (2) Mass |                  |                 |        | (1) Conc              | (2) Mass |                  |
| a Carbonaceous Biochemical Oxygen Demand (CBOD) | < 2               |          |                    |          |                    |          | 1                | mg/L            |        |                       |          |                  |
| b Chemical Oxygen Demand (COD)                  | 1420              |          |                    |          |                    |          | 1                | mg/L            |        |                       |          |                  |
| c Total Organic Carbon (TOC)                    | 8 2               |          |                    |          |                    |          | 1                | mg/L            |        |                       |          |                  |
| d Total Suspended Solids (TSS)                  | 16 0              |          |                    |          |                    |          | 1                | mg/L            |        |                       |          |                  |
| e Total Nitrogen (as N)                         | 1 4               |          |                    |          | 1 01               |          | 4                | mg/L            |        |                       |          |                  |
| f Total Phosphorus (as P)                       | 0 11              |          |                    |          | 0 061              |          | 4                | mg/L            |        |                       |          |                  |
| g Ammonia (as N)                                | < 0 02            |          |                    |          |                    |          | 1                | mg/L            |        |                       |          |                  |
| h Flow - actual or projected                    | Value             |          | Value              |          | Value              |          |                  |                 |        | Value                 |          |                  |
| i Flow - design                                 | Value             |          | Value              |          | Value              |          |                  |                 |        | Value                 |          |                  |
| j Specific Conductivity                         | Value 34,733      |          | Value              |          | Value              |          | 1                | umhos/cm        |        | Value                 |          |                  |
| k Temperature (winter)                          | Value             |          | Value              |          | Value              |          |                  | °C              |        | Value                 |          |                  |
| l Temperature (summer)                          | Value             |          | Value              |          | Value              |          |                  | °C              |        | Value                 |          |                  |
| m pH                                            | Min 7 52          | Max 8 50 | Min                | Max      |                    |          | 49               | STANDARD UNITS  |        |                       |          |                  |

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available) | 2 Mark "X"                          |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |            | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|------------|---------------------|-----------------------|----------|------------------|
|                                       | a be-<br>lieved<br>present          | b be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc     | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |            |                     | (1) Conc              | (2) Mass |                  |
| a Bromide (24949-67-9)                | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 37.4                  |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| b Chlorine, Total Residual            | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.1                 |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| c Color                               | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 45.0                  |          |                                   |          |                                      |          | 1                | PCU        |                     |                       |          |                  |
| d Fecal Coliform                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 2                   |          |                                   |          |                                      |          | 1                | CFU/100 mL |                     |                       |          |                  |
| e Fluoride (16984-48-8)               | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 5.0                 |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| f Nitrate-Nitrite (as N)              | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 0.900                 |          |                                   |          | 0.313                                |          | 4                | mg/L       |                     |                       |          |                  |

: Item VII-B Contd.

Facility ID. Number

FL0000159

Outfall No.

Intake

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a believed present                  | b believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| g Nitrogen, Total Organic (as N)             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.74                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| h Oil and grease                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.3                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| i Phosphorus, Total (as P) (7723-14-0)       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.11                  |          |                                   |          | 0.061                                |          | 4                | mg/L   |                     |                       |          |                  |
| j Radioactivity                              |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| (1) Alpha, Total                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3.72 (+/- 1.84)       |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (2) Beta, Total                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                       |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (3) Radium, Total                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.68 (+/- 0.985)    |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (4) Radium 226, Total                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.95 (+/- 0.624)    |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| k Sulfate (as SO <sub>4</sub> ) (14808-79-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1,600                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| l Sulfide (as S)                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.0                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| m Sulfite (as SO <sub>3</sub> ) (14265-45-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 10                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| n Surfactants                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.38                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| o Aluminum, Total (7429-90-5)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.094 (I)             |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| p Barium, Total (7440-39-3)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.012                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| q Boron, Total (7440-42-8)                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3.3                   |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| r Cobalt, Total (7440-48-4)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.005               |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| s Iron, Total (7439-89-6)                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.16                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| t Magnesium, Total (7439-95-4)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 898.0                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| u Molybdenum, Total (7439-98-7)              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.0074 (I)            |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| v Manganese, Total (7439-96-5)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.0125              |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| w Tin, Total (7440-31-5)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.025               |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| x Titanium, Total (7440-32-6)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.025               |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |



Facility ID. Number: FL0000159 Outfall No.            Intake           

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available)            | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|--------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                  | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                  |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| <b>METALS, CYANIDE, AND TOTAL PHENOLS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1M Antimony, Total (7440-36-0)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 5.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 2M Arsenic, Total (7723-14-0)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 5.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 3M Beryllium, Total (7440-41-7)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.25                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 4M Cadmium, Total (7440-43-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 5M Chromium, Total (7440-47-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 2.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 6M Copper, Total (7440-50-8)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 4.6                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 7M Lead, Total (7439-92-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 2.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 8M Mercury, Total (7439-97-6)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.000911              |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 9M Nickel, Total (7440-02-0)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 2.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 10M Selenium, Total (7782-49-2)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 7.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 11M Silver, Total (7440-22-4)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.25                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 12M Thallium, Total (7440-28-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 2.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 13M Zinc, Total (7440-66-6)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 10.0                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 14M Cyanide, Total (57-12-5)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 5.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 15M Phenols, Total                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 5.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| <b>DIOXIN</b>                                    |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| <b>GC/MS FRACTION -VOLATILE COMPOUNDS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1V Acrolein (107-02-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 10.0                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 2V Acrylonitrile (107-13-1)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 5.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)           | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                 | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| GC/MS FRACTION - VOLATILE COMPOUNDS (continued) |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3V Benzene (71-43-2)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 4V Bis (Chloromethyl) Ether (542-88-1)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5V Bromoform (75-25-2)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 6V Carbon Tetrachloride (56-23-5)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 7V Chlorobenzene (108-90-7)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.40                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 8V Chlorodi-bromomethane (124-8-1)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.25                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 9V Chloroethane (74-00-3)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.61                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 10V 2-Chloro-ethylvinyl Ether (110-75-8)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 5.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 11V Chloroform (67-86-3)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 12V Dichloro-bromomethane (75-24-4)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.30                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 13V Dichloro-difluoromethane (75-71-8)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 14V 1,1-Dichloroethane (75-34-3)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 15V 1,2-Dichloroethane (107-06-2)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 16V 1,1-Dichloroethylene (75-35-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 17V 1,2,-Dichloropropane (78-87-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 18V 1,3-Dichloropropylene (542-75-6)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 19V Ethylbenzene (100-41-4)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 20V Methyl Bromide (74-83-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 21V Methyl Chloride (74-87-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 22V Methylene Chloride (74-98-2)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 2.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 23V 1,1,2,2-Tetra-chloroethane (79-34-5)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.17                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 24V Tetrachloroethylene (127-18-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)                  | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|--------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                        | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                        |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| <b>GC/MS FRACTION - VOLATILE COMPOUNDS (continued)</b> |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25V Toluene (108-88-3)                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 26V 1,2-Trans-Dichloroethylene (156-60-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 27V 1,1,2-Trichloroethane (71-55-6)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 28V 1,1,2-Trichloroethane (79-00-5)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 29V Trichloroethylene (79-01-6)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.50                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 30V Trichloro-fluoromethane (75-69-4)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.66                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 31V Vinyl Chloride (75-01-4)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.53                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| <b>GC/MS FRACTION - ACID COMPOUNDS</b>                 |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1A 2-Chlorophenol (95-57-8)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.78                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 2A 2,4-Dichlorophenol (120-83-2)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.64                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 3A 2,4-Dimethylphenol (105-67-9)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.8                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 4A 4,6-Dinitro-O-Cresol (534-53-1)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 5A 2,4-Dinitrophenol (51-28-5)                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.8                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 6A 2-Nitrophenol (88-75-5)                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.93                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 7A 4-Nitrophenol (100-02-7)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1.2                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 8A P-Chloro-M-Cresol (59-50-7)                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.71                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 9A Pentachlorophenol (87-86-5)                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.76                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 10A Phenol (108-95-2)                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.62                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 11A 2,4,5-Trichloro-phenol (88-06-2)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.79                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| <b>GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS</b>         |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1B Acenaphthene (63-32-9)                              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.018               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 2B Acenaphthylene (208-96-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.017               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 3B Anthracene (120-12-7)                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.018               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 4B Benzidine (92-87-5)                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 0.88                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                                     |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a testing required                  | b be-<br>lieved<br>present          | c be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 5B Benzo (a) Anthracene (56-55-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.013               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 6B Benzo (a) Pyrene (50-32-8)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.021               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 7B 3,4-Benzo-fluoranthene (205-99-2)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.016               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 8B Benzo (ghi) Perylene (191-24-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.016               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 9B Benzo (k) Fluoranthene (207-08-9)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.022               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 10B Bis (2-Chloroethoxy) Methane (111-91-1)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 3.4                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 11B Bis (2-chloroethyl) Ether (111-44-4)     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.86                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 12B Bis (2-Chloroisopropyl) Ether (102-60-1) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.84                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 13B Bis (2-Ethylhexyl) Phthalate (117-81-7)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.92                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 14B 4-Bromophenyl Phenyl Ether (101-55-3)    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.77                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 15B Butyl Benzyl Phthalate (84-68-7)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.83                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 16B 2-Chloronaphthalene (91-58-7)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.92                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 17B 4-Chlorophenyl Phenyl Ether (7005-72-3)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.72                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 18B Chrysene (218-01-9)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.015               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 19B Dibenzo (a,h) Anthracene (53-70-3)       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.018               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 20B 1,2-Dichlorobenzene (95-50-1)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.78                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 21B 1,3-Dichlorobenzene (541-73-1)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.87                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 22B 1,4-Dichlorobenzene (106-46-7)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.88                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 23B 3,3'-Dichlorobenzidine (92-94-1)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.79                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 24B Diethyl Phthalate (84-66-2)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.59                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 25B Dimethyl Phthalate (131-11-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.73                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 26B Di-N-Butyl Phthalate (84-74-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.47                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 27B 2,4-Dinitrotoluene (121-14-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.61                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 28B 2,6-Dinitrotoluene (606-20-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | < 0.73                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)                | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                      | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                      |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 29B Di-N-Octyl Phthalate (117-84-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1.0                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 30B 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.76                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 31B Fluoranthene (206-44-0)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.012               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 32B Fluorene (86-73-7)                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.011               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 33B Hexachlorobenzene (118-74-1)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.92                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 34B Hexachlorobutadiene (87-68-3)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1.2                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 35B Hexachlorocyclopentadiene (77-47-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1.5                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 36B Hexachloroethane (67-72-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.82                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 37B Indeno (1,2,3-cd) Pyrene (193-39-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.018               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 38B Isophorone (78-59-1)                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.84                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 39B Naphthalene (91-20-3)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.015               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 40B Nitrobenzene (98-95-9)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1.3                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 41B N-Nitrosodimethylamine (62-75-9)                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1.1                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 42B N-Nitrosodi-N-Propylamine (621-64-7)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1.1                 |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 43B N-Nitro-sodiphenylamine (86-30-6)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.57                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 44B Phenanthrene (85-01-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.016               |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 45B Pyrene (129-00-0)                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0097                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| 46B 1,2,4-Trichlorobenzene (120-82-1)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 0.95                |          |                                   |          |                                      |          | 1                | ug/L   |                     |                       |          |                  |
| GC/MS FRACTION - PESTICIDES                          |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1P Aldrin (309-00-2)                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2P -BHC (319-84-6)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3P -BHC (319-85-7)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 4P -BHC (58-89-9)                                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5P -BHC (319-86-8)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

Facility ID. Number: FL0000159 Outfall No. Intake

| 1 Pollutant and CAS No (if available) | 2 Mark "X"               |                          |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|--------------------------|--------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                       | a testing required       | b believed present       | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                          |                          |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 6P Chlordane (57-74-9)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 7P 4,4'-DDT (50-29-3)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 8P 4,4'-DDE (72-55-9)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 9P 4,4'-DDD (72-54-8)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 10P Dieldrin (60-57-1)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 11P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 12P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 13P Endosulfan Sulfate (1031-07-8)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 14P Endrin (72-20-8)                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 15P Endrin Aldehyde (7421-92-4)       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 16P Heptachlor (76-44-8)              | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 17P Heptachlor Epoxide (1024-57-3)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 18P PCB-1242 (53469-21-9)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 19P PCB-1254 (11097-69-1)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 20P PCB-1221 (11104-28-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 21P PCB-1232 (11141-16-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 22P PCB-1248 (12672-29-6)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 23P PCB-1260 (11096-82-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 24P PCB-1016 (12674-11-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25P Toxaphene (8001-35-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

## VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

| 1<br>Pollutant                                  | 2 Effluent        |          |                                               |          |                                              |          | 3 Units          |                 | 4 Intake (optional) |                        |          |                  |
|-------------------------------------------------|-------------------|----------|-----------------------------------------------|----------|----------------------------------------------|----------|------------------|-----------------|---------------------|------------------------|----------|------------------|
|                                                 | a Max Daily Value |          | b Max 30-day Value                            |          | c Annual Avg. Value                          |          | d No of Analyses | a Concentration | b Mass              | a Long Term Avg. Value |          | b No of Analyses |
|                                                 | (1) Conc          | (2) Mass | (1) Conc                                      | (2) Mass | (1) Conc                                     | (2) Mass |                  |                 |                     | (1) Conc               | (2) Mass |                  |
| a Carbonaceous Biochemical Oxygen Demand (CBOD) | <2                |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| b Chemical Oxygen Demand (COD)                  | 1000 04           |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| c Total Organic Carbon (TOC)                    | 6 97              |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| d Total Suspended Solids (TSS)                  | 28 67             |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| e Total Nitrogen (as N)                         | 1 15              |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| f Total Phosphorus (as P)                       | 0 08              |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| g Ammonia (as N)                                | 0 02              |          |                                               |          |                                              |          | 1                | mg/L            |                     |                        |          |                  |
| h Flow - actual or projected                    | Value             |          | Value 109 3 (Projected - see Narrative Fig 4) |          | Value 82 3 (Projected – see Narrative Fig 3) |          |                  | MGD             |                     | Value                  |          |                  |
| i Flow - design                                 | Value             |          | Value                                         |          | Value                                        |          |                  |                 |                     | Value                  |          |                  |
| j Specific Conductivity                         | Value 38088 31    |          | Value                                         |          | Value                                        |          | 1                | umhos/cm        |                     | Value                  |          |                  |
| k Temperature (winter)                          | Value             |          | Value                                         |          | Value                                        |          |                  | °C              |                     | Value                  |          |                  |
| l Temperature (summer)                          | Value 35 3        |          | Value                                         |          | Value 25 2                                   |          | calculated       | °C              |                     | Value                  |          |                  |
| m pH                                            | Min 8             | Max 8    | Min                                           | Max      |                                              |          |                  | STANDARD UNITS  |                     |                        |          |                  |

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available) | 2 Mark "X"                          |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |            | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|------------|---------------------|-----------------------|----------|------------------|
|                                       | a believed present                  | b believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc     | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |            |                     | (1) Conc              | (2) Mass |                  |
| a Bromide (24949-67-9)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 40.60                 |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| b Chlorine, Total Residual            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.07                  |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| c Color                               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 31.67                 |          |                                   |          |                                      |          | 1                | PCU        |                     |                       |          |                  |
| d Fecal Coliform                      | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.67                 |          |                                   |          |                                      |          | 1                | CFU/100 mL |                     |                       |          |                  |
| e Fluoride (16984-48-8)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3.60                  |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| f Nitrate-Nitrite (as N)              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.32                  |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |

: Item VII-B Contd.

Facility ID. Number

FL0000159

Outfall No.

D-XXX

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                          | 3 Effluent            |          |                                   |          |                                      |          |                  | 4 Units |        | 5 Intake (optional)   |          |                  |
|----------------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|---------|--------|-----------------------|----------|------------------|
|                                              | a believed present                  | b believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc  | b Mass | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |         |        | (1) Conc              | (2) Mass |                  |
| g Nitrogen, Total Organic (as N)             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.22                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| h Oil and grease                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.43                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| i Phosphorus, Total (as P) (7723-14-0)       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.05                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| j Radioactivity                              |                                     |                          |                       |          |                                   |          |                                      |          |                  |         |        |                       |          |                  |
| (1) Alpha, Total                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3.51                  |          |                                   |          |                                      |          | 1                | pCi/L   |        |                       |          |                  |
| (2) Beta, Total                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 73.33                 |          |                                   |          |                                      |          | 1                | pCi/L   |        |                       |          |                  |
| (3) Radium, Total                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.45                  |          |                                   |          |                                      |          | 1                | pCi/L   |        |                       |          |                  |
| (4) Radium 226, Total                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.97                  |          |                                   |          |                                      |          | 1                | pCi/L   |        |                       |          |                  |
| k Sulfate (as SO <sub>4</sub> ) (14808-79-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1866.64               |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| l Sulfide (as S)                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.70                 |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| m Sulfite (as SO <sub>3</sub> ) (14265-45-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <7.33                 |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| n Surfactants                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.32                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| o Aluminum, Total (7429-90-5)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.08                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| p Barium, Total (7440-39-3)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.01                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| q Boron, Total (7440-42-8)                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2.22                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| r Cobalt, Total (7440-48-4)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.01                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| s Iron, Total (7439-89-6)                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.16                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| t Magnesium, Total (7439-95-4)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1065.32               |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| u Molybdenum, Total (7439-98-7)              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.03                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| v Manganese, Total (7439-96-5)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.01                 |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| w Tin, Total (7440-31-5)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.58                  |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |
| x Titanium, Total (7440-32-6)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.02                 |          |                                   |          |                                      |          | 1                | mg/L    |        |                       |          |                  |



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PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available)            | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|--------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                  | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                  |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| <b>METALS, CYANIDE, AND TOTAL PHENOLS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1M Antimony, Total (7440-36-0)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3.33                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2M Arsenic, Total (7723-14-0)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3.33                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3M Beryllium, Total (7440-41-7)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.17                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4M Cadmium, Total (7440-43-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.33                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 5M Chromium, Total (7440-47-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.67                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6M Copper, Total (7440-50-8)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 3.07                  |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7M Lead, Total (7439-92-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.67                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8M Mercury, Total (7439-97-6)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0012                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9M Nickel, Total (7440-02-0)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.67                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10M Selenium, Total (7782-49-2)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <5.00                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11M Silver, Total (7440-22-4)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.17                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12M Thallium, Total (7440-28-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.67                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13M Zinc, Total (7440-66-6)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <6.67                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14M Cyanide, Total (57-12-5)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15M Phenols, Total                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| <b>DIOXIN</b>                                    |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| <b>GC/MS FRACTION -VOLATILE COMPOUNDS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1V Acrolein (107-02-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <6.88                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2V Acrylonitrile (107-13-1)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3.87                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)           | 2 Mark "X"                          |                                     |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                 | a testing required                  | b be-<br>lieved<br>present          | c be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 |                                     |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| GC/MS FRACTION - VOLATILE COMPOUNDS (continued) |                                     |                                     |                           |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3V Benzene (71-43-2)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.37                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4V Bis (Chloromethyl) Ether (542-88-1)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5V Bromoform (75-25-2)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.97                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6V Carbon Tetrachloride (56-23-5)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.41                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7V Chlorobenzene (108-90-7)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.28                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8V Chlorodi-bromomethane (124-8-1)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.22                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9V Chloroethane (74-00-3)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.54                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10V 2-Chloro-ethylvinyl Ether (110-75-8)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <3.46                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11V Chloroform (67-86-3)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12V Dichloro-bromomethane (75-24-4)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.24                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13V Dichloro-difluoromethane (75-71-8)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.58                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14V 1,1-Dichloroethane (75-34-3)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.37                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15V 1,2-Dichloroethane (107-06-2)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.37                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 16V 1,1-Dichloroethylene (75-35-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 17V 1,2,-Dichloropropane (78-87-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 18V 1,3-Dichloropropylene (542-75-6)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 19V Ethylbenzene (100-41-4)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 20V Methyl Bromide (74-83-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.53                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 21V Methyl Chloride (74-87-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.49                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 22V Methylene Chloride (74-98-2)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <1.71                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 23V 1,1,2,2-Tetra-chloroethane (79-34-5)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.15                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 24V Tetrachloroethylene (127-18-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.39                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)           | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                 | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| GC/MS FRACTION - VOLATILE COMPOUNDS (continued) |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25V Toluene (108-88-3)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.37                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 26V 1,2-Trans-Dichloroethylene (156-60-5)       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.43                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 27V 1,1,2-Trichloroethane (71-55-6)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.36                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 28V 1,1,2-Trichloroethane (79-00-5)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.41                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 29V Trichloroethylene (79-01-6)                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.37                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 30V Trichloro-fluoromethane (75-69-4)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.51                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 31V Vinyl Chloride (75-01-4)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.48                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - ACID COMPOUNDS                 |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1A 2-Chlorophenol (95-57-8)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.85                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2A 2,4-Dichlorophenol (120-83-2)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.76                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3A 2,4-Dimethylphenol (105-67-9)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.53                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4A 4,6-Dinitro-O-Cresol (534-53-1)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2.00                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 5A 2,4-Dinitrophenol (51-28-5)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <6.20                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6A 2-Nitrophenol (88-75-5)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.95                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7A 4-Nitrophenol (100-02-7)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <5.80                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8A P-Chloro-M-Cresol (59-50-7)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.81                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9A Pentachlorophenol (87-86-5)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.51                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10A Phenol (108-95-2)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.75                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11A 2,4,5-Trichloro-phenol (88-06-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.19                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS         |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1B Acenaphthene (63-32-9)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2B Acenaphthylene (208-96-8)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3B Anthracene (120-12-7)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4B Benzidine (92-87-5)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <33.92                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 5B Benzo (a) Anthracene (56-55-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6B Benzo (a) Pyrene (50-32-8)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7B 3,4-Benzo-fluoranthene (205-99-2)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8B Benzo (ghi) Perylene (191-24-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9B Benzo (k) Fluoranthene (207-08-9)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10B Bis (2-Chloroethoxy) Methane (111-91-1)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2.60                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11B Bis (2-chloroethyl) Ether (111-44-4)     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1 57                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12B Bis (2-Chloroisopropyl) Ether (102-60-1) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.89                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13B Bis (2-Ethylhexyl) Phthalate (117-81-7)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.61                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14B 4-Bromophenyl Phenyl Ether (101-55-3)    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.85                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15B Butyl Benzyl Phthalate (84-68-7)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1 55                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 16B 2-Chloronaphthalene (91-58-7)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 95                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 17B 4-Chlorophenyl Phenyl Ether (7005-72-3)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1 15                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 18B Chrysene (218-01-9)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 19B Dibenzo (a,h) Anthracene (53-70-3)       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 20B 1,2-Dichlorobenzene (95-50-1)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.85                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 21B 1,3-Dichlorobenzene (541-73-1)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 91                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 22B 1,4-Dichlorobenzene (106-46-7)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0 92                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 23B 3,3'-Dichlorobenzidine (92-94-1)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <13.86                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 24B Diethyl Phthalate (84-66-2)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.73                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 25B Dimethyl Phthalate (131-11-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2 15                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 26B Di-N-Butyl Phthalate (84-74-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1 98                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 27B 2,4-Dinitrotoluene (121-14-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.74                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 28B 2,6-Dinitrotoluene (606-20-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1 15                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)                | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                      | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                      |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 29B Di-N-Octyl Phthalate (117-84-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.00                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 30B 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.17                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 31B Fluoranthene (206-44-0)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 32B Fluorene (86-73-7)                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 33B Hexachlorobenzene (118-74-1)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.95                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 34B Hexachlorobutadiene (87-68-3)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.80                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 35B Hexachlorocyclopentadiene (77-47-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <2.00                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 36B Hexachloroethane (67-72-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.55                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 37B Indeno (1,2,3-cd) Pyrene (193-39-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.35                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 38B Isophorone (78-59-1)                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.89                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 39B Naphthalene (91-20-3)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 40B Nitrobenzene (98-95-9)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.53                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 41B N-Nitrosodimethylamine (62-75-9)                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.73                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 42B N-Nitrosodi-N-Propylamine (621-64-7)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.73                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 43B N-Nitro-sodiphenylamine (86-30-6)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 44B Phenanthrene (85-01-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 45B Pyrene (129-00-0)                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.34                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 46B 1,2,4-Trichlorobenzene (120-82-1)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.97                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - PESTICIDES                          |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1P Aldrin (309-00-2)                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2P -BHC (319-84-6)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3P -BHC (319-85-7)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 4P -BHC (58-89-9)                                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5P -BHC (319-86-8)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available) | 2 Mark "X"               |                          |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|--------------------------|--------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                       | a testing required       | b believed present       | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                          |                          |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 6P Chlordane (57-74-9)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 7P 4,4'-DDT (50-29-3)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 8P 4,4'-DDE (72-55-9)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 9P 4,4'-DDD (72-54-8)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 10P Dieldrin (60-57-1)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 11P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 12P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 13P Endosulfan Sulfate (1031-07-8)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 14P Endrin (72-20-8)                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 15P Endrin Aldehyde (7421-92-4)       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 16P Heptachlor (76-44-8)              | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 17P Heptachlor Epoxide (1024-57-3)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 18P PCB-1242 (53469-21-9)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 19P PCB-1254 (11097-69-1)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 20P PCB-1221 (11104-28-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 21P PCB-1232 (11141-16-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 22P PCB-1248 (12672-29-6)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 23P PCB-1260 (11096-82-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 24P PCB-1016 (12674-11-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25P Toxaphene (8001-35-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

## VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

| 1<br>Pollutant                                  | 2 Effluent        |          |                    |          |                    |          | 3 Units          |                 | 4 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------|----------|--------------------|----------|--------------------|----------|------------------|-----------------|---------------------|-----------------------|----------|------------------|
|                                                 | a Max Daily Value |          | b Max 30-day Value |          | c Annual Avg Value |          | d No of Analyses | a Concentration | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 | (1) Conc          | (2) Mass | (1) Conc           | (2) Mass | (1) Conc           | (2) Mass |                  |                 |                     | (1) Conc              | (2) Mass |                  |
| a Carbonaceous Biochemical Oxygen Demand (CBOD) | <2                |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| b Chemical Oxygen Demand (COD)                  | 160               |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| c Total Organic Carbon (TOC)                    | 4 5               |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| d Total Suspended Solids (TSS)                  | 54                |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| e Total Nitrogen (as N)                         | 0 66              |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| f Total Phosphorus (as P)                       | 0 018(1)          |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| g Ammonia (as N)                                | <0 01             |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| h Flow - actual or projected                    | Value 13 71       |          | Value              |          | Value              |          |                  | MGD             |                     | Value                 |          |                  |
| i Flow - design                                 | Value             |          | Value              |          | Value              |          |                  |                 |                     | Value                 |          |                  |
| j Specific Conductivity                         | Value 44800       |          | Value              |          | Value              |          | 1                | umhos/cm        |                     | Value                 |          |                  |
| k Temperature (winter)                          | Value             |          | Value              |          | Value              |          |                  | °C              |                     | Value                 |          |                  |
| l Temperature (summer)                          | Value 35 9        |          | Value              |          | Value 28 2         |          | calculated       | °C              |                     | Value                 |          |                  |
| m pH                                            | Min 8             | Max 8    | Min                | Max      |                    |          |                  | STANDARD UNITS  |                     |                       |          |                  |

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available) | 2 Mark "X"                          |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |            | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|------------|---------------------|-----------------------|----------|------------------|
|                                       | a be-<br>lieved<br>present          | b be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc     | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |            |                     | (1) Conc              | (2) Mass |                  |
| a Bromide (24949-67-9)                | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 47                    |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| b Chlorine, Total Residual            | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.01                 |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| c Color                               | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 5                     |          |                                   |          |                                      |          | 1                | PCU        |                     |                       |          |                  |
| d Fecal Coliform                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <1                    |          |                                   |          |                                      |          | 1                | CFU/100 mL |                     |                       |          |                  |
| e Fluoride (16984-48-8)               | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 0.8                   |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| f Nitrate-Nitrite (as N)              | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 0.33 (1)              |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |

: Item VII-B Contd.

Facility ID. Number

FL0000159

Outfall No.

I-XX1

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a believed present                  | b believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| g Nitrogen, Total Organic (as N)             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.66                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| h Oil and grease                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.3                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| i Phosphorus, Total (as P) (7723-14-0)       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.018 (I)             |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| j Radioactivity                              |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| (1) Alpha, Total                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3.1                   |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (2) Beta, Total                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 220                   |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (3) Radium, Total                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                     |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (4) Radium 226, Total                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                     |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| k Sulfate (as SO <sub>4</sub> ) (14808-79-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2400                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| l Sulfide (as S)                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.1                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| m Sulfite (as SO <sub>3</sub> ) (14265-45-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| n Surfactants                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.209                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| o Aluminum, Total (7429-90-5)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.05                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| p Barium, Total (7440-39-3)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.02                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| q Boron, Total (7440-42-8)                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.05                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| r Cobalt, Total (7440-48-4)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.019 (I)             |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| s Iron, Total (7439-89-6)                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.15                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| t Magnesium, Total (7439-95-4)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1400                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| u Molybdenum, Total (7439-98-7)              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.071                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| v Manganese, Total (7439-96-5)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.001                |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| w Tin, Total (7440-31-5)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.7                   |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| x Titanium, Total (7440-32-6)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.01                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |



PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available)            | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|--------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                  | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                  |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| <b>METALS, CYANIDE, AND TOTAL PHENOLS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1M Antimony, Total (7440-36-0)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0031 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2M Arsenic, Total (7723-14-0)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0021 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3M Beryllium, Total (7440-41-7)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.0001               |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4M Cadmium, Total (7440-43-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.001                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 5M Chromium, Total (7440-47-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.004                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6M Copper, Total (7440-50-8)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0025 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7M Lead, Total (7439-92-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.005                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8M Mercury, Total (7439-97-6)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0017                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9M Nickel, Total (7440-02-0)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0029 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10M Selenium, Total (7782-49-2)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.014                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11M Silver, Total (7440-22-4)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.013                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12M Thallium, Total (7440-28-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0016 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13M Zinc, Total (7440-66-6)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.019                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14M Cyanide, Total (57-12-5)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.005                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15M Phenols, Total                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.006 (I)             |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| <b>DIOXIN</b>                                    |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| <b>GC/MS FRACTION -VOLATILE COMPOUNDS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1V Acrolein (107-02-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.63                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2V Acrylonitrile (107-13-1)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.6                  |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)           | 2 Mark "X"                          |                                     |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                 | a testing required                  | b be-<br>lieved<br>present          | c be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 |                                     |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| GC/MS FRACTION - VOLATILE COMPOUNDS (continued) |                                     |                                     |                           |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3V Benzene (71-43-2)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.10                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4V Bis (Chloromethyl) Ether (542-88-1)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5V Bromoform (75-25-2)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 1.9                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6V Carbon Tetrachloride (56-23-5)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.22                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7V Chlorobenzene (108-90-7)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.04                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8V Chlorodi-bromomethane (124-8-1)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.15                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9V Chloroethane (74-00-3)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.39                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10V 2-Chloro-ethylvinyl Ether (110-75-8)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.39                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11V Chloroform (67-86-3)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.14                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12V Dichloro-bromomethane (75-24-4)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.13                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13V Dichloro-difluoromethane (75-71-8)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.74                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14V 1,1-Dichloroethane (75-34-3)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15V 1,2-Dichloroethane (107-06-2)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 16V 1,1-Dichloroethylene (75-35-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.14                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 17V 1,2,-Dichloropropane (78-87-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.06                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 18V 1,3-Dichloropropylene (542-75-6)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.14                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 19V Ethylbenzene (100-41-4)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.13                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 20V Methyl Bromide (74-83-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.58                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 21V Methyl Chloride (74-87-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.47                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 22V Methylene Chloride (74-98-2)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.13                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 23V 1,1,2,2-Tetra-chloroethane (79-34-5)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 24V Tetrachloroethylene (127-18-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.16                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)           | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                 | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| GC/MS FRACTION - VOLATILE COMPOUNDS (continued) |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25V Toluene (108-88-3)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.10                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 26V 1,2-Trans-Dichloroethylene (156-60-5)       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.30                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 27V 1,1,2-Trichloroethane (71-55-6)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.09                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 28V 1,1,2-Trichloroethane (79-00-5)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.23                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 29V Trichloroethylene (79-01-6)                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 30V Trichloro-fluoromethane (75-69-4)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.21                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 31V Vinyl Chloride (75-01-4)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - ACID COMPOUNDS                 |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1A 2-Chlorophenol (95-57-8)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2A 2,4-Dichlorophenol (120-83-2)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3A 2,4-Dimethylphenol (105-67-9)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4A 4,6-Dinitro-O-Cresol (534-53-1)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 5A 2,4-Dinitrophenol (51-28-5)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <15                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6A 2-Nitrophenol (88-75-5)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7A 4-Nitrophenol (100-02-7)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <15                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8A P-Chloro-M-Cresol (59-50-7)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9A Pentachlorophenol (87-86-5)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10A Phenol (108-95-2)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11A 2,4,5-Trichloro-phenol (88-06-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS         |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1B Acenaphthene (63-32-9)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2B Acenaphthylene (208-96-8)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3B Anthracene (120-12-7)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4B Benzidine (92-87-5)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 100                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 5B Benzo (a) Anthracene (56-55-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6B Benzo (a) Pyrene (50-32-8)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7B 3,4-Benzo-fluoranthene (205-99-2)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8B Benzo (ghi) Perylene (191-24-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9B Benzo (k) Fluoranthene (207-08-9)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10B Bis (2-Chloroethoxy) Methane (111-91-1)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11B Bis (2-chloroethyl) Ether (111-44-4)     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12B Bis (2-Chloroisopropyl) Ether (102-60-1) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13B Bis (2-Ethylhexyl) Phthalate (117-81-7)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14B 4-Bromophenyl Phenyl Ether (101-55-3)    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15B Butyl Benzyl Phthalate (84-68-7)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 16B 2-Chloronaphthalene (91-58-7)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 17B 4-Chlorophenyl Phenyl Ether (7005-72-3)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 18B Chrysene (218-01-9)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 19B Dibenzo (a,h) Anthracene (53-70-3)       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 20B 1,2-Dichlorobenzene (95-50-1)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 21B 1,3-Dichlorobenzene (541-73-1)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 22B 1,4-Dichlorobenzene (106-46-7)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 23B 3,3'-Dichlorobenzidine (92-94-1)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <40                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 24B Diethyl Phthalate (84-66-2)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 25B Dimethyl Phthalate (131-11-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <5                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 26B Di-N-Butyl Phthalate (84-74-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <5                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 27B 2,4-Dinitrotoluene (121-14-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 28B 2,6-Dinitrotoluene (606-20-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)                | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                      | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                      |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 29B Di-N-Octyl Phthalate (117-84-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 30B 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 31B Fluoranthene (206-44-0)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 32B Fluorene (86-73-7)                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 33B Hexachlorobenzene (118-74-1)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 34B Hexachlorobutadiene (87-68-3)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 35B Hexachlorocyclopentadiene (77-47-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 36B Hexachloroethane (67-72-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 37B Indeno (1,2,3-cd) Pyrene (193-39-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 38B Isophorone (78-59-1)                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 39B Naphthalene (91-20-3)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 40B Nitrobenzene (98-95-9)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 41B N-Nitrosodimethylamine (62-75-9)                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 42B N-Nitrosodi-N-Propylamine (621-64-7)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 43B N-Nitro-sodiphenylamine (86-30-6)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 44B Phenanthrene (85-01-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 45B Pyrene (129-00-0)                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 46B 1,2,4-Trichlorobenzene (120-82-1)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - PESTICIDES                          |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1P Aldrin (309-00-2)                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2P -BHC (319-84-6)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3P -BHC (319-85-7)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 4P -BHC (58-89-9)                                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5P -BHC (319-86-8)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available) | 2 Mark "X"               |                          |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|--------------------------|--------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                       | a testing required       | b believed present       | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                          |                          |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 6P Chlordane (57-74-9)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 7P 4,4'-DDT (50-29-3)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 8P 4,4'-DDE (72-55-9)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 9P 4,4'-DDD (72-54-8)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 10P Dieldrin (60-57-1)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 11P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 12P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 13P Endosulfan Sulfate (1031-07-8)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 14P Endrin (72-20-8)                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 15P Endrin Aldehyde (7421-92-4)       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 16P Heptachlor (76-44-8)              | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 17P Heptachlor Epoxide (1024-57-3)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 18P PCB-1242 (53469-21-9)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 19P PCB-1254 (11097-69-1)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 20P PCB-1221 (11104-28-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 21P PCB-1232 (11141-16-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 22P PCB-1248 (12672-29-6)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 23P PCB-1260 (11096-82-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 24P PCB-1016 (12674-11-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25P Toxaphene (8001-35-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

## VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

| 1<br>Pollutant                                  | 2 Effluent        |          |                    |          |                    |          | 3 Units          |                 | 4 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------|----------|--------------------|----------|--------------------|----------|------------------|-----------------|---------------------|-----------------------|----------|------------------|
|                                                 | a Max Daily Value |          | b Max 30-day Value |          | c Annual Avg Value |          | d No of Analyses | a Concentration | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 | (1) Conc          | (2) Mass | (1) Conc           | (2) Mass | (1) Conc           | (2) Mass |                  |                 |                     | (1) Conc              | (2) Mass |                  |
| a Carbonaceous Biochemical Oxygen Demand (CBOD) | <2                |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| b Chemical Oxygen Demand (COD)                  | 160               |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| c Total Organic Carbon (TOC)                    | 4 5               |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| d Total Suspended Solids (TSS)                  | 54                |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| e Total Nitrogen (as N)                         | 0 66              |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| f Total Phosphorus (as P)                       | 0 018(1)          |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| g Ammonia (as N)                                | <0 01             |          |                    |          |                    |          | 1                | mg/L            |                     |                       |          |                  |
| h Flow - actual or projected                    | Value 13 71       |          | Value              |          | Value              |          |                  |                 |                     | Value                 |          | mg/L             |
| i Flow - design                                 | Value             |          | Value              |          | Value              |          |                  |                 |                     | Value                 |          | mg/L             |
| j Specific Conductivity                         | Value 44800       |          | Value              |          | Value              |          | 1                | umhos/cm        |                     | Value                 |          | mg/L             |
| k Temperature (winter)                          | Value             |          | Value              |          | Value              |          |                  | °C              |                     | Value                 |          |                  |
| l Temperature (summer)                          | Value 35 9        |          | Value              |          | Value 28 2         |          | calculated       | °C              |                     | Value                 |          |                  |
| m pH                                            | Min 8             | Max 8    | Min                | Max      |                    |          |                  | STANDARD UNITS  |                     |                       |          |                  |

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available) | 2 Mark "X"                          |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |            | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|------------|---------------------|-----------------------|----------|------------------|
|                                       | a be-<br>lieved<br>present          | b be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc     | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |            |                     | (1) Conc              | (2) Mass |                  |
| a Bromide (24949-67-9)                | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 47                    |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| b Chlorine, Total Residual            | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.01                 |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| c Color                               | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 5                     |          |                                   |          |                                      |          | 1                | PCU        |                     |                       |          |                  |
| d Fecal Coliform                      | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <1                    |          |                                   |          |                                      |          | 1                | CFU/100 ml |                     |                       |          |                  |
| e Fluoride (16984-48-8)               | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 0.8                   |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |
| f Nitrate-Nitrite (as N)              | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 0.33 (1)              |          |                                   |          |                                      |          | 1                | mg/L       |                     |                       |          |                  |

: Item VII-B Contd.

Facility ID. Number

FL0000159

Outfall No.

I-XX2

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a believed present                  | b believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| g Nitrogen, Total Organic (as N)             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.66                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| h Oil and grease                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1.3                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| i Phosphorus, Total (as P) (7723-14-0)       | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.018 (I)             |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| j Radioactivity                              |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| (1) Alpha, Total                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3.1                   |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (2) Beta, Total                              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 220                   |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (3) Radium, Total                            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                     |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| (4) Radium 226, Total                        | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1                     |          |                                   |          |                                      |          | 1                | pCi/L  |                     |                       |          |                  |
| k Sulfate (as SO <sub>4</sub> ) (14808-79-8) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 2400                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| l Sulfide (as S)                             | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.1                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| m Sulfite (as SO <sub>3</sub> ) (14265-45-3) | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| n Surfactants                                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.209                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| o Aluminum, Total (7429-90-5)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.05                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| p Barium, Total (7440-39-3)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.02                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| q Boron, Total (7440-42-8)                   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.05                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| r Cobalt, Total (7440-48-4)                  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.019 (I)             |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| s Iron, Total (7439-89-6)                    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.15                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| t Magnesium, Total (7439-95-4)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1400                  |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| u Molybdenum, Total (7439-98-7)              | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 0.071                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| v Manganese, Total (7439-96-5)               | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.001                |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| w Tin, Total (7440-31-5)                     | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1.7                   |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |
| x Titanium, Total (7440-32-6)                | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.01                 |          |                                   |          |                                      |          | 1                | mg/L   |                     |                       |          |                  |



Facility ID. Number: FL0000159 Outfall No. I-XX2

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4-dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

| 1 Pollutant and CAS No (if available)            | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|--------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                  | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                  |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| <b>METALS, CYANIDE, AND TOTAL PHENOLS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1M Antimony, Total (7440-36-0)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0031 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2M Arsenic, Total (7723-14-0)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0021 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3M Beryllium, Total (7440-41-7)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.0001               |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4M Cadmium, Total (7440-43-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.001                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 5M Chromium, Total (7440-47-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.004                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6M Copper, Total (7440-50-8)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0025 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7M Lead, Total (7439-92-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.005                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8M Mercury, Total (7439-97-6)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0017                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9M Nickel, Total (7440-02-0)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0029 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10M Selenium, Total (7782-49-2)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.014                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11M Silver, Total (7440-22-4)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.013                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12M Thallium, Total (7440-28-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.0016 (I)            |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13M Zinc, Total (7440-66-6)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.019                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14M Cyanide, Total (57-12-5)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.005                |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15M Phenols, Total                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | 0.006 (I)             |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| <b>DIOXIN</b>                                    |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6) | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| <b>GC/MS FRACTION -VOLATILE COMPOUNDS</b>        |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1V Acrolein (107-02-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <0.63                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2V Acrylonitrile (107-13-1)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1.6                  |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)           | 2 Mark "X"                          |                                     |                           | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|-------------------------------------------------|-------------------------------------|-------------------------------------|---------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                 | a testing required                  | b be-<br>lieved<br>present          | c be-<br>lieved<br>absent | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                 |                                     |                                     |                           | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| GC/MS FRACTION - VOLATILE COMPOUNDS (continued) |                                     |                                     |                           |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3V Benzene (71-43-2)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.10                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4V Bis (Chloromethyl) Ether (542-88-1)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5V Bromoform (75-25-2)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | 1.9                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6V Carbon Tetrachloride (56-23-5)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.22                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7V Chlorobenzene (108-90-7)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.04                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8V Chlorodi-bromomethane (124-8-1)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.15                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9V Chloroethane (74-00-3)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.39                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10V 2-Chloro-ethylvinyl Ether (110-75-8)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.39                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11V Chloroform (67-86-3)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.14                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12V Dichloro-bromomethane (75-24-4)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.13                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13V Dichloro-difluoromethane (75-71-8)          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.74                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14V 1,1-Dichloroethane (75-34-3)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15V 1,2-Dichloroethane (107-06-2)               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 16V 1,1-Dichloroethylene (75-35-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.14                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 17V 1,2,-Dichloropropane (78-87-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.06                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 18V 1,3-Dichloropropylene (542-75-6)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.14                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 19V Ethylbenzene (100-41-4)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.13                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 20V Methyl Bromide (74-83-9)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.58                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 21V Methyl Chloride (74-87-3)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.47                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 22V Methylene Chloride (74-98-2)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.13                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 23V 1,1,2,2-Tetra-chloroethane (79-34-5)        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 24V Tetrachloroethylene (127-18-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  | <0.16                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)                  | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|--------------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                        | a testing required                  | b believed present                  | c believed absent        | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                        |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| <b>GC/MS FRACTION - VOLATILE COMPOUNDS (continued)</b> |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25V Toluene (108-88-3)                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.10                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 26V 1,2-Trans-Dichloroethylene (156-60-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.30                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 27V 1,1,2-Trichloroethane (71-55-6)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.09                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 28V 1,1,2-Trichloroethane (79-00-5)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.23                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 29V Trichloroethylene (79-01-6)                        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.12                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 30V Trichloro-fluoromethane (75-69-4)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.21                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 31V Vinyl Chloride (75-01-4)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <0.38                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| <b>GC/MS FRACTION - ACID COMPOUNDS</b>                 |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1A 2-Chlorophenol (95-57-8)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2A 2,4-Dichlorophenol (120-83-2)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3A 2,4-Dimethylphenol (105-67-9)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4A 4,6-Dinitro-O-Cresol (534-53-1)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 5A 2,4-Dinitrophenol (51-28-5)                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <15                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6A 2-Nitrophenol (88-75-5)                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7A 4-Nitrophenol (100-02-7)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <15                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8A P-Chloro-M-Cresol (59-50-7)                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9A Pentachlorophenol (87-86-5)                         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10A Phenol (108-95-2)                                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11A 2,4,5-Trichloro-phenol (88-06-2)                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| <b>GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS</b>         |                                     |                                     |                          |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1B Acenaphthene (63-32-9)                              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 2B Acenaphthylene (208-96-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 3B Anthracene (120-12-7)                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 4B Benzidine (92-87-5)                                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 100                 |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)        | 2 Mark "X"                          |                                     |                          | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|----------------------------------------------|-------------------------------------|-------------------------------------|--------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                              | a testing required                  | b be-<br>lieved present             | c be-<br>lieved absent   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                              |                                     |                                     |                          | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 5B Benzo (a) Anthracene (56-55-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 6B Benzo (a) Pyrene (50-32-8)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 7B 3,4-Benzo-fluoranthene (205-99-2)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 8B Benzo (ghi) Perylene (191-24-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 9B Benzo (k) Fluoranthene (207-08-9)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 10B Bis (2-Chloroethoxy) Methane (111-91-1)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 11B Bis (2-chloroethyl) Ether (111-44-4)     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 12B Bis (2-Chloroisopropyl) Ether (102-60-1) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 13B Bis (2-Ethylhexyl) Phthalate (117-81-7)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 14B 4-Bromophenyl Phenyl Ether (101-55-3)    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 15B Butyl Benzyl Phthalate (84-68-7)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 16B 2-Chloronaphthalene (91-58-7)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 17B 4-Chlorophenyl Phenyl Ether (7005-72-3)  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 18B Chrysene (218-01-9)                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 19B Dibenzo (a,h) Anthracene (53-70-3)       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 20B 1,2-Dichlorobenzene (95-50-1)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 21B 1,3-Dichlorobenzene (541-73-1)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 22B 1,4-Dichlorobenzene (106-46-7)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 23B 3,3'-Dichlorobenzidine (92-94-1)         | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <40                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 24B Diethyl Phthalate (84-66-2)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 25B Dimethyl Phthalate (131-11-3)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <5                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 26B Di-N-Butyl Phthalate (84-74-2)           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <5                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 27B 2,4-Dinitrotoluene (121-14-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 28B 2,6-Dinitrotoluene (606-20-2)            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available)                | 2 Mark "X"                          |                                     |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                                      | a testing required                  | b believed present                  | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                                      |                                     |                                     |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 29B Di-N-Octyl Phthalate (117-84-0)                  | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 30B 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7) | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 31B Fluoranthene (206-44-0)                          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 32B Fluorene (86-73-7)                               | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 33B Hexachlorobenzene (118-74-1)                     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 34B Hexachlorobutadiene (87-68-3)                    | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 35B Hexachlorocyclopentadiene (77-47-4)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 36B Hexachloroethane (67-72-1)                       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 37B Indeno (1,2,3-cd) Pyrene (193-39-5)              | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 38B Isophorone (78-59-1)                             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 39B Naphthalene (91-20-3)                            | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 40B Nitrobenzene (98-95-9)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <2                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 41B N-Nitrosodimethylamine (62-75-9)                 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 42B N-Nitrosodi-N-Propylamine (621-64-7)             | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 43B N-Nitro-sodiphenylamine (86-30-6)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <3                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 44B Phenanthrene (85-01-8)                           | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 45B Pyrene (129-00-0)                                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <1                    |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| 46B 1,2,4-Trichlorobenzene (120-82-1)                | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | < 1                   |          |                                   |          |                                      |          | 1                | µg/L   |                     |                       |          |                  |
| GC/MS FRACTION - PESTICIDES                          |                                     |                                     |                                     |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 1P Aldrin (309-00-2)                                 | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 2P -BHC (319-84-6)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 3P -BHC (319-85-7)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 4P -BHC (58-89-9)                                    | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 5P -BHC (319-86-8)                                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

| 1 Pollutant and CAS No (if available) | 2 Mark "X"               |                          |                                     | 3 Effluent            |          |                                   |          |                                      |          | 4 Units          |        | 5 Intake (optional) |                       |          |                  |
|---------------------------------------|--------------------------|--------------------------|-------------------------------------|-----------------------|----------|-----------------------------------|----------|--------------------------------------|----------|------------------|--------|---------------------|-----------------------|----------|------------------|
|                                       | a testing required       | b believed present       | c believed absent                   | a Maximum Daily Value |          | b Max 30-day Value (if available) |          | c Long Term Avg Value (if available) |          | d No of Analyses | a Conc | b Mass              | a Long Term Avg Value |          | b No of Analyses |
|                                       |                          |                          |                                     | (1) Conc              | (2) Mass | (1) Conc                          | (2) Mass | (1) Conc                             | (2) Mass |                  |        |                     | (1) Conc              | (2) Mass |                  |
| 6P Chlordane (57-74-9)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 7P 4,4'-DDT (50-29-3)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 8P 4,4'-DDE (72-55-9)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 9P 4,4'-DDD (72-54-8)                 | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 10P Dieldrin (60-57-1)                | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 11P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 12P -Endosulfan (115-29-7)            | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 13P Endosulfan Sulfate (1031-07-8)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 14P Endrin (72-20-8)                  | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 15P Endrin Aldehyde (7421-92-4)       | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 16P Heptachlor (76-44-8)              | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 17P Heptachlor Epoxide (1024-57-3)    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 18P PCB-1242 (53469-21-9)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 19P PCB-1254 (11097-69-1)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 20P PCB-1221 (11104-28-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 21P PCB-1232 (11141-16-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 22P PCB-1248 (12672-29-6)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 23P PCB-1260 (11096-82-5)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 24P PCB-1016 (12674-11-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |
| 25P Toxaphene (8001-35-2)             | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |                       |          |                                   |          |                                      |          |                  |        |                     |                       |          |                  |

# Attachment 1 – Narrative Summary

This is an application to revise the National Pollutant Discharge Elimination System (NPDES) permit for Duke Energy Florida, Inc.'s (DEF's) Crystal River Units 1, 2, and 3 NPDES Permit No. FL0000159 (Figure 1) to include operation of the proposed Citrus Combined Cycle (CCC) Project. DEF is currently seeking certification of the CCC Project under the Florida Electrical Power Plant Siting Act (PPSA) (Sections 403.501 through 518, Florida Statutes [F.S.], and Chapter 62-17, Florida Administrative Code [F.A.C.]). The requested revisions to the existing NPDES permit are limited to:

- Using the existing cooling water intake system bays from the recently retired Crystal River Unit 3 (Figure 2) to serve the CCC Project.
- Adding two internal outfalls for cooling tower blowdown from the CCC's two cooling towers (located in Figure 2).
- Adding a new surface water outfall to the existing Crystal River Energy Complex (CREC) discharge canal (located in Figure 2) to discharge cooling tower blowdown in accordance with this application.
- Renaming existing Outfall D-093 to reflect that this screen washwater outfall is associated with the CCC intake flows.
- Changing the pH monitoring and compliance point for existing Crystal River Unit 3 Outfall I-FG during times when pH water quality-based effluent limits are met in discharge from this internal outfall.

No other changes to the existing NPDES permit relative to CREC Units 1, 2, and 3 are requested. Permitting of some other wastewater facilities associated with the CCC Project, including a proposed percolation pond system for disposal of contact stormwater, industrial wastewaters, and a septic tank or on-Site package plant for sanitary wastewaters, will be accomplished through a site certification application (SCA) under the PPSA. Construction stormwater permit coverage will be through an NPDES multisector general construction permit, with notices of intent filed under separate cover. This narrative will summarize the nature of surface water intake and wastewater discharges of the proposed CCC Project as they relate to relevant aspects of the NPDES permit.

## **OVERVIEW**

Operation of the CCC Project will require the use of seawater withdrawn from the existing CREC intake canal. The primary uses of seawater will be for condenser cooling (i.e., for cooling tower makeup water) and for managing chlorides concentrations in the cooling tower blowdown. The commingled cooling tower blowdown will be discharged to surface waters via the existing discharge canal. The primary uses of groundwater will be for plant process/service water and potable water needs, with no wastewater discharges to surface waters. Information concerning groundwater use is included in this application to

provide a comprehensive water balance. In its application for site certification under the PPSA, DEF is seeking certification of inlet chiller systems to cool inlet air to the combustion turbine generators during periods of high temperature. At this time, DEF does not anticipate constructing the chiller system, but such a system may be included as the final design as the Project progresses or postconstruction, should a chiller system be determined to be needed, effective, and practicable. This NPDES permit application presents information inclusive of construction and operation of such a system.

Figures 3 through 5 present process flow diagrams depicting the water flow through the proposed CCC facility. The quantities of water used in different plant systems will vary with plant operating conditions, as well as with ambient meteorological conditions (e.g., air temperature and relative humidity). The water balance diagrams in the three figures are presented to show the estimated annual average and peak water use under different operating conditions:

- Figure 3, annual average daily seawater/groundwater use.
- Figure 4, peak month daily seawater use.
- Figure 5, peak month daily groundwater use.

The annual average water balance depicted in Figure 3 is based on annual average ambient conditions and assumed annual average operating conditions of 1,830 hours without duct firing, 4,000 hours with duct firing, and 2,930 hours of summer direct firing with inlet air chillers. The peak monthly seawater use in Figure 4 is based on 100-percent load with duct firing under maximum ambient conditions (i.e., 98.5 degrees Fahrenheit [°F] dry bulb temperature). The peak month groundwater use in Figure 5 is based on 100-percent load with duct firing and 40°F ambient temperature. If the chiller system is not constructed, the chiller condensate supply used to augment service water shown in Figures 3 and 4 and Table 1 would be unavailable and would be replaced by groundwater. Table 1 provides a summary of the major flows for both power blocks combined in the three water balances.



**Table 1. Summary of Major Flows/Uses in the Water Balances**

| Water Flow/Use                                 | Water Use (gpm)           |                          |                             |
|------------------------------------------------|---------------------------|--------------------------|-----------------------------|
|                                                | Annual Average (Figure 3) | Peak Seawater (Figure 4) | Peak Groundwater (Figure 5) |
| <u>Seawater</u>                                |                           |                          |                             |
| Cooling tower makeup                           | 24,764                    | 32,874                   | 19,560                      |
| Augmentation water for cooling tower/ blowdown | 38,106                    | 50,616                   | 30,094                      |
| Total withdrawal                               | 62,870                    | 83,490                   | 49,654                      |
| Cooling tower evaporation                      | 5,716                     | 7,592                    | 4,514                       |
| Total discharge                                | 57,156                    | 75,916                   | 45,136                      |
| <u>Groundwater</u>                             |                           |                          |                             |
| Plant process/sanitary water                   | 84                        | 20                       | 138                         |
| Potable water                                  | 1                         | 1.1                      | 1                           |
| Total withdrawal                               | 85                        | 21                       | 138                         |
| Chiller condensate reuse (optional)            | 112                       | 334                      | 0                           |
| Total discharge to percolation pond            | 106                       | 118                      | 114                         |

Sources: Burns & McDonnell, 2014. ECT, 2014.

## **WATER SUPPLY AND DISCHARGE**

As shown in Table 1, use of seawater for cooling tower makeup and augmentation water for cooling tower blowdown, with a total peak combined flow of 83,490 gallons per minute (gpm) (120.2 million gallons per day [MGD]), are by far the largest plant water uses for the CCC Project. Cooling tower makeup water is required to replace water lost through evaporation in the cooling process and the discharge of blowdown to effectively manage water quality in the cooling towers. Seawater will also be used to manage the chlorides concentrations in the cooling tower blowdown (elevated due to evaporation) to meet applicable marine surface water quality standards.

The cooling tower makeup and augmentation water will be withdrawn from the existing CREC intake canal through the existing intake structure of the retired Crystal River Unit 3. Although not shown in the water balances, a small quantity of seawater will be periodically withdrawn from the intake structure bays as wash water for the traveling screens. Screen wash water will be returned to the intake canal after removal of debris.

The peak flow of combined cooling tower makeup and augmentation water flow (120.2 MGD) for the proposed CCC Project is significantly less than historical withdrawals when Crystal River Unit 3 was operational. Prior to its shutdown and ultimate permanent retirement, the once-through cooling water design withdrawal for Unit 3 was 979.2 MGD. Currently, Unit 3 is permitted to withdraw up to approximately 43.5 MGD of noncontact cooling water for utilization in the Unit 3 heat decay, spent fuel pool heat exchanger system. Actual flows have averaged approximately 16 to 18 MGD over the past several months. The current design withdrawals from the intake canal for once-through cooling water for Crystal Units 1 and 2 are 446.4 and 472.3 MGD, respectively.

DEF is currently planning on retiring Units 1 and 2 in coordination with the commercial operation of the CCC Project; therefore, these cooling water withdrawals will also cease in the future. The proposed CCC cooling water system will be compliant with the final Section 316(b) rule as described in the following paragraphs.

## **MINIMIZATION AND REUSE**

DEF has evaluated the facility's water use in an integrated fashion and reduced its overall water withdrawals by employing a closed-cycle recirculating cooling system as well as combined cycle generation technology. The closed-cycle cooling system will consist of mechanical draft, evaporative cooling towers supplied with seawater for makeup to avoid use of freshwater as well as to take advantage of the existing intake canal and existing cooling water intake system associated with Crystal River Unit 3. Use of closed-cycle cooling and combined cycle generation, including consideration of the water used to manage chlorides concentrations, will reduce facility cooling water demand by 93 percent relative to an open-cycle facility of the same electrical output. Use of closed-cycle cooling is also a basis of compliance for new units<sup>1</sup> at existing facilities as defined in U.S. Environmental Protection Agency's (EPA's) 2014 316(b) existing facilities intake rule, which aims to reduce adverse environmental impacts associated with impingement and entrainment of aquatic organisms.

DEF has carefully considered opportunities for water reuse, either from inside the plant itself or from outside the plant, and water conservation to minimize the use of groundwater. In conjunction with the Southwest Florida Water Management District, DEF is currently implementing a project to use all reclaimed water available from the city of Crystal River to offset some groundwater use for Crystal River Units 4 and 5. No other practical sources of reclaimed water are available in the region. Similarly, potential storage and reuse of stormwater on the Site is impractical due to the size of the Site and constraints posed by wetlands and other land features. If an air chiller system is constructed, chiller condensate will be reused in the process/service water systems and as makeup water for the chiller cooling towers.

## **MINIMIZATION OF POTENTIAL WATER QUALITY IMPACTS**

DEF has taken several measures to reduce the potential for impacts to water quality including:

- Use of closed-cycle cooling and combined cycle generation to reduce water demand for cooling. Together, surface water intake will be reduced by 93 percent relative to similar steam electric generating plants that use open-cycle cooling.
- Use of flow augmentation to limit the increase in chlorides concentration to 10 percent prior to discharge to surface waters to comply with Florida Surface Water Quality Standards. A co-benefit is that the augmentation water

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<sup>1</sup> The CCC Project will be considered a new unit at an existing facility according to the definitions in the final 316(b) existing facilities rule.

will also reduce the concentrations of other cooling tower blowdown constituents, including those derived from concentration of seawater or from addition by the plant.

- Use of combined cycle generation and closed-cycle cooling substantially reduces the thermal loading to the environment. This reduction is manifested in reduced flows as well as reduced effluent temperatures. Use of augmentation water to manage chlorides concentrations will also reduce effluent temperature. DEF estimates that the maximum effluent temperature, conservatively estimated, will be well below the thermal limitation in the existing NPDES permit.
- The CCC Project will be operated in compliance with applicable state and federal regulations, including effluent limitation guidelines, water quality-based effluent limitations, and Florida's antidegradation policy.
- Chemical metal cleaning wastes will be containerized and disposed of off-Site consistent with local, state, and federal regulations.
- Industrial process wastewater will be disposed of to an appropriately sized and constructed percolation pond system, and treated sanitary wastewater will be disposed of to a subsurface treatment system or on-Site package plant under separate regulatory approvals.

### **SECTION 316 COMPLIANCE/THERMAL WATER QUALITY STANDARDS**

Use of combined cycle generation and closed-cycle cooling substantially reduces the thermal loading to the environment. This reduction is manifested in reduced cooling water flows, as well as reduced effluent temperatures. Mixing cooling tower blowdown with ambient seawater to limit chloride concentrations in the blowdown will also reduce effluent temperature. DEF estimates that the maximum effluent temperature, conservatively estimated, will be well below the existing thermal limitation in the NPDES permit. The size of the thermal plume will not increase beyond existing conditions. Also, with the retirement of Unit 3, the thermal plume has been further reduced. DEF requests that the existing 316(a) variance and monitoring point for same remain applicable. As shown in the following Table 2, the thermal discharge will remain an existing heat source in accordance with Rule 62-302.520(1), (3)(d), F.A.C., and Section 403.08852, F.S.

**Table 2. CREC Unit Operations—Effluent Thermal Loading**

| Unit             | Generator Output*<br>(MW electric) | Heat Rejection Rate<br>(MW thermal) | Heat Load Added to Discharge Canal |        |
|------------------|------------------------------------|-------------------------------------|------------------------------------|--------|
|                  |                                    |                                     | Btu/hr                             | %      |
| CREC 1           | 373.95                             | 485.03                              | 1.66E+09                           | 16.80  |
| CREC 2           | 520.82                             | 674.06                              | 2.30E+09                           | 23.35  |
| CREC 3           | 880.02                             | 1,727.40                            | 5.91E+09                           | 59.84  |
| Total CREC Units | 1,774.79                           | 2,886.49                            | 9.87E+09                           | 100.00 |
| CCC 1            | 362                                | 545.5                               | 3.86E+07                           | 0.39   |
| CCC 2            | 362                                | 545.5                               | 3.86E+07                           | 0.39   |
| Total CCC        | 724                                | 1,091.0                             | 7.72E+07                           | 0.78   |

\*Generator output for CCC 1 and 2 are for steam cycle only.

Sources: DEF, 2014.  
Burns & McDonnell, 2014.  
ECT, 2014.

### **316(b) INFORMATION**

DEF has evaluated the facility's water use in an integrated fashion and reduced its overall water withdrawals by employing a closed-cycle recirculating cooling system, as well as combined cycle generation technology. The closed-cycle cooling system will consist of mechanical draft, evaporative cooling towers supplied with seawater for makeup. Use of seawater is planned to avoid use of freshwater for cooling purposes as well as to take advantage of the existing intake canal and existing cooling water intake structure at Crystal River Unit 3. Use of closed-cycle cooling and combined cycle generation, including consideration of the chlorides flow augmentation water, will reduce facility cooling water demand by 93 percent relative to an open-cycle facility of the same electrical output and will result in a commensurate reduction in adverse environmental impacts associated with impingement and entrainment of aquatic organisms.

Use of closed-cycle cooling is deemed the best technology available (BTA) for compliance with both impingement and entrainment reduction requirements for new units at existing facilities as defined in EPA's 2014 final intake rule applicable to new units at existing facilities (40 CFR § 125.94(e)). As an added measure to reduce impingement, the intake structure will be configured to achieve an intake velocity of less than or equal to 0.5 foot per second (fps), considered the BTA for impingement for existing intakes in the final 316(b) rule for existing facilities.

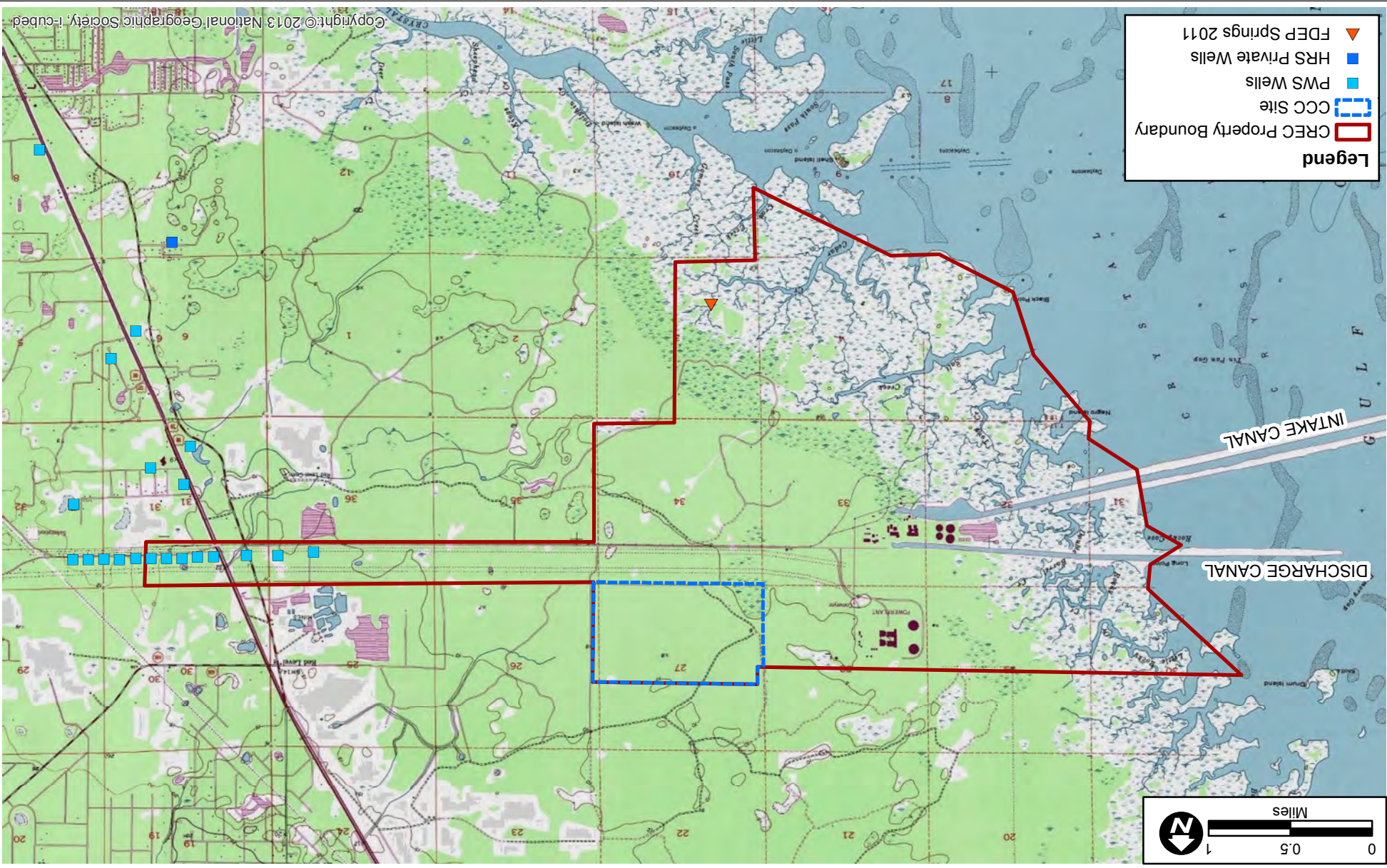
### **ANTIDEGRADATION**

Attachment 3 provides a demonstration that the proposed discharge is consistent with Florida's Antidegradation Policy set forth in Rule 62-302.300, F.A.C., as well as permitting requirements under Rule 62-4.242(1).

SITE LOCATION

FIGURE 1.

Sources: USGS Topographic Maps (Red Level and Crystal River - 1961); FDEP, 2011; Florida Health and Rehabilitative Services (HRS).



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## EXISTING AND PROPOSED OUTFALLS

FIGURE 2.

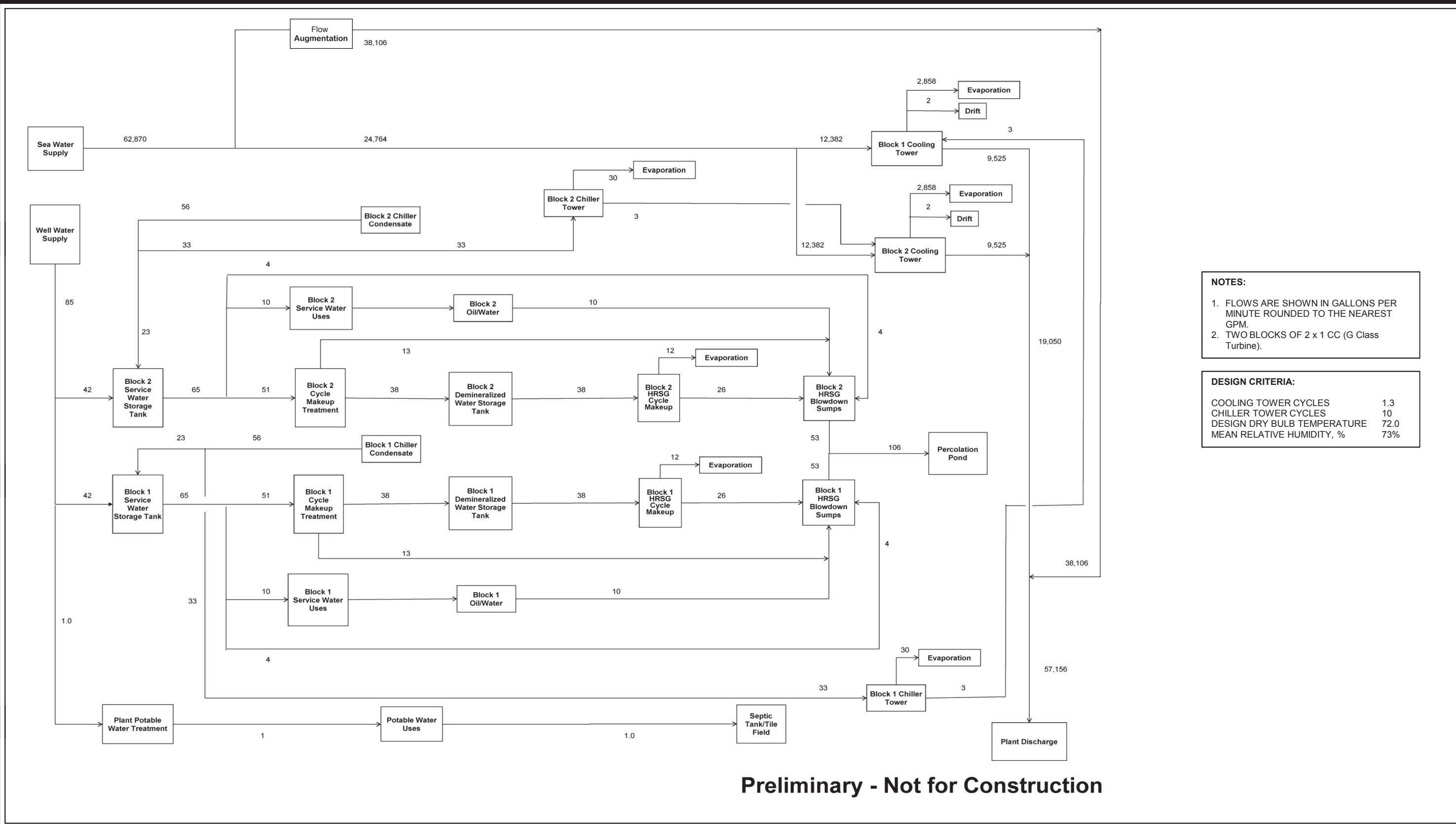


FIGURE 3  
WATER BALANCE FOR ANNUAL AVERAGE SEAWATER AND GROUNDWATER USE CONDITIONS

Sources: Burns & McDonnell, 2014. ECT, 2014.



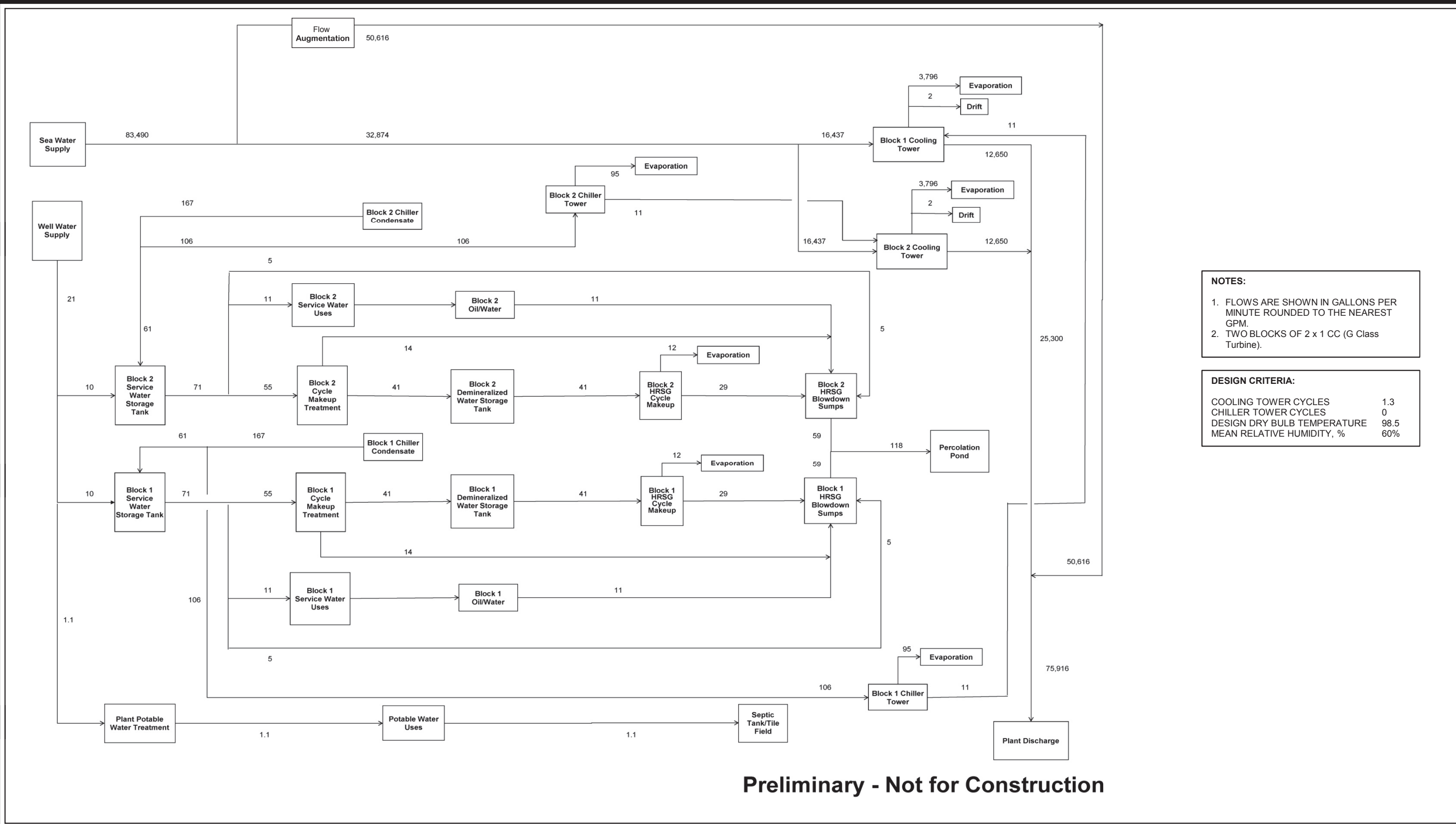


FIGURE 4  
WATER BALANCE FOR PEAK MONTH SEAWATER USE CONDITIONS

Sources: Burns & McDonnell, 2014. ECT, 2014.





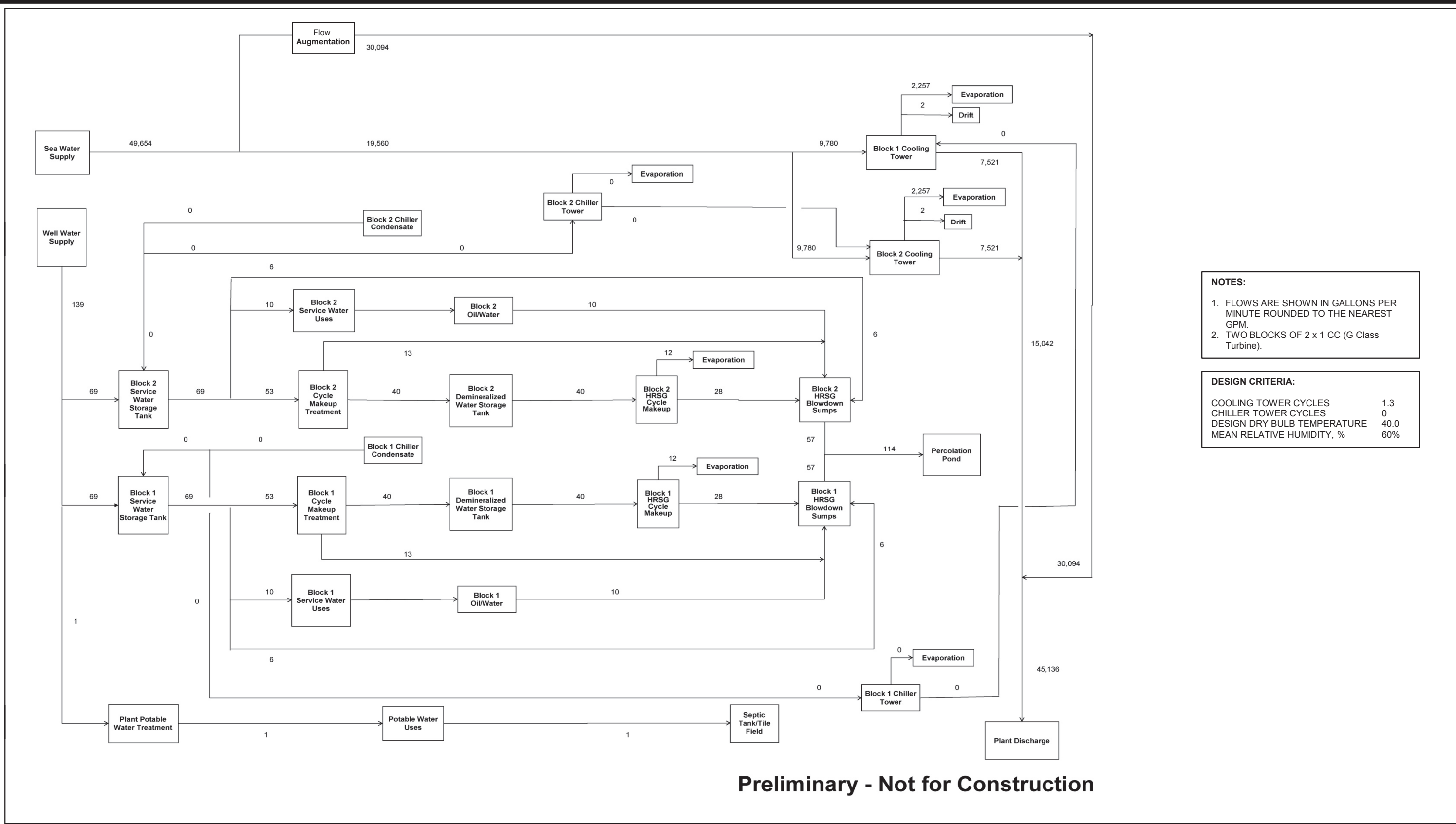


FIGURE 5  
WATER BALANCE FOR PEAK MONTH DAILY GROUNDWATER USE CONDITIONS

Sources: Burns & McDonnell, 2014. ECT, 2014.



# Attachment 2 – Form 2CS

## Additional Information

### **FORM 2CS, SECTION IV—WASTEWATER DESCRIPTION**

The following describes the contributory wastewater streams and wastewater treatment employed at the two CCC units. Refer to Figures 3 through 5 in Attachment 1 for the process flow diagram and water balances. Additional descriptions of chemical usage and chemicals that have the potential to be discharged via the permitted outfalls are also provided.

Internal Outfalls I-XX1 and I-XX2 consist of noncontact, closed-cycle cooling tower blowdown from the two CCC cooling tower basins. Water discharged from these cooling tower basins will be commingled with seawater from the intake while in transit to a new outfall, Outfall D-XXX, which, in turn, is discharged via the CREC discharge canal.

The two CCC units have the ability to inject oxidizing biocides to control biofouling within the mechanical draft cooling towers. In addition to sodium hypochlorite, various sodium bromide products (or a mixture of sodium hypochlorite and sodium bromide) may be used. To comply with limits for total residual oxidants, a dechlorination/debromination product, such as sodium bisulfite or sodium metabisulfite, is added at a stoichiometric ratio to ensure compliance with the total residual oxidants limits. Table 3 provides usage rates for these chemicals. Attachment 4 provides material safety data sheets.

**Table 3. Projected Treatment Chemical Use in the Cooling Towers**

| Chemical                    | Daily Use (gallons) |           |
|-----------------------------|---------------------|-----------|
|                             | Average             | Maximum   |
| Sodium hypochlorite (12.5%) |                     |           |
| Intake feed                 | 2,174               | 2,415     |
| Cooling tower feed          | 444                 | 444       |
| Sodium bromide (42.8%)      |                     |           |
| Intake feed                 | 157                 | 245       |
| Cooling tower feed          | 32                  | 45        |
| Surfactant                  | 7.1                 | 9.5       |
| Sodium bisulfite            | Variable*           | Variable* |

\*Dosage rate will vary with oxidant demand in source water and flow rate

Sources: DEF, 2014.  
ECT, 2014.

In addition to biocide treatment in the cooling towers, at times, a Florida Department of Environmental Protection (FDEP)-approved surfactant is used to increase the effectiveness of the biocide treatments and as a silt dispersant. Consistent with federal effluent guidelines for the steam electric sector, only one cooling tower is treated at any one time.

#### **FORM 2CS, SECTION VI—IMPROVEMENTS**

Revised Administrative Order No. AO-024-TL (revised Order) was issued with the current NPDES permit on April 7, 2014. Item III.29 of the revised Order requires that CREC prepare a feasibility study report to comply with the final regulations for Section 316(b) for operation of the existing units at CREC. EPA's final intake rule was signed by the EPA Administrator on May 19, 2014, and has been released in prepublication form. FDEP has stated its intent to modify the revised Order for consistency with the study requirements and schedule in the final rule once it is published.

Based on the prepublication version of the final rule, the new CCC generation units are defined as new units at an existing facility. As discussed in Attachment 1, the design of new CCC cooling water intake system will be compliant with the rule's requirements for such units as the use of closed-cycle recirculating cooling towers represents BTA for compliance with both impingement and entrainment reduction requirements (40 CFR § 125.94(e)(1)). Information submittals required under 40 CFR § 122.21(r) for operation of the proposed CCC Project must be submitted no later than 180 days prior to the commencement of cooling water withdrawals at the new units (40 CFR § 125.95(b)).

Item III.32 of the revised Order requires that CREC prepare a modified biological plan of study and schedule to study the protectiveness of the existing Section 316(a) thermal variance given the retirement of Unit 3. As stated in Attachment 1, the discharge from the CCC Project will achieve the existing thermal limits for the CREC permit and thus will be protective of the balanced indigenous population in the receiving water body. A thermal plan of study was submitted to FDEP on July 3, 2014, that included a phased approach for physical and biological sampling of the CREC thermal discharge.

#### **FORM 2CS, SECTION VII—INTAKE AND EFFLUENT CHARACTERISTICS**

Data provided in Part VII of the application were calculated using sampling data from the intake canal taken from DEF's NPDES permit renewal application for Units 1, 2 and 3 submitted to FDEP on February 28, 2013, and data for cooling tower blowdown from Units 4 and 5 taken from DEF's NPDES permit renewal application for Units 4 and 5 submitted to FDEP on January 25, 2010. Constituents in the tables for Section VII, Part B, marked as "believed present" are due to their presence in the ambient seawater at the point of intake, which are then passed through to the discharge.

The cooling tower blowdown from the CCC Project will be similar to that of Units 4 and 5, given that both sets of towers use the same source waters and similar water treatment chemicals (Table 3). Cooling tower blowdown from the CCC Project will also be subject to flow augmentation to manage chlorides concentration using seawater from the intake

canal. The intake and blowdown data described in the previous paragraphs were mathematically composited using the projected augmentation ratios from the water balance to predict the final effluent characterization for Outfall D-XXX.

When analytical results were below the method detection limit, the result was reported as less than the calculation result.

Estimation of effluent temperature (Table 4) is based on modeling of cooling tower blowdown temperature based on the operation of the CCC units and ambient meteorological conditions. The record of inlet temperature for CREC Units 1, 2, and 3 was used to assign a temperature for the augmentation water. The ratio of augmentation water to cooling tower blowdown was used to develop a flow-weighted temperature of the mixed streams under annual average conditions as well as maximum summertime temperatures.

**Table 4. Projected Effluent Temperatures**

| Parameter                                   | Average | Maximum |
|---------------------------------------------|---------|---------|
| <b>Inputs</b>                               |         |         |
| Intake canal temperature basis              | Average | Maximum |
| Intake canal temperature (°F)               | 74.6    | 94.9    |
| Cooling tower blowdown (°F)                 | 82.8    | 96.6    |
| Flow augmentation rate (gpm)                | 38,026  | 29,026  |
| Cooling tower blowdown rate (gpm)           | 19,010  | 18,868  |
| <b>Estimate</b>                             |         |         |
| Effluent temperature to effluent canal (°F) | 77.3    | 95.6    |

Sources: Burns & McDonnell, 2014.  
ECT, 2014.

The summertime maximum temperature likely represents an overestimate, as the maximum observed inlet temperature (94.9°F) is only one of two observations made between July 2005 and March 2014 that exceeded 92°F. In addition, the cooling tower blowdown and mixed blowdown/augmentation water will be transported in subsurface pipes for several thousand feet prior to discharge. This will allow for heat transfer from the effluent to subsurface soils. This heat dissipation is not accounted for in the calculation of the maximum summer temperature. Furthermore, compliance with the thermal limits is at the point of discharge into Crystal Bay (monitoring location Eff-3D), which is approximately 1.5 miles downstream of the proposed outfall into the discharge canal. Additional heat dissipation into the atmosphere will occur during transit in the discharge canal. For these reasons, the calculated maximum effluent temperatures and the overall thermal loading into the receiving water body are conservative.

# Attachment 3 – Antidegradation Demonstration

The discharge from the proposed CCC Project will not result in degradation of water quality or impairment in any of the designated uses in the receiving body of water. The operation of the CCC Project, in combination with the retirement of Crystal River Unit 3 in 2013 and the planned retirement of Crystal River Units 1 and 2 in conjunction with the CCC Project becoming operational, will result in a net benefit to aquatic resources through reductions in cooling water use and thermal loading.

An SCA has been submitted to the state that addresses the potential effects of the construction and operation of the CCC Project. The benefits of the Project are also described in the SCA. While the CCC Project is not expected to result in degradation of water quality, the following information is provided to demonstrate that the proposed discharge is consistent with the antidegradation policy set forth in Rule 62-302.300, F.A.C., and meets the antidegradation permitting requirements in Rules 62-4.242(1)(b) and (d), F.A.C.

## **ANTIDEGRADATION PROVISIONS**

Section 403.088(2)(b), F.S. provides that if a proposed discharge does not reduce the quality of the receiving water below the classification established for it, FDEP “may issue an operation permit if it finds that such degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest.”

Rule 62-4.242(1), F.A.C. provides:

- (b) In determining whether a proposed discharge which results in water quality degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest, the department shall consider and balance the following factors:
  - 1. Whether the proposed project is important to and is beneficial to the public health, safety, or welfare (taking into account the policies set forth in Rules 62-302.300, F.A.C., and, if applicable, 62-302.700, F.A.C.); and
  - 2. Whether the proposed discharge will adversely affect conservation of fish and wildlife, including endangered or threatened species, or their habitats; and
  - 3. Whether the proposed discharge will adversely affect the fishing or water-based recreational values or marine productivity in the vicinity of the proposed discharge; and

4. Whether the proposed discharge is consistent with any applicable Surface Water Improvement and Management Plan that has been adopted by a Water Management District and approved by the Department.

\* \* \*

- (d) For industrial wastewater facilities, proposing new or expanded surface water discharges, in addition to paragraph (b) above, in order for the new or expanded industrial wastewater discharge to be necessary or desirable under federal standards and under circumstances which are clearly in the public interest, the permit applicant:
  1. Must demonstrate that use of other discharge locations, land application, or recycling at off-Site locations that would avoid the degradation of water quality is not economically and technologically reasonable; and
  2. Shall submit a signed statement under penalty of law that a waste minimization and source reduction analysis was completed consistent with best management practices appropriate for the type of facility or discharge proposed as identified in paragraph 62-620.100(3)(m), F.A.C., 40 CFR 122.44(k), and Guidance Manual for Developing Best Management Practices (BMP), U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA 833-B-93-004, October 1993.

Rule 62-302.300(6), F.A.C., confirms that “private activities conducted for private purposes may...be in the public interest.” These elements of the antidegradation rule are addressed in the following paragraphs.

**RULE 62-4.242(1)(B), F.A.C.**

1. The CCC Project is important and beneficial to the public health, safety, and welfare of the region by providing reliable and cost-effective electric power. DEF has an obligation to provide sufficient, adequate, and efficient electric service in its service territory (Section 366.03, F.S.). Through its integrated resource planning process, DEF has determined the need for additional generating capacity by 2018. The CCC Project is the most cost-effective option for customers and provides systemwide reliability, ensures regulatory compliance, and meets DEF’s 2018 in-service construction timeline. On May 27, 2014, DEF filed a petition for a determination of need for the CCC Project with the Florida Public Service Commission (PSC). The PSC is the sole forum for a determination of the need for an electrical power plant (Section 403.519, F.S.).
2. The proposed discharge will not adversely affect conservation of fish and wildlife, including endangered or threatened species, or their habitats.

3. The proposed discharge will not adversely affect the fishing or water-based recreational values or marine productivity in the vicinity of the proposed discharge.

The conclusions articulated in previous Items 2 and 3 are supported by the following:

- The effects of the existing cooling water intakes and thermal discharges from CREC have been studied extensively over the several decades. In September 1988, EPA granted a Section 316(a) variance from thermal effluent limitations to CREC after a determination that the variance was adequately protective of a balanced indigenous population in the receiving body of water. At the same time, EPA determined that CREC's helper cooling towers, seasonal flow reductions, and mitigation efforts constituted BTA for protection of adverse environmental impacts under the Clean Water Act Section 316(b) requirements. The potential for adverse effects to federally-listed species also were carefully evaluated by the relevant agencies. Their determinations either concluded that there would not be substantial impacts or resulted in control plans approved by the agencies.
- The CCC Project's use of a closed-cycle recirculating cooling system will result in significant reductions in cooling water withdrawals, which will produce commensurate reductions in adverse environmental effects. As noted in the following paragraphs, the CCC Project will use seawater to manage chlorides concentrations in the cooling tower blowdown. The rate of cooling water withdrawn from the existing intake canal (including augmentation water for chlorides) will be reduced by approximately 93 percent compared to a facility with the same output that employs once-through cooling. When considered on the basis of electricity output (i.e., million gallons per day per megawatt [MGD/MW]), the generation provided by Units 1, 2, and 3 require 1.03 MGD/MW. In contrast, the proposed CCC Project will use cooling tower makeup and chloride dilution water at a rate of 0.07 MGD/MW, an overall 93-percent reduction relative to a facility of the same output that uses once-through cooling, thus producing a commensurate decrease in impingement and entrainment rates.
- The use of closed-cycle recirculating cooling systems is identified in the final Section 316(b) existing facilities rule as BTA for new units at existing facilities (40 CFR 125.94[e][1]). The existing Unit 3 intake bays will be retrofitted with intake screens with a design through-screen velocity of less than 0.5 fps, considered BTA for mitigation of impingement mortality effects from existing cooling water intakes (40 CFR § 125.94(c)(2)).
- The CCC Project will greatly reduce thermal loading to the aquatic environment relative to open-cycle systems. The current NPDES permit sets a maximum discharge temperature at the point of discharge into Crystal Bay of 96.5°F as a 3-hour average for compliance with the 316(a) thermal variance. The cooling tower design for the new CCC units will result in a cooling tower blowdown temperature that is lower than this final discharge limit,

conservatively estimated using the maximum seawater intake and ambient air temperatures to yield a maximum effluent temperature of 95.6°F. Further, heat dissipation will occur through the below-ground discharge pipe prior to entering the discharge canal and within the discharge canal prior to entering Crystal Bay at the temperature monitoring compliance point. The temperature of the proposed discharge will therefore easily meet thermal limits set by the current 316(a) thermal variance. Evaporative cooling towers operate by using the latent heat of water evaporation to cool recirculating water. The facility also uses the waste heat from the combustion process to generate steam and electricity, reducing the cooling demand. For these reasons, the thermal load associated with cooling tower blowdown is far lower than that of a similarly-sized plant that employs once-through cooling.

- The effluent from the CCC Project will comply with applicable ambient water quality standards. As described previously, the CCC Project will use ambient seawater from the existing intake canal to manage chlorides concentrations in the blowdown prior to discharge to ensure that the concentration of chlorides is not increased by more than 10 percent relative to the source water. This will have the additional beneficial effect of reducing the temperature of the cooling tower blowdown.
- The CCC Project will intermittently use sodium hypochlorite and/or sodium bromide to control biofouling in the cooling towers, consistent with the 40 CFR 423 effluent guidelines for the steam electric generating sector. Dechlorination will be performed during this procedure.
- No other toxic chemicals will be introduced into the cooling tower blowdown, which is expected to be similar in quality to the blowdown from the existing Units 4 and 5 cooling towers. Semiannual toxicity testing of the Unit 4 and 5 blowdown conducted under conditions of the current NPDES permit for those units has shown no issues with toxicity.
- There are no applicable surface water improvement and management (SWIM) plans adopted by a Water Management District and approved by FDEP that would be impacted by the project. The closest approved plan is for Crystal River/Kings Bay<sup>2</sup>, located south of the Project. The Project boundary lies northwest of the SWIM plan's management boundary and lies outside both the surface watershed and groundwater recharge area.

**RULE 62-4.242(1)(D), F.A.C.**

1. Discharge of cooling tower blowdown via the existing CREC discharge canal is the most cost-effective and least environmentally disturbing discharge alternative due the presence of existing infrastructure and close proximity.

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<sup>2</sup> Crystal River/Kings Bay Surface Water Improvement and Management (SWIM) Plan, Final Approved Plan July 10, 2000. Southwest Florida Water Management District, Resource Management Department, Surface Water Improvement and Management Section.



Land application and off-Site reuse of the cooling tower blowdown is not feasible due to the use of salt water cooling towers and the resulting high dissolved solids content of the cooling blowdown. Process wastewaters will be discharged to an on-Site percolation pond to limit the potential for water quality degradation. As noted in Attachment 1 to this application, every opportunity for flow reduction and reuse on-Site was incorporated into the Project design.

2. DEF certifies that a waste minimization and source reduction analysis was completed consistent with BMPs to control or abate the discharge of pollutants as identified in paragraph 62-620.100(3)(m), F.A.C., and 40 CFR § 122.44(k).

In summary, the proposed CCC Project is in the public interest, because it helps ensure that DEF can provide reliable and cost-effective electric service in its service territory. The Project will result in substantial reductions in cooling water withdrawals and thermal discharges, minimize adverse environmental impacts due to impingement and entrainment, and will result in additional protection to threatened and endangered species. The Project will not result in degradation of water quality or reduction in any of the designated uses in the receiving water body. Finally, the Project will be designed with waste minimization and source reduction features consistent with approved BMP guidance.<sup>3</sup>

DEF is providing the following statement in accordance with Rule 62-4.242(1)(d)2, Florida Administrative Code (F.A.C.):

[A] waste minimization and source reduction analysis was completed consistent with best management practices appropriate for the type of facility or discharge proposed, as identified in paragraph 62-620.100(3)(m), F.A.C., 40 CFR 122.44(k), and Guidance Manual for Developing Best Management Practices, U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA 833-B-93-004, October 1993.

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<sup>3</sup> Guidance Manual for Developing Best Management Practices, U.S. Environmental Protection Agency, Office of Water, Washington, DC, EPA 833-B-93-004, October 1993

# Attachment 4 – Material Safety Data Sheets

## Material Safety Data Sheet

**Material Name: Sodium Metabisulphite or Sodium Metabisulfite**

**ID: C1-143**

### \*\*\* Section 1 - Chemical Product and Company Identification \*\*\*

**Chemical Name:** Sodium Metabisulphite (Technical, Photo and Food Grades) or Sodium Metabisulfite

**Product Use:** For Commercial Use

**Synonyms:** Disulfurous acid, Disodium salt, Fertiliso; Pyrosulfurous acid, disodium salt; Sodium disulfite; Disodium pyrosulfite; Sodium pyrosulfite.

**Supplier Information**

Chem One Ltd.

8017 Pinemont Drive, Suite 100

Houston, Texas 77040-6519

Phone: (713) 896-9966

Fax: (713) 896-7540

Emergency # (800) 424-9300 or (703) 527-3887

**General Comments: FOR COMMERCIAL USE ONLY; NOT TO BE USED AS A PESTICIDE.**

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

### \*\*\* Section 2 - Composition / Information on Ingredients \*\*\*

| CAS #     | Component            | Percent |
|-----------|----------------------|---------|
| 7681-57-4 | Sodium Metabisulfite | > 95%   |

**Component Related Regulatory Information**

This product may be regulated, have exposure limits or other information identified as the following: Sulfites.

**Component Information/Information on Non-Hazardous Components**

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

### \*\*\* Section 3 - Hazards Identification \*\*\*

**Emergency Overview**

Sodium Metabisulfite is a white crystal or white/yellow powder form. May cause severe allergic reaction in asthmatics and sulfite sensitive individuals. May be harmful if swallowed. May cause eye, skin and respiratory tract irritation. This product is not flammable. Thermal decomposition of this product produces irritating vapors and toxic gases (e.g. sulfur dioxide), which may increase fire hazard due to the flammability of sulfur dioxide. Emergency responders should wear proper personal protective equipment for the releases to which they are responding.

**Hazard Statements**

**WARNING! CAUSES SKIN AND EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION.** Keep from contact with clothing. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing dusts or particulates. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. **WARNING! Contact with acids, water or ice releases sulfur dioxide gas which may be harmful or deadly if inhaled. Use of this product in confined spaces may cause suffocation leading to death. Do not use in unventilated areas such as in the holds of fishing boats, walk-in coolers or confined spaces. Use only in ventilated areas.**

**Potential Health Effects: Eyes**

Exposure to particulates or solution of this product may cause stinging, tearing and redness. Prolonged contact with solutions of this product may cause conjunctivitis, ulceration and corneal abnormalities.

**Potential Health Effects: Skin**

This product can cause irritation of the skin, especially after prolonged exposures. Repeated skin contact may lead to skin sensitization, an allergic reaction and dermatitis (red, cracked skin). Skin contact can cause allergic skin reaction in susceptible individuals, with symptoms including itching, rash and welts.

**Potential Health Effects: Ingestion**

Ingestion of this product can irritate the tissues of the mouth, esophagus, and other tissues of the digestive system. Symptoms of exposure can include central nervous system depression, gastrointestinal and cardiac abnormalities, and violent colic. Sulfite compounds, such as this product, can cause a severe allergic reaction in sensitive individuals and some asthmatics, which can be life-threatening.

**Potential Health Effects: Inhalation**

Breathing dusts or particulates generated by this product can lead to irritation of the nose, throat or respiratory system. Symptoms of such exposure could include coughing and sneezing. This product can cause an asthma-like allergy with symptoms such as shortness of breath, wheezing, coughing, urticaria, angioedema, nasal congestion, nasal polyp swelling and chest tightness. Severe general (anaphylactic) reactions can occur, which can be life-threatening in some cases.

**HMIS Ratings: Health Hazard: 2\* Fire Hazard: 0 Physical Hazard: 1**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe \* = Chronic hazard

## Material Safety Data Sheet

**Material Name: Sodium Metabisulphite or Sodium Metabisulfite**

**ID: C1-143**

### \*\*\* Section 4 - First Aid Measures \*\*\*

**First Aid: Eyes**

In case of contact with eyes, rinse immediately with plenty of water for at least 20 minutes. Seek immediate medical attention if any adverse effect occurs.

**First Aid: Skin**

Remove all contaminated clothing. For skin contact, wash thoroughly with soap and water for at least 20 minutes. Seek immediate medical attention if irritation develops or persists.

**First Aid: Ingestion**

Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim rinse mouth thoroughly with water, if conscious. Contact a physician or poison control center immediately. Never give anything by mouth to a victim who is unconscious or having convulsions.

**First Aid: Inhalation**

Remove source of contamination or move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

**First Aid: Notes to Physician**

Provide general supportive measures and treat symptomatically.

### \*\*\* Section 5 - Fire Fighting Measures \*\*\*

**Flash Point:** Not flammable

**Method Used:** Not applicable

**Upper Flammable Limit (UEL):** Not applicable

**Lower Flammable Limit (LEL):** Not applicable

**Auto Ignition:** Not applicable

**Flammability Classification:** Not applicable

**Rate of Burning:** Not applicable

**General Fire Hazards**

When involved in a fire, this material may decompose and produce irritating vapors, acrid smoke and toxic gases (i.e. sulfur oxides and sodium oxides). Contact with acids, water and ice produces sulfur oxide, which presents a fire hazard due to its flammability. Sodium Metabisulfite is a reducing agent and reacts explosively with oxidizers.

**Hazardous Combustion Products**

Sodium sulfide and sulfur oxides.

**Extinguishing Media**

In case of fire, use water fog, dry chemical, carbon dioxide or regular foam.

**Fire Fighting Equipment/Instructions**

Firefighters should wear full protective clothing including self-contained breathing apparatus. If possible control runoff from fire control or dilution water to prevent environmental contamination.

**NEPA Ratings: Health: 2 Fire: 0 Reactivity: 1 Other:**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

### \*\*\* Section 6 - Accidental Release Measures \*\*\*

**Containment Procedures**

Stop the flow of material, if this can be done without risk. Contain the discharged material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with product (see Section 10 for incompatibility information).

**Clean-Up Procedures**

Small releases can be cleaned-up wearing gloves, goggles and suitable body protection. In case of a large spill (in which excessive dusts can be generated), clear the affected area, protect people, and respond with trained personnel. Place all spill residues in an appropriate container and seal. Thoroughly wash the area after a spill or leak clean-up. Prevent spill rinsate from contamination of storm drains, sewers, soil or groundwater.

**Evacuation Procedures**

Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering. In case of large spills, follow all facility emergency response procedures.

**Special Procedures**

Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Have emergency equipment readily available.

## Material Safety Data Sheet

**Material Name: Sodium Metabisulfite or Sodium Metabisulfite**

**ID: C1-143**

### \*\*\* Section 7 - Handling and Storage \*\*\*

#### Handling Procedures

Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling. Avoid accumulation of dusts of this product. Remove contaminated clothing immediately. Keep in dust-tight containers. Keep away from all heat sources. **Individuals responsible for the procurement, use or application of Sodium Metabisulfite must familiarize themselves with the appropriate safety and handling precautions involved. Specifically, for the prevention of Black Spot on shrimp, Sodium Metabisulfite should only be used as a dilute (1.25%) solution and only in well-ventilated area. NEVER USE SODIUM METABISULFITE IN A DRY FORM DIRECTLY ON THE SHRIMP AND NEVER IN A CONFINED SPACE SUCH AS THE HOLD OF A SHRIMP BOAT OR A WALK-IN COOLER. DEADLY SULFUR DIOXIDE GAS CAN BE GENERATED AND ACCUMULATED IN CONFINED SPACES, CREATING AN EXTREMELY HAZARDOUS CONDITION WHICH CAN CAUSE SUFFOCATION LEADING TO DEATH.**

#### Storage Procedures

All employees who handle this material should be trained to handle it safely. Open containers slowly on a stable surface. Containers of this product must be properly labeled. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Keep this product in an airtight container. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Keep container tightly closed when not in use. Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Do not store this material in open or unlabeled containers. Limit quantity of material stored.

### \*\*\* Section 8 - Exposure Controls / Personal Protection \*\*\*

#### Exposure Guidelines

##### A: General Product Information

Sulfur Dioxide, which is released slowly at ambient temperatures from this material, has established exposure limits as follows:

ACGIH: 5.2 mg/m<sup>3</sup> TWA

13 mg/m<sup>3</sup> STEL

OSHA: 13 mg/m<sup>3</sup> TWA; 5 mg/m<sup>3</sup> (Vacated 1989 PEL)

13 mg/m<sup>3</sup> (Vacated 1989 PEL)

NIOSH: 5 mg/m<sup>3</sup> TWA

13 mg/m<sup>3</sup> STEL

100 ppm (IDLH)

DFG MAKs 5.3 mg/m<sup>3</sup> TWA (Inhalable fraction of the aerosol)

1•MAK 15 min., average value, 1-hr interval

##### B: Component Exposure Limits

**The exposure limits given are for Sodium Metabisulfite (7681-57-4).**

ACGIH: 5 mg/m<sup>3</sup> TWA

NIOSH: 5 mg/m<sup>3</sup> TWA

#### Engineering Controls

Use mechanical ventilation such as dilution and local exhaust, necessary for use in enclosed or confined spaces due to the slow release of sulfur dioxide. Use a corrosion-resistant ventilation system and exhaust directly to the outside. Treatment of exhaust gases may be required to prevent environmental contamination. Supply ample air replacement.

#### PERSONAL PROTECTIVE EQUIPMENT

*The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132). Please reference applicable regulations and standards for relevant details.*

##### Personal Protective Equipment: Eyes/Face

Wear safety glasses (or goggles). If necessary, refer to U.S. OSHA 29 CFR 1910.133.

##### Personal Protective Equipment: Skin

Wear impervious gloves, boots and coveralls to avoid skin contact. Gloves should be tested to determine their suitability for prolonged contact with this material. If necessary, refer to U.S. OSHA 29 CFR 1910.138.

## Material Safety Data Sheet

**Material Name: Sodium Metabisulphite or Sodium Metabisulfite**

**ID: C1-143**

### \*\*\* Section 8 - Exposure Controls / Personal Protection (Continued) \*\*\*

#### **Personal Protective Equipment: Respiratory**

If airborne concentration is high, use an appropriate respirator or dust mask. If airborne concentrations are above the applicable exposure limits, use NIOSH-approved respiratory protection. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

#### **Personal Protective Equipment: General**

Wash hands thoroughly after handling material. Do not eat, drink or smoke in work areas. Have a safety shower or eyewash fountain available. Use good hygiene practices when handling this material, including changing and laundering work clothes after use. Discard contaminated shoes and leather goods.

### \*\*\* Section 9 - Physical & Chemical Properties \*\*\*

#### **Physical Properties: Additional Information**

The data provided in this section are to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

|                          |                                       |                                |                                      |
|--------------------------|---------------------------------------|--------------------------------|--------------------------------------|
| <b>Appearance:</b>       | White to yellowish crystalline powder | <b>Odor:</b>                   | Mild odor of rotten eggs (sulfurous) |
| <b>Physical State:</b>   | Solid                                 | <b>pH:</b>                     | 4.5-5 (10% solution)                 |
| <b>Vapor Pressure:</b>   | Not applicable                        | <b>Vapor Density:</b>          | Not applicable                       |
| <b>Boiling Point:</b>    | Not applicable                        | <b>Freezing/Melting Point:</b> | 302 deg F (150 deg C)                |
| <b>Solubility (H2O):</b> | 40% @ 20 deg C                        | <b>Specific Gravity:</b>       | 1.4 (H2O = 1)                        |
| <b>Softening Point:</b>  | Decomposes upon heating               | <b>Particle Size:</b>          | Not determined                       |
| <b>Molecular Weight:</b> | 190.13                                | <b>Bulk Density:</b>           | 1.48 g/cc                            |
|                          |                                       | <b>Chemical Formula:</b>       | Na2S2O5                              |

### \*\*\* Section 10 - Chemical Stability & Reactivity Information \*\*\*

#### **Chemical Stability**

Product is normally stable. Sodium Metabisulfite is air and moisture sensitive and releases sulfur dioxide slowly at ambient temperatures. Sodium Metabisulfite will decompose on heating to form sodium sulfate.

#### **Chemical Stability: Conditions to Avoid**

Avoid moisture, high temperatures, exposure to air and incompatible materials.

#### **Incompatibility**

This material is incompatible with strong oxidizers, sodium nitrite and alkalis. Sodium Metabisulfite may produce sulfur dioxide gas when in contact with acids and/or water and ice. Large-scale addition of solid sodium disulfite to an unstirred and too-concentrated solution of sodium nitrite may cause a vigorous exothermic reaction.

#### **Hazardous Decomposition**

Products of thermal decomposition include sodium sulfate, sulfur oxides, and sodium oxide. Products of hydrolysis include sodium dioxide.

#### **Hazardous Polymerization**

Will not occur.

### \*\*\* Section 11 - Toxicological Information \*\*\*

#### **Acute and Chronic Toxicity**

##### **A: General Product Information**

May cause eye, skin, nose, throat and respiratory tract irritation. May be harmful if swallowed.

Chronic: Long term skin overexposure to this product may lead to dermatitis (red, itchy skin). Prolonged or repeated contact may cause allergic respiratory and skin reactions in sensitive individuals. Respiratory sensitization can be life-threatening in some cases.

##### **B: Component Analysis - LD50/LC50**

###### **Sodium Metabisulfite (7681-57-4):**

LD<sub>50</sub>-Intravenous-rat: 115 mg/kg; LD<sub>50</sub>-Parenteral-mouse: 910 mg/kg; LD<sub>50</sub>-Oral-mouse: 5989 mg/kg; LDLo-Intravenous-mouse: 1220 mg/kg; LD<sub>50</sub>-Intravenous-rabbit: 1220 mg/kg

## Material Safety Data Sheet

**Material Name: Sodium Metabisulphite or Sodium Metabisulfite**

**ID: C1-143**

### \*\*\* Section 11 - Toxicological Information (Continued) \*\*\*

#### Acute and Chronic Toxicity (continued):

##### B: Component Analysis - TDL<sub>o</sub>/LDL<sub>o</sub>

###### Sodium Metabisulfite (7681-57-4):

LDL<sub>o</sub>-Intravenous-rabbit: 192 mg/kg; TDL<sub>o</sub>-Oral-rat: 75 mg/kg/15 days-continuous: Kidney, Urethra, Bladder: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: phosphatases, Enzyme inhibition, induction, or change in blood or tissue levels:- dehydrogenases; TDL<sub>o</sub> - Oral - pig: 562 gm/kg/48 weeks-continuous: Liver: changes in liver weight Kidney, Urethra, Bladder: changes in bladder weight Nutritional and Gross Metabolic - weight loss or decreased weight gain; TDL<sub>o</sub>-Oral-rat: 20 gm/kg: multigenerations: Reproductive: Effects on Newborn: stillbirth; TDL<sub>o</sub>-Oral-rat: 40 gm/kg: multigenerations: Reproductive: Effects on Newborn: weaning or lactation index (e.g., # alive at weaning per # alive at day 4); Cytogenetic analysis-hamster Ovary: 180 µg/L; Sister chromatid exchange: Rodent-hamster Ovary: 200 µg/L; TDL<sub>o</sub>-Subcutaneous-mouse: 806 mg/kg/26 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria Skin and Appendages: tumors; TDL<sub>o</sub>-Oral-mouse: 14 gm/kg: female 8-12 day(s) after conception: Reproductive: Effects on Newborn: other neonatal measures or effects; TDL<sub>o</sub>-Parenteral-mouse: 60 mg/kg: female 8 day(s) after conception: Reproductive: Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus), Specific Developmental Abnormalities: musculoskeletal system

#### Carcinogenicity

##### A: General Product Information

No information available.

##### B: Component Carcinogenicity

Sodium Metabisulfite (7681-57-4)

ACGIH: TLV-A4 - Not classifiable as a Human Carcinogen

Sulfur Dioxide (decomposition product)

ACGIH: TLV-A4 - Not classifiable as a Human Carcinogen

IARC: Group 3 - Not classifiable as to carcinogenicity in humans.

#### Epidemiology

Sodium metabisulfite has caused severe allergic reactions in asthmatics and sulfite sensitive individuals.

#### Neurotoxicity

Has not been identified.

#### Mutagenicity

Human mutation data are available for Sodium Metabisulfite, these data were obtained during clinical studies on specific human tissues exposed to high doses of this compound.

#### Teratogenicity

Clinical studies on test animals exposed to relatively high doses of Sodium Metabisulfite provided teratogenic data.

#### Other Toxicological Information

No information available.

### \*\*\* Section 12 - Ecological Information \*\*\*

#### Ecotoxicity

##### A: General Product Information

This product is expected to be harmful to aquatic life in low concentration.

##### B: Ecotoxicity

No information available.

#### Environmental Fate

##### Sodium Metabisulfite:

Water Solubility = 470 g/L (20°C).

Chemical Oxygen Demand (COD) = 165 mg oxygen/g compound

### \*\*\* Section 13 - Disposal Considerations \*\*\*

#### US EPA Waste Number & Descriptions

##### A: General Product Information

Sodium Metabisulfite is considered hazardous to the environment in aqueous solutions. EPA waste number for reactivity (D003) may be applicable to wastes of this product.

## Material Safety Data Sheet

**Material Name: Sodium Metabisulphite or Sodium Metabisulfite**

**ID: C1-143**

### \*\*\* Section 13 - Disposal Considerations (Continued) \*\*\*

#### US EPA Waste Number & Descriptions (continued):

##### B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

#### Disposal Instructions

All wastes must be handled in accordance with local, state and federal regulations or with regulations of Canada and its Provinces. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

### \*\*\* Section 14 - Transportation Information \*\*\*

NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under I.M.O., I.C.A.O. (I.A.T.A.) and 49 CFR to assure regulatory compliance.

#### US DOT Information

**Shipping Name:** Not Regulated

**Hazard Class:** Not Classified

**UN/NA #:** Not Classified

**Packing Group:** None

**Required Label(s):** None

#### International Air Transport Association (IATA)

For Shipments by Air transport: We classify this product as hazardous (Class 9) when shipped by air because 49 CFR 173.140 (a). "For the purposes of this subchapter, miscellaneous hazardous material (Class 9) means a material which presents a hazard during transportation, but which does not meet the definition of any other hazard class. This class includes: (a) Any material which has an anesthetic, noxious, or other similar property which could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties."

**UN:** UN 3077

**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s. (sodium metabisulfite)

**Hazard Class:** 9

**Packing Group:** III

**Passenger & Cargo Aircraft Packing Instruction:** 911

**Passenger & Cargo Aircraft Maximum Net Quantity:** 400 kg

**Limited Quantity Packing Instruction (Passenger & Cargo Aircraft):** Y911

**Limited Quantity Maximum Net Quantity (Passenger & Cargo Aircraft):** 30 kg

**Special Provisions:** A97 A 149

**ERG Code:** 9L

#### International Maritime Organization (I.M.O.) Classification

Sodium Metabisulfite is not regulated under I.M.O.

### \*\*\* Section 15 - Regulatory Information \*\*\*

#### US Federal Regulations

##### A: General Product Information

No additional information.

##### B: Component Analysis

This material does not contain any chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

SARA 302 There are no specific Threshold Planning Quantities for Sodium Metabisulfite. The default Federal MSDS (EHS TPQ) submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

##### C: Sara 311/312 Tier II Hazard Ratings:

| Component            | CAS #     | Fire Hazard | Reactivity Hazard | Pressure Hazard | Immediate Health Hazard | Chronic Health Hazard |
|----------------------|-----------|-------------|-------------------|-----------------|-------------------------|-----------------------|
| Sodium Metabisulfite | 7681-57-4 | No          | Yes               | No              | Yes                     | Yes                   |



## Material Safety Data Sheet

Material Name: Sodium Metabisulphite or Sodium Metabisulfite

ID: C1-143

### \*\*\* Section 15 - Regulatory Information (Continued) \*\*\*

#### US Federal Regulations (continued)

#### U.S. State Regulations

##### A: General Product Information

##### California Proposition 65

Sodium Metabisulfite is not on the California Proposition 65 chemical lists.

##### B: Component Analysis - State

The following components appear on one or more of the following state hazardous substance lists:

| Component            | CAS #     | CA  | FL  | MA  | MN  | NJ  | PA |
|----------------------|-----------|-----|-----|-----|-----|-----|----|
| Sodium Metabisulfite | 7681-57-4 | Yes | Yes | Yes | Yes | Yes | No |

#### Other Regulations

##### A: General Product Information

No other information available.

##### B: Component Analysis - Inventory

| Component            | CAS #     | TSCA | DSL | EINECS |
|----------------------|-----------|------|-----|--------|
| Sodium Metabisulfite | 7681-57-4 | Yes  | Yes | Yes    |

##### C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

| Component            | CAS #     | Minimum Concentration |
|----------------------|-----------|-----------------------|
| Sodium Metabisulfite | 7681-57-4 | 1 percent             |

#### ANSI LABELING (Z129.1):

**WARNING:** MAY BE FATAL IF SWALLOWED. CAUSES SKIN AND EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE ALLERGIC SKIN AND SEVERE RESPIRATORY REACTION. RESPIRATORY REACTIONS MAY BE LIFE-THREATENING. Keep from contact with clothing. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing dusts or particulates. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves, goggles, faceshields, suitable body protection, and NIOSH/MSHA-approved respiratory protection, as appropriate. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention. **IN CASE OF FIRE:** Use water fog, dry chemical, CO<sub>2</sub>, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with inert material. Place residue in suitable container. Consult Material Safety Data Sheet for additional information.

## Material Safety Data Sheet

**Material Name: Sodium Metabisulphite or Sodium Metabisulfite**

**ID: C1-143**

|                                                   |
|---------------------------------------------------|
| <b>* * * Section 16 - Other Information * * *</b> |
|---------------------------------------------------|

### Other Information

Chem One Ltd. ("Chem One") shall not be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this Information. In no event shall Chem One be responsible for damages of any nature whatsoever resulting from the use of this product or products, or reliance upon this Information. By providing this Information, Chem One neither can nor intends to control the method or manner by which you use, handle, store, or transport Chem One products. If any materials are mentioned that are not Chem One products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed. Chem One makes no representations or warranties, either express or implied of merchantability, fitness for a particular purpose or of any other nature regarding this information, and nothing herein waives any of Chem One's conditions of sale. This information could include technical inaccuracies or typographical errors. Chem One may make improvements and/or changes in the product (s) and/or the program (s) described in this information at any time. If you have any questions, please contact us at Tel. 713-896-9966 or E-mail us at [Safety@chemone.com](mailto:Safety@chemone.com).

### Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

**Contact:** Sue Palmer-Koleman, PhD

**Contact Phone:** (713) 896-9966

### Revision Log

08/28/00 4:23 PM SEP Changed company name, Sect 1 and 16, from Corporation to Ltd.  
06/02/01 9:31 AM HDF Checked exposure limits; made changes to Sect 9; overall review, add SARA 311/312 Haz Ratings.  
08/20/01 3:20 PM CLJ Add Shipments by Air information to Section 14, Changed contact to Sue, non-800 Chemtrec Num.  
02/18/02 11:13 AM HDF Up-date of SARA Hazard Ratings.  
11/20/03 11:50 AM HDF General review and up-date of entire MSDS. Up-graded Section 10 Reactivity Information. Up-date of HMIS categories. Up-date of Section 8. Up-date of Section 14.  
06/22/05 1:18 pm SEP Updated IATA Section 14  
10/22/07 4:23 PM SEP Updated IATA Section 14

This is the end of MSDS # C1-143



## MATERIAL SAFETY DATA SHEET

PRODUCT

**Nalco 73551**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **Nalco 73551**

APPLICATION : DEPOSIT PENETRANT

COMPANY IDENTIFICATION :  
Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :

0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Based on our hazard evaluation, none of the substances in this product are hazardous.

### 3. HAZARDS IDENTIFICATION

#### **\*\*EMERGENCY OVERVIEW\*\***

#### **CAUTION**

May cause irritation with prolonged contact.

Do not get in eyes, on skin, on clothing. Do not take internally. Wear suitable protective clothing. Keep container tightly closed. Flush affected area with water.

May evolve oxides of carbon (COx) under fire conditions.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

May cause irritation with prolonged contact.

SKIN CONTACT :

May cause irritation with prolonged contact.

INGESTION :

Not a likely route of exposure. No adverse effects expected.

INHALATION :

Not a likely route of exposure. No adverse effects expected.

**Nalco Company** 1601 W. Diehl Road • Naperville, Illinois 60563-1198 • (630)305-1000

For additional copies of an MSDS visit [www.nalco.com](http://www.nalco.com) and request access



## MATERIAL SAFETY DATA SHEET

### PRODUCT

**Nalco 73551**

### EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

#### SYMPTOMS OF EXPOSURE :

##### Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

##### Chronic :

A review of available data does not identify any symptoms from exposure not previously mentioned.

#### AGGRAVATION OF EXISTING CONDITIONS :

A review of available data does not identify any worsening of existing conditions.

## 4. FIRST AID MEASURES

#### EYE CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

#### SKIN CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

#### INGESTION :

Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink. If symptoms develop, seek medical advice.

#### INHALATION :

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

#### NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

FLASH POINT : > 400 °F / > 200 °C ( COC )

#### EXTINGUISHING MEDIA :

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

#### FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS :

Do not touch spilled material. Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**Nalco 73551**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### METHODS FOR CLEANING UP :

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

## 7. HANDLING AND STORAGE

### HANDLING :

Avoid eye and skin contact. Do not take internally. Ensure all containers are labelled. Keep the containers closed when not in use.

### STORAGE CONDITIONS :

Store the containers tightly closed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.

### ENGINEERING MEASURES :

General ventilation is recommended.

### RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

### HAND PROTECTION :

Neoprene gloves, Nitrile gloves, Butyl gloves, PVC gloves

### SKIN PROTECTION :

Wear standard protective clothing.

### EYE PROTECTION :

Wear chemical splash goggles.

### HYGIENE RECOMMENDATIONS :

Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE      Liquid

**MATERIAL SAFETY DATA SHEET****PRODUCT****Nalco 73551****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

APPEARANCE Clear Colorless

ODOR None

SPECIFIC GRAVITY 0.99 - 1.03 @ 77 °F / 25 °C

SOLUBILITY IN WATER Complete

pH (100 %) 6.6 - 7.0

Note: These physical properties are typical values for this product and are subject to change.

**10. STABILITY AND REACTIVITY****STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures.

**MATERIALS TO AVOID :**

None known

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of carbon

**11. TOXICOLOGICAL INFORMATION**

The following results are for the polymer.

**ACUTE ORAL TOXICITY :**

| Species  | LD50                 | Test Descriptor                            |
|----------|----------------------|--------------------------------------------|
| Rat      | 2,300 - 16,000 mg/kg | The following results are for the polymer. |
| Rating : | Non-Hazardous        |                                            |

**CARCINOGENICITY :**

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

**HUMAN HAZARD CHARACTERIZATION :**

Based on our hazard characterization, the potential human hazard is: Low

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS :**

**MATERIAL SAFETY DATA SHEET****PRODUCT****Nalco 73551****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

The following results are for the product.

**ACUTE FISH RESULTS :**

| Species          | Exposure | LC50         | Test Descriptor |
|------------------|----------|--------------|-----------------|
| Rainbow Trout    | 96 hrs   | > 1,000 mg/l | Product         |
| Bluegill Sunfish | 96 hrs   | > 1,000 mg/l | Product         |
| Fathead Minnow   | 96 hrs   | 996 mg/l     | Product         |

**ACUTE INVERTEBRATE RESULTS :**

| Species            | Exposure | LC50       | EC50         | Test Descriptor |
|--------------------|----------|------------|--------------|-----------------|
| Daphnia magna      | 48 hrs   |            | > 1,000 mg/l | Product         |
| Ceriodaphnia dubia | 48 hrs   | 1,320 mg/l |              | Product         |

**CHRONIC FISH RESULTS :**

| Species        | Exposure | NOEC / LOEC         | End Point    | Test Descriptor |
|----------------|----------|---------------------|--------------|-----------------|
| Fathead Minnow | 7 Days   | 250 mg/l / 500 mg/l | Reproduction | Product         |

**CHRONIC INVERTEBRATE RESULTS :**

| Species            | Test Type | NOEC / LOEC         | End Point    | Test Descriptor |
|--------------------|-----------|---------------------|--------------|-----------------|
| Ceriodaphnia dubia | 3 Brood   | 125 mg/l / 250 mg/l | Reproduction | Product         |

**PERSISTENCY AND DEGRADATION :**

Total Organic Carbon (TOC) : 85,000 mg/l

Chemical Oxygen Demand (COD) : 250,000 mg/l

Biological Oxygen Demand (BOD) :

| Incubation Period | Value  | Test Descriptor |
|-------------------|--------|-----------------|
| 5 d               | 4 mg/l | Product         |

**ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION**

Based on our hazard characterization, the potential environmental hazard is: Low

If released into the environment, see CERCLA/SUPERFUND in Section 15.

**13. DISPOSAL CONSIDERATIONS**

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**Nalco 73551**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

#### LAND TRANSPORT :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

#### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

#### MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

### 15. REGULATORY INFORMATION

#### NATIONAL REGULATIONS, USA :

OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, none of the substances in this product are hazardous.

CERCLA/SUPERFUND, 40 CFR 117, 302 :

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :

This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :

Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :

This product does not contain substances on the List of Toxic Chemicals.





## MATERIAL SAFETY DATA SHEET

PRODUCT

**Nalco 73551**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :

When use situations necessitate compliance with FDA regulations, this product is acceptable under : 21 CFR 173.340 Defoaming Agents, 21 CFR 175.105 Adhesives, 21 CFR 176.200 Defoaming Agents used in coatings, 21 CFR 176.210 Defoaming agents used in the manufacture of paper and paperboard, 21 CFR 177.1200 Cellophane, 21 CFR 177.1400 Hydroxyethyl cellulose film, water-insoluble, 21 CFR 176.300 Slimicides, 21 CFR 178.3120 - Animal glue

Limitations: no more than required to produce intended technical effect.

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :

NSF Registration number for this product is : 137540

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

None of the substances are specifically listed in the regulation.

CALIFORNIA PROPOSITION 65 :

This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :

None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :

The following substances are disclosed for compliance with State Right to Know Laws:

Water

Polyalkylene glycol

7732-18-5

Proprietary

NATIONAL REGULATIONS, CANADA :

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :

Not considered a WHMIS controlled product.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**Nalco 73551**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substances in this preparation are listed on the Domestic Substances List (DSL), are exempt, or have been reported in accordance with the New Substances Notification Regulations.

### 16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

\* The human risk is: Low

\* The environmental risk is: Low

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**Nalco 73551**

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Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

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Prepared By : Product Safety Department  
Date issued : 05/08/2006  
Version Number : 1.12

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT195****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****PRODUCT NAME :** **3D TRASAR 3DT195****COMPANY IDENTIFICATION :** Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198**EMERGENCY TELEPHONE NUMBER(S) :** (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 0 / 1 FLAMMABILITY : 1 / 1 INSTABILITY : 0 / 0 OTHER :  
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Based on our hazard evaluation, none of the substances in this product are hazardous.

Hazardous Substance(s)

CAS NO

% (w/w)

**3. HAZARDS IDENTIFICATION****\*\*EMERGENCY OVERVIEW\*\*****CAUTION**

May cause irritation with prolonged contact.

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water.

Wear suitable protective clothing.

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of sulfur (SOx) under fire conditions.

**PRIMARY ROUTES OF EXPOSURE :**

Eye, Skin

**HUMAN HEALTH HAZARDS - ACUTE :****EYE CONTACT :**

No adverse effects expected.

**SKIN CONTACT :**

No adverse effects expected.

**INGESTION :**

Not a likely route of exposure. No adverse effects expected.



## MATERIAL SAFETY DATA SHEET

### PRODUCT

**3D TRASAR 3DT195**

### EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

#### INHALATION :

Not a likely route of exposure. No adverse effects expected.

#### SYMPTOMS OF EXPOSURE :

##### Acute :

A review of available data does not identify any symptoms from exposure not previously mentioned.

##### Chronic :

A review of available data does not identify any symptoms from exposure not previously mentioned.

## 4. FIRST AID MEASURES

#### EYE CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

#### SKIN CONTACT :

Flush affected area with water. If symptoms develop, seek medical advice.

#### INGESTION :

Get medical attention. Do not induce vomiting without medical advice. If conscious, washout mouth and give water to drink.

#### INHALATION :

Remove to fresh air, treat symptomatically. If symptoms develop, seek medical advice.

#### NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

FLASH POINT : Not applicable

#### EXTINGUISHING MEDIA :

This product would not be expected to burn unless all the water is boiled away. The remaining organics may be ignitable. Use extinguishing media appropriate for surrounding fire.

#### FIRE AND EXPLOSION HAZARD :

May evolve oxides of carbon (COx) under fire conditions. May evolve oxides of sulfur (SOx) under fire conditions.

#### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

## 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT195**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### METHODS FOR CLEANING UP :

SMALL SPILLS: Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. LARGE SPILLS: Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Clean contaminated surfaces with water or aqueous cleaning agents. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

### ENVIRONMENTAL PRECAUTIONS :

Do not contaminate surface water.

## 7. HANDLING AND STORAGE

### HANDLING :

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled.

### STORAGE CONDITIONS :

Store in suitable labeled containers. Store the containers tightly closed.

### SUITABLE CONSTRUCTION MATERIAL :

Neoprene, EPDM, Epoxy phenolic resin, Buna-N, Polyurethane, Hypalon, Polyethylene, HDPE (high density polyethylene), Viton, Compatibility with Plastic Materials can vary; we therefore recommend that compatibility is tested prior to use., PVC

### UNSUITABLE CONSTRUCTION MATERIAL :

Brass, Stainless Steel 304, Stainless Steel 316L, 100% phenolic resin liner

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.

### ENGINEERING MEASURES :

General ventilation is recommended.

### RESPIRATORY PROTECTION :

Respiratory protection is not normally needed.

### HAND PROTECTION :

When handling this product, the use of chemical gloves is recommended., The choice of work glove depends on work conditions and what chemicals are handled, but we have positive experience under light handling conditions using gloves made from, PVC, Gloves should be replaced immediately if signs of degradation are observed., Breakthrough time not determined as preparation, consult PPE manufacturers.

### SKIN PROTECTION :

Wear standard protective clothing.

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT195****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****EYE PROTECTION :**

Wear safety glasses with side-shields.

**HYGIENE RECOMMENDATIONS :**

Use good work and personal hygiene practices to avoid exposure. Consider the provision in the work area of a safety shower and eyewash. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

|                     |                           |
|---------------------|---------------------------|
| PHYSICAL STATE      | Liquid                    |
| APPEARANCE          | Clear Orange              |
| ODOR                | Mild                      |
| SPECIFIC GRAVITY    | 1.25 @ 60 °F / 15.6 °C    |
| DENSITY             | 10.39 lb/gal              |
| SOLUBILITY IN WATER | Complete                  |
| pH (100 %)          | 4.7                       |
| VISCOSITY           | 84 cps @ 77 °F / 25 °C    |
| VAPOR PRESSURE      | 16 mm Hg @ 100 °F / 38 °C |

Note: These physical properties are typical values for this product and are subject to change.

**10. STABILITY AND REACTIVITY****STABILITY :**

Stable under normal conditions.

**HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Extremes of temperature

**MATERIALS TO AVOID :**

Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors.

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under fire conditions: Oxides of carbon, Oxides of sulfur

**11. TOXICOLOGICAL INFORMATION**

No toxicity studies have been conducted on this product.

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT195****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****SENSITIZATION :**

This product is not expected to be a sensitizer.

**CARCINOGENICITY :**

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

**HUMAN HAZARD CHARACTERIZATION :**

Based on our hazard characterization, the potential human hazard is: Low

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS :**

The following results are for the product.

**ACUTE FISH RESULTS :**

| Species        | Exposure | LC50       | Test Descriptor |
|----------------|----------|------------|-----------------|
| Fathead Minnow | 96 hrs   | 4,000 mg/l | Product         |
| Rainbow Trout  | 96 hrs   | 2,222 mg/l | Product         |

**ACUTE INVERTEBRATE RESULTS :**

| Species       | Exposure | LC50 | EC50     | Test Descriptor |
|---------------|----------|------|----------|-----------------|
| Daphnia magna | 48 hrs   |      | 921 mg/l | Product         |

**PERSISTENCY AND DEGRADATION :**

Total Organic Carbon (TOC) : 120,000 mg/l

Chemical Oxygen Demand (COD) : 310,000 mg/l

**Biological Oxygen Demand (BOD) :**

| Incubation Period | Value      | Test Descriptor |
|-------------------|------------|-----------------|
| 5 d               | 7,320 mg/l | Product         |

The organic portion of this preparation is expected to be poorly biodegradable.

**MOBILITY :**

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models. If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

| Air | Water    | Soil/Sediment |
|-----|----------|---------------|
| <5% | 10 - 30% | 50 - 70%      |





## MATERIAL SAFETY DATA SHEET

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The portion in water is expected to be soluble or dispersible.

### BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.

### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: Low

If released into the environment, see CERCLA/SUPERFUND in Section 15.

## 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

## 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

### LAND TRANSPORT :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

### MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

## 15. REGULATORY INFORMATION

### NATIONAL REGULATIONS, USA :

#### OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, none of the substances in this product are hazardous.

**MATERIAL SAFETY DATA SHEET****PRODUCT****3D TRASAR 3DT195****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC**

CERCLA/SUPERFUND, 40 CFR 117, 302 :  
Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :  
This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :  
Our hazard evaluation has found that this product is not hazardous under 29 CFR 1910.1200.

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :  
This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :  
The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :  
None of the substances are specifically listed in the regulation.

CLEAN AIR ACT, Sec. 112 (40 CFR 61, Hazardous Air Pollutants), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :  
This product may contain trace levels (<0.1% for carcinogens, <1% all other substances) of the following substance(s) listed under the regulation:

| Substance(s) | Citations          |
|--------------|--------------------|
| • Methanol   | Sec. 111, Sec. 112 |

CALIFORNIA PROPOSITION 65 :  
This product does not contain substances which require warning under California Proposition 65.

MICHIGAN CRITICAL MATERIALS :  
None of the substances are specifically listed in the regulation.

STATE RIGHT TO KNOW LAWS :  
None of the substances are specifically listed in the regulation.

NATIONAL REGULATIONS, CANADA :



## MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT195**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) :

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS CLASSIFICATION :

D2A - Materials Causing Other Toxic Effects - Very Toxic Material

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

INTERNATIONAL CHEMICAL CONTROL LAWS

AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

EUROPE

The substances in this preparation have been reviewed for compliance with the EINECS or ELINCS inventories.

### 16. OTHER INFORMATION

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

#### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.

Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.



## MATERIAL SAFETY DATA SHEET

PRODUCT

**3D TRASAR 3DT195**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

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Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH, (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight# (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight# CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS# CD-ROM Version), Micromedex, Inc., Englewood, CO.

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Prepared By : Product Safety Department

Date issued : 03/21/2007

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## MATERIAL SAFETY DATA SHEET

REVISED 7/2/00

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### **SECTION I**     **CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

ODYSSEY MANUFACTURING CO.  
1484 Massaro Boulevard  
Tampa, Florida 33619  
1-813-635-0339

EMERGENCY RESPONSE NUMBER:  
1-800-ODYSSEY (FLORIDA)  
1-813-635-0339 (24 hours)

SUBSTANCE: SODIUM HYPOCHLORITE  
TRADE NAME: Ultra-CHLOR  
CHEMICAL NAME/SYNONYMS: Sodium Hypochlorite Solution, Bleach Solution, Bleach Liquor, Hypo-  
solution, Bleach, and Liquid Bleach.  
CAS NUMBER: 7681-52-9  
CHEMICAL FAMILY: Alkali  
FORMULA: NaOCl  
DOT PROPER SHIPPING NAME: Hypochlorite Solution  
DOT HAZARD CLASS: 8 (Corrosive) PG III; PG II (For solutions greater than 16% available chlorine)  
DOT IDENTIFICATION NO: UN1791  
RQ: 100 pounds  
DOT EMERGENCY GUIDE NO: 154

### **SECTION II**     **COMPOSITION, INFORMATION ON INGREDIENTS**

|                             |                 |
|-----------------------------|-----------------|
| INGREDIENT(S):              |                 |
| Sodium Hypochlorite (NaOCl) | 10.0 - 20.0% wt |
| Sodium Hydroxide (NaOH)     | 0.1 - 0.4% wt   |
| Water (H <sub>2</sub> O)    | 79.7 - 89.9% wt |

### **SECTION III**     **HAZARDS IDENTIFICATION**

NFPA CLASSIFICATION (SCALE 0-4): Health=2 Fire=0 Reactivity=1  
EC CLASSIFICATION (ASSIGNED): C (Corrosive)

#### **EMERGENCY OVERVIEW**

COLOR: Yellow

PHYSICAL FORM: Liquid

ODOR: Chlorine Odor

MAJOR HEALTH HAZARDS: Respiratory Tract Burns, Skin Burns, Mucous Membrane Burns, and Eye Irritation  
HAZARDOUS MIXTURES WITH OTHER LIQUIDS, SOLIDS, OR GASES: Reacts violently with acids  
liberating chlorine gas. Also reacts with organic substance. When heated, gives off oxygen that may increase fire  
hazard.

### POTENTIAL HEALTH EFFECTS

#### INHALATION:

- SHORT TERM EXPOSURE: Irritation to respiratory tract. May have same as effects reported in other routes of exposure, burns, blisters, nausea, difficulty breathing, and lung congestion.
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

#### SKIN CONTACT:

- SHORT TERM EXPOSURE: Irritant, reddening of the skin. May have burns, blisters, and itching
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

#### EYE CONTACT:

- SHORT TERM EXPOSURE: Irritation (possibly severe), possible eye damage
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

#### INGESTION:

- SHORT TERM EXPOSURE: Burns, vomiting stomach pain, disorientation, bluish skin color, convulsions, coma
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

### CARCINOGEN STATUS

OSHA: N

NTP: N

IARC: N

## SECTION IV FIRST AID MEASURES

INHALATION: Remove from exposure and get fresh air. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Keep warm and at rest. Get medical attention immediately if artificial respiration is required.

SKIN CONTACT: Remove contaminated clothing, jewelry, and shoes immediately. Flush affected area with large amounts of water, preferably a safety shower. Use soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). For burns, cover affected area securely with sterile, dry, loose fitting dressing. If skin is burned, get medical attention immediately.

EYE CONTACT: Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15 minutes). Continue irrigating with a normal saline solution until ready to transport to physician. Cover with sterile bandages. Get medical attention immediately.

INGESTION: Rinse mouth with water. Drink large quantities of milk (water if no milk is available). Milk of magnesia may be helpful. **DO NOT USE ACIDIC ANTIDOTES SUCH AS SODIUM BICARBONATE.** When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, do not induce vomiting and turn their head to the side. Never make an unconscious person vomit or drink fluids. Get medical attention.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. For ingestion, avoid gastric lavage, emesis, sodium bicarbonate and acid solutions. Consider the use of antacids.

## SECTION V FIRE FIGHTING MEASURES

FLASH POINT: Non-flammable

FLAMMABLE LIMITS: Non-flammable

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Oxidizer. This material will react with some metals and cause liberation of oxygen. May ignite or explode on contact with combustible materials. Toxic fumes can be liberated by contact with acid or heat.

EXTINGUISHING MEDIA: Regular dry chemical, carbon dioxide, water, or foam suitable for surrounding fire. For large fires, use regular foam or flood with fine water spray.

FIRE FIGHTING: Wear self-contained breathing apparatus and full protective clothing. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Use extinguishing agents appropriate for surrounding fire. Do not get water directly on material. For large fires, flood with fine water spray. Reduce vapors with water spray. Apply water from a protected location or from a safe distance. Avoid body contact or inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

## **SECTION VI ACCIDENTAL RELEASE MEASURES**

OCCUPATIONAL RELEASE: Do not touch spilled material. Stop leak if possible without personal risk. For small spills, collect spilled material in appropriate container for disposal and consider absorbing with sand or other non-combustible material (e.g., do not use sawdust or other combustible material). Be advised, however, that the use of absorbing material is creating hazardous waste and this absorbing material must now be disposed of properly. Collect spilled material in appropriate container for disposal. For small dry spills, move containers away from spill to a safe area. For large spills, dike for later disposal. If possible, do not allow material to enter sewers, streams, ponds or storm conduits as concentrated solutions will seriously injure aquatic life. Keep unnecessary people away, isolate hazard area and deny entry. Contain in as small an area as possible, such as a holding area for dilution and neutralization. Contain spill in plastic drums when available. Dispose of in accordance with Federal, State, and local regulations. Personnel engaged in cleanup operations must be equipped with NIOSH approved respirator protection, rubber boots, gloves, and clothing to avoid body contact. Reportable Quantity (RQ): 100 pounds. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 (USA) or (202) 426-2675 (USA).

ADVANCE PLANNING: Plan in advance for an occupational release and have necessary equipment and neutralization agents on-site. Contact Odyssey Manufacturing for assistance.

## **SECTION VII HANDLING AND STORAGE**

Store in vented, closed containers that provide protection from direct sunlight. Keep separated from incompatible substances and do not store near acids, heat, or oxidizable materials or organics. When handling, do not mix with other cleaning agents that may liberate chlorine gas vapors (e.g., acidic agents).

Store and handle in accordance with all current regulations and standards including NFPA 430 Code for the Storage of Liquid and Oxidizing Materials.

## **SECTION VIII EXPOSURE CONTROLS AND PERSONNEL PROTECTION**

EXPOSURE LIMITS: 2 mg/m<sup>3</sup> AIHA recommended STEL 15 minute(s) for Sodium Hypochlorite

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Splash goggles are preferred to a faceshield. Another option is to wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: It is recommended to wear appropriate chemical resistant clothing to avoid body contact such as a rubber apron or rain suit. Boots are preferred for footwear.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s)
- Any air-purifying respirator with a full facepiece and an organic vapor canister
- Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply (Use for Unknown Concentrations or those that may be Immediately Dangerous to Life or Health)
- Any self-contained breathing apparatus with a full facepiece (Use for High Concentrations or those which are immediately Dangerous to Life or Health)

## **SECTION IX PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL APPEARANCE: Liquid

APPEARANCE AND ODOR: Clear - Chlorine odor like household bleach.

COLOR: Greenish –Yellowish cast

MOLECULAR WEIGHT: 74.44

MOLECULAR FORMULA: Na-O-Cl

BOILING POINT: Degrades at 230 Degrees Fahrenheit  
FREEZING POINT: 7 Degrees Fahrenheit  
SPECIFIC GRAVITY: 1.15 - 1.17 at 60 Degrees Fahrenheit  
PH: Approximately 11 - 13  
VAPOR PRESSURE (mm HG): Vapor Pressure of water + decomposition product Vapor Pressure  
VAPOR DENSITY: Not Available  
SOLUBILITY IN WATER: Complete  
VOLATILITY: Not Available  
EVAPORATION RATE: >1  
COEFFICIENT OF WATER /OIL DISTRIBUTION: Not Available

## **SECTION X STABILITY AND REACTIVITY**

REACTIVITY: Stable at normal temperatures and pressure.  
CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Dangerous gases may accumulate in confined spaces. May ignite or explode on contact with combustible materials.  
INCOMPATIBLES: Acids, metals, amines, combustible materials, reducing agents. Specific reactions with sodium hypochlorite include the following:  
ACIDS: Violent reaction.  
ALUMINUM: Corrosive action.  
AMINES: Form explosive chloramines.  
AMMONIA: Form explosive chloramines.  
AMMONIUM SALTS: May form explosive product.  
BENZYL CYANIDE (ACIDIFIED): Explosive reaction.  
CELLOULOSE: Violent reaction  
ETHYLENEIMINE: Forms explosive 1-chloroethyleneimine.  
FORMIC ACID: Explosive mixture.  
METHANOL: May form explosive compound.  
NITROGEN COMPOUNDS: Forms explosive N-chloro compounds.  
ORGANIC AND COMBUSTIBLE MATERIALS: Fire and explosion hazard.  
OXALIC ACID: Intense reaction  
REDUCING AGENTS: Fire and explosion hazard  
ZINC: Corrosive  
HAZARDOUS DECOMPOSITION:  
Thermal decomposition products – Chlorine and Hydrochloric Acid Vapors  
Decomposition Products – Hypochlorous Acid Vapors  
POLYMERIZATION: Will not polymerize.

## **SECTION XI SODIUM HYPOCHLORITE TOXICOLOGICAL INFORMATION**

IRRITATION DATA: 10 mg eyes – rabbit moderate  
TOXICITY DATA:  
1gm/ kg oral-woman; TDLo; 45mg/kg intravenous-man TDLo; 5800 mg/ kg oral-mouse LD50; 140 mg/ kg/9 week(s) continuous oral-rat TDLo  
CARCINOGEN STATUS: According to the IARC, animal inadequate evidence, human no adequate data, Group 3 (Hypochlorite salts)  
LOCAL EFFECTS:  
Corrosive: inhalation, skin contact, eye, ingestion hazards  
ACUTE TOXICITYLEVEL:  
Slightly Toxic if ingested  
MUTAGENIC DATA:  
Mutation in micro organisms – Salmonella typhimurium 1mg / plate (-S9); DNA repair – Escherichiacoli 20ug/ disc; DNA damage – Escherichiacoli 420 umol/L; phage inhibition capacity – Escherichiacoli 103 ug/ well; micronucleus test - non-mammalian species multiple 200 ppb; cytogenetic analysis - non-mammalian species multiple 120 ug/ L; cytogenetic analysis – human lymphocyte 100 ppm 24hour(s); sister chromatid exchange – human embryo 149 mg/ L; cytogenetic analysis – hamster lung 100 mg/ L  
HEALTH EFFECTS:  
INHALATION  
ACUTE EXPOSURE: May cause severe bronchial irritation, sore throat with possible blistering, coughing,



stomatitis, nausea, labored breathing, shortness of breath and pulmonary edema. 10-20 mg/m<sup>3</sup> causes burning of the nose and throat; 40-60 mg/m<sup>3</sup> may be fatal. If sufficient amounts are absorbed, may cause effects as detailed in acute ingestion.

CHRONIC EXPOSURE: No data available.

#### **SKIN CONTACT**

ACUTE EXPOSURE: Extent of damage depends on concentration, pH, volume of solution and duration of contact. May cause redness, pain, blistering, itchy eczema and chemical burns. Sensitization reactions are possible in previously exposed persons.

CHRONIC EXPOSURE: Effects depend on concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in dermatitis or effects similar to acute exposure. Allergic dermatitis has also been reported.

#### **EYE CONTACT**

ACUTE EXPOSURE: May cause redness, pain, and blurred vision. Solutions of 5% splashed in human eyes have caused a burning sensation and later only slight superficial disturbance of the corneal epithelium which cleared completely in the next day or two without special treatment. However, one animal study reports a 5% solution causing only moderate irritation with clearing within 7 days. A higher concentration of 15% tested on rabbit eyes caused immediate severe pain, hemorrhages, rapid onset of ground-glass appearance of the corneal epithelium, moderate bluish edema of the whole cornea, chemosis and discharge for several days. Such eyes have sometimes healed in 2-3 weeks with slight or no residual corneal damage but they had neovascularization of the conjunctiva and distortion of the nictitating membrane by scarring.

CHRONIC EXPOSURE: Depending on concentration and duration of exposure, symptoms may be as those of acute exposure.

#### **INGESTION**

ACUTE EXPOSURE: May cause irritation and erosion of the mucous membranes, vomiting (possibly bloody) and abdominal pain and spasms. A drop in blood pressure, shallow respiration, edema (possibly severe) of pharynx, larynx, and glottis, confusion, convulsions, delirium and coma may occur. Cyanosis and circulatory collapse are possible. Esophageal or gastric perforation and strictures are rare. Death may occur, usually due to complications of severe local injury such as toxemia, shock, perforations, hemorrhage, infection and obstruction. Massive ingestions may produce fatal hyperchloremic metabolic acidosis or aspiration pneumonitis.

CHRONIC EXPOSURE: Sensitization reactions are reported in individuals who are exposed in small amounts through their water supply. High doses have caused sperm abnormality in mice.

### **SECTION XII ECOLOGICAL INFORMATION**

#### **ECOTOXICITY DATA:**

FISH TOXICITY: 94.0 ug/L 96h hour(s) LC50 (Mortality) Cutthroat trout  
(*Oncorhynchus clarki*)

INVERTEBRATE TOXICITY: 31.6 ug/L 7 hour(s) 1C50 (Species Diversity) Protozoan phylum (Protozoa)

ALGAL TOXICITY: 90 ug/L 96 hour(s) LC50 (Mortality) Algae, phytoplankton, algal mat (Algae)

PHYTOTOXICITY: 230 ug/L 35 hour(s) (Biomass) Curled pondweed (*Potamogeton crispus*)

OTHER TOXICITY: 2.1 ug/L 28 day(s) (Chlorophyll) Aquatic community (Aquatic community)

ENVIRONMENTAL SUMMARY: Highly toxic to aquatic life.

### **SECTION XIII DISPOSAL CONSIDERATIONS**

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations.

### **SECTION XIV TRANSPORT INFORMATION**

U.S. DOT 49 CFR 172.101 SHIPPING NAME-UN NUMBER: Sodium Hypochlorite - UN1791

U.S. DOT 49 CFR 172.101 HAZARD CLASS OR DIVISION: 8

U.S. DOT 49 CFR 172.101 PACKING GROUP: III (less than 16% available chlorine) / II (16% or more available chlorine)

U.S. DOT 49 CFR 172.101 AND SUBPART E LABELING REQUIREMENTS: Corrosive

U.S. DOT 49 CFR 172.101 PACKAGING AUTHORIZATIONS:

EXCEPTIONS: 49 CFR 173.154

NON- BULK PACKAGING: 49 CFR 173.203 (less than 16% available chlorine) / 49 CFR 173.202 (16% or more available chlorine)

BULK PACKAGING: 49 CFR 173.241 (less than 16% available chlorine) / : 49 CFR 173.242 (16% or more available chlorine)

U.S. DOT 49 CFR 172.101 QUANTITY LIMITATIONS:

PASSENGER AIRCRAFT OR RAILCAR: 5 LITERS / (less than 16% available chlorine) / 1 LITERS (16% or more available chlorine)

CARGO AIRCRAFT ONLY: 60 LITERS / (less than 16% available chlorine) / 30 LITERS (16% or more available chlorine)

## **SECTION XV REGULATORY INFORMATION**

U.S. REGULATIONS

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): Y

SODIUM HYPOCHLORITE: 100 LBS RQ

SARA SECTION 302 (40CFR355.30) : N

SARA SECTION 304 (40CFR355.40) : N

SARA SECTION 313 (40CFR372.65) : N

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: Y

CHRONIC: N

FIRE: N

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

California Proposition 65: N EUROPEAN REGULATIONS:

EC NUMBER (BINECS) : 231-668-3

EC RISK AND SAFETY PHRASES:

R 31 Contact with acids liberates toxic gas.

R 34 Causes burns.

S ½ Keep locked-up and out of reach of children.

S 28b After contact with skin, wash immediately with plenty of soap and water.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

S 50 Do not mix with incompatible materials.

CONCENTRATION LIMITS:

C>10% C R 31-34

5%<=C<=10% Xi R 31-36/38

GERMAN REGULATIONS:

WATER HAZARD CLASS (WGK) : 2 (Official German Classification)

## **SECTION XVI OTHER INFORMATION**

For additional information, contact our technical service department.

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by Odyssey Manufacturing in connection with the use of this information.



## SAFETY DATA SHEET

PRODUCT

**ACTI-BROM® 1338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **ACTI-BROM® 1338**

APPLICATION : CHLORINE ENHANCER, BIODISPERSANT

COMPANY IDENTIFICATION :  
Nalco Company  
1601 W. Diehl Road  
Naperville, Illinois  
60563-1198

EMERGENCY TELEPHONE NUMBER(S) : (800) 424-9300 (24 Hours) CHEMTREC

NFPA 704M/HMIS RATING

HEALTH : 1 / 1 FLAMMABILITY : 0 / 0 INSTABILITY : 0 / 0 OTHER :  
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme \* = Chronic Health Hazard

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Refer to Section 15 for more information.

| Hazardous Substance(s) | CAS NO    | % (w/w) |
|------------------------|-----------|---------|
| Sodium Bromide         | 7647-15-6 | 30 - 60 |

### 3. HAZARDS IDENTIFICATION

#### \*\*EMERGENCY OVERVIEW\*\*

#### WARNING

HARMFUL IF SWALLOWED. HARMFUL IF ABSORBED THROUGH SKIN. CAUSES MODERATE EYE IRRITATION.

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

Wear suitable protective clothing, gloves and eye/face protection.

Not flammable or combustible. May evolve hydrogen bromide and bromine under fire conditions.

PRIMARY ROUTES OF EXPOSURE :

Eye, Skin

HUMAN HEALTH HAZARDS - ACUTE :

EYE CONTACT :

Can cause mild to moderate irritation.

SKIN CONTACT :

May cause irritation with prolonged contact. Harmful if absorbed through skin.



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### INGESTION :

Not a likely route of exposure. May be harmful if swallowed.

### INHALATION :

Not a likely route of exposure. Repeated or prolonged exposure may irritate the respiratory tract.

### AGGRAVATION OF EXISTING CONDITIONS :

A review of available data does not identify any worsening of existing conditions.

### HUMAN HEALTH HAZARDS - CHRONIC :

No adverse effects expected other than those mentioned above.

## 4. FIRST AID MEASURES

**IF SWALLOWED:** Call a poison control center or a doctor immediately for treatment advice. **DO NOT INDUCE VOMITING.** Do not give anything to drink.

**IF IN EYES:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. After at least 15 minutes of rinsing or after it is judged that nearly all of the contamination has been removed. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or a doctor immediately for treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

### NOTE TO PHYSICIAN :

Based on the individual reactions of the patient, the physician's judgement should be used to control symptoms and clinical condition.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT :** None

### EXTINGUISHING MEDIA :

Use extinguishing media appropriate for surrounding fire.

### FIRE AND EXPLOSION HAZARD :

Not flammable or combustible. May evolve hydrogen bromide and bromine under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING :

In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.



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### 6. ACCIDENTAL RELEASE MEASURES

#### PERSONAL PRECAUTIONS :

Restrict access to area as appropriate until clean-up operations are complete. Stop or reduce any leaks if it is safe to do so. Do not touch spilled material. Ventilate spill area if possible. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection).

#### METHODS FOR CLEANING UP :

**SMALL SPILLS:** Soak up spill with absorbent material. Place residues in a suitable, covered, properly labeled container. Wash affected area. **LARGE SPILLS:** Contain liquid using absorbent material, by digging trenches or by diking. Reclaim into recovery or salvage drums or tank truck for proper disposal. Contact an approved waste hauler for disposal of contaminated recovered material. Dispose of material in compliance with regulations indicated in Section 13 (Disposal Considerations).

#### ENVIRONMENTAL PRECAUTIONS :

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### 7. HANDLING AND STORAGE

#### HANDLING :

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Do not mix with acids.

#### STORAGE CONDITIONS :

Store the containers tightly closed. Store in a cool well ventilated area away from direct sunlight.

#### UNSUITABLE CONSTRUCTION MATERIAL :

Shipping and long term storage compatibility with construction materials can vary; we therefore recommend that compatibility is tested prior to use.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### OCCUPATIONAL EXPOSURE LIMITS :

This product does not contain any substance that has an established exposure limit.

#### ENGINEERING MEASURES :

General ventilation is recommended.

#### RESPIRATORY PROTECTION :

Respiratory protection is not normally needed. Where concentrations in air may exceed the limits given in this section or when significant mists, vapors, aerosols, or dusts are generated, an approved air purifying respirator equipped with



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suitable filter cartridges is recommended. Consult the respirator / cartridge manufacturer data to verify the suitability of specific devices. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

### HAND PROTECTION :

Neoprene gloves Nitrile gloves Butyl gloves PVC gloves

### SKIN PROTECTION :

Wear chemical resistant apron, chemical splash goggles, impervious gloves and boots.

### EYE PROTECTION :

Wear chemical splash goggles.

### HYGIENE RECOMMENDATIONS :

Use good work and personal hygiene practices to avoid exposure. Keep an eye wash fountain available. Keep a safety shower available. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse. Always wash thoroughly after handling chemicals. When handling this product never eat, drink or smoke.

### HUMAN EXPOSURE CHARACTERIZATION :

Based on our recommended product application and personal protective equipment, the potential human exposure is: Moderate

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                     |                             |
|---------------------|-----------------------------|
| PHYSICAL STATE      | Liquid                      |
| APPEARANCE          | Colorless                   |
| ODOR                | None                        |
| SPECIFIC GRAVITY    | 1.43 - 1.49 @ 77 °F / 25 °C |
| DENSITY             | 12.0 - 12.4 lb/gal          |
| SOLUBILITY IN WATER | Complete                    |
| pH (100 %)          | 4.0 - 9.0                   |
| VISCOSITY           | 5 cps @ 72 °F / 22 °C       |
| FREEZING POINT      | -13 °F / -25 °C             |
| BOILING POINT       | 230 °F / 110 °C             |
| VAPOR PRESSURE      | 7.6 mm Hg @ 68 °F / 20 °C   |
| VOC CONTENT         | 0.00 %                      |

Note: These physical properties are typical values for this product and are subject to change.

## 10. STABILITY AND REACTIVITY

### STABILITY :

Stable under normal conditions.

**SAFETY DATA SHEET****PRODUCT****ACTI-BROM® 1338****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****HAZARDOUS POLYMERIZATION :**

Hazardous polymerization will not occur.

**CONDITIONS TO AVOID :**

Freezing temperatures.

**MATERIALS TO AVOID :**

Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) may generate heat, splattering or boiling and toxic vapors. Contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate) may generate heat, fires, explosions and/or toxic vapors. Reducing agents

**HAZARDOUS DECOMPOSITION PRODUCTS :**

Under acidic conditions: Hydrogen bromide

**11. TOXICOLOGICAL INFORMATION**

The following results are for a similar product.

**ACUTE ORAL TOXICITY :**

Species: Rat  
LD50: > 5,000 mg/kg  
Test Descriptor: Similar Product

**ACUTE DERMAL TOXICITY :**

Species: Rabbit  
LD50: > 2,000 mg/kg  
Test Descriptor: Similar Product

**PRIMARY SKIN IRRITATION :**

Species: Rabbit  
Draize Score: 0.4 /8.0  
Test Descriptor: Similar Product  
Remarks: Not irritating

**SENSITIZATION :**

This product is not expected to be a sensitizer.

**CARCINOGENICITY :**

None of the substances in this product are listed as carcinogens by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP) or the American Conference of Governmental Industrial Hygienists (ACGIH).

**SAFETY DATA SHEET****PRODUCT****ACTI-BROM® 1338****EMERGENCY TELEPHONE NUMBER(S)****(800) 424-9300 (24 Hours) CHEMTREC****HUMAN HAZARD CHARACTERIZATION :**

Based on our hazard characterization, the potential human hazard is: Low

**12. ECOLOGICAL INFORMATION****ECOTOXICOLOGICAL EFFECTS :**

The following results are for the product.

**ACUTE FISH RESULTS :**

| Species           | Exposure  | LC50             | Test Descriptor |
|-------------------|-----------|------------------|-----------------|
| Bluegill Sunfish  | 96 hrs    | > 1,000 mg/l     | Product         |
| Rainbow Trout     | 96 hrs    | > 1,000 mg/l     | Product         |
| Guppy             | 96 hrs    | 538 mg/l         | Product         |
| Fathead Minnow    | 96 hrs    | > 1,000 mg/l     | Product         |
| Inland Silverside | 96.00 hrs | > 5,000.000 mg/l | Product         |

**ACUTE INVERTEBRATE RESULTS :**

| Species                         | Exposure  | LC50           | EC50 | Test Descriptor |
|---------------------------------|-----------|----------------|------|-----------------|
| Daphnia magna                   | 48 hrs    | > 1,000 mg/l   |      | Product         |
| Mysid Shrimp (Mysidopsis bahia) | 96.00 hrs | 1,827.000 mg/l |      | Product         |

**PERSISTENCY AND DEGRADATION :**

Total Organic Carbon (TOC) : 2,000 mg/l

Chemical Oxygen Demand (COD) : 53,000 mg/l

Biological Oxygen Demand (BOD) : This material is an oxidizing biocide and is not expected to persist in the environment.

Greater than 95% of this product consists of inorganic substances for which a biodegradation value is not applicable.

**MOBILITY :**

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

| Air | Water    | Soil/Sediment |
|-----|----------|---------------|
| <5% | 30 - 50% | 50 - 70%      |

The portion in water is expected to be soluble or dispersible.





## SAFETY DATA SHEET

PRODUCT

**ACTI-BROM® 1338**

EMERGENCY TELEPHONE NUMBER(S)

(800) 424-9300 (24 Hours) CHEMTREC

### BIOACCUMULATION POTENTIAL

This preparation or material is not expected to bioaccumulate.

### ENVIRONMENTAL HAZARD AND EXPOSURE CHARACTERIZATION

Based on our hazard characterization, the potential environmental hazard is: High

Based on our recommended product application and the product's characteristics, the potential environmental exposure is: Moderate

If released into the environment, see CERCLA/SUPERFUND in Section 15.

## 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it is not a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261, since it does not have the characteristics of Subpart C, nor is it listed under Subpart D.

As a non-hazardous waste, it is not subject to federal regulation. Consult state or local regulation for any additional handling, treatment or disposal requirements. For disposal, contact a properly licensed waste treatment, storage, disposal or recycling facility.

## 14. TRANSPORT INFORMATION

The information in this section is for reference only and should not take the place of a shipping paper (bill of lading) specific to an order. Please note that the proper Shipping Name / Hazard Class may vary by packaging, properties, and mode of transportation. Typical Proper Shipping Names for this product are as follows.

### LAND TRANSPORT :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

### AIR TRANSPORT (ICAO/IATA) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

### MARINE TRANSPORT (IMDG/IMO) :

Proper Shipping Name :

PRODUCT IS NOT REGULATED DURING  
TRANSPORTATION

## 15. REGULATORY INFORMATION

This section contains additional information that may have relevance to regulatory compliance. The information in this section is for reference only. It is not exhaustive, and should not be relied upon to take the place of an individualized compliance or hazard assessment. Nalco accepts no liability for the use of this information.

### NATIONAL REGULATIONS, USA :



## SAFETY DATA SHEET

PRODUCT

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OSHA HAZARD COMMUNICATION RULE, 29 CFR 1910.1200 :

Based on our hazard evaluation, the following substance(s) in this product is/are hazardous and the reason(s) is/are shown below.

Sodium Bromide : Non-Hazardous

CERCLA/SUPERFUND, 40 CFR 302 :

Notification of spills of this product is not required.

SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (TITLE III) - SECTIONS 302, 311, 312, AND 313 :

SECTION 302 - EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355) :

This product does not contain substances listed in Appendix A and B as an Extremely Hazardous Substance.

SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS (40 CFR 370) :

Our hazard evaluation has found this product to be hazardous. The product should be reported under the following indicated EPA hazard categories:

- |   |                                   |
|---|-----------------------------------|
| X | Immediate (Acute) Health Hazard   |
| - | Delayed (Chronic) Health Hazard   |
| - | Fire Hazard                       |
| - | Sudden Release of Pressure Hazard |
| - | Reactive Hazard                   |

Under SARA 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are: 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372) :

This product does not contain substances on the List of Toxic Chemicals.

TOXIC SUBSTANCES CONTROL ACT (TSCA) :

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

FOOD AND DRUG ADMINISTRATION (FDA) Federal Food, Drug and Cosmetic Act :

When use situations necessitate compliance with FDA regulations, this product is acceptable under : the following use conditions.

This product may be used to treat pulp and papermill water systems in situations requiring FDA sanction provided the bromide concentration in the water is kept below 22 ppm. The product must be used in conjunction with an oxidant such as bleach or gaseous chlorine. Follow instructions for use in pulp and papermill on the product label.

NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :

NSF Registration number for this product is : 142570

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas. This product is acceptable for treating boilers, steam lines, and/or cooling systems (G7) where neither the treated water nor the steam produced may contact edible products in and around food processing areas.



## SAFETY DATA SHEET

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(800) 424-9300 (24 Hours) CHEMTREC

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :  
EPA Reg. No. 1706-168

In all cases follow instructions on the product label.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40 CFR 401.15 / formerly Sec. 307, 40 CFR 116.4 / formerly Sec. 311 :

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CLEAN AIR ACT, Sec. 112 (Hazardous Air Pollutants, as amended by 40 CFR 63), Sec. 602 (40 CFR 82, Class I and II Ozone Depleting Substances) :

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

CALIFORNIA PROPOSITION 65 :

Substances listed under California Proposition 65 are not intentionally added or expected to be present in this product.

MICHIGAN CRITICAL MATERIALS :

Substances listed under this regulation are not intentionally added or expected to be present in this product. Listed components may be present at trace levels.

STATE RIGHT TO KNOW LAWS :

This product is a registered biocide and is exempt from State Right to Know Labelling Laws.

INTERNATIONAL CHEMICAL CONTROL LAWS :

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) :

The substance(s) in this preparation are included in or exempted from the Domestic Substance List (DSL).

AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

CHINA

All substances in this product comply with the Provisions on the Environmental Administration of New Chemical Substances and are listed on the Inventory of Existing Chemical Substances China (IECSC).

EUROPE

The substance(s) in this preparation are included in or exempted from the EINECS or ELINCS inventories



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### JAPAN

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

### KOREA

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

### NEW ZEALAND

All substances in this product comply with the Hazardous Substances and New Organisms (HSNO) Act 1996, and are listed on or are exempt from the New Zealand Inventory of Chemicals.

### PHILIPPINES

All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

## 16. OTHER INFORMATION

Due to our commitment to Product Stewardship, we have evaluated the human and environmental hazards and exposures of this product. Based on our recommended use of this product, we have characterized the product's general risk. This information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

\* The human risk is: Low

\* The environmental risk is: Moderate

Any use inconsistent with our recommendations may affect the risk characterization. Our sales representative will assist you to determine if your product application is consistent with our recommendations. Together we can implement an appropriate risk management process.

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations. Please consult your local sales representative for any further information.

### REFERENCES

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, American Conference of Governmental Industrial Hygienists, OH., (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Hazardous Substances Data Bank, National Library of Medicine, Bethesda, Maryland (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, Geneva: World Health Organization, International Agency for Research on Cancer.



## SAFETY DATA SHEET

PRODUCT

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Integrated Risk Information System, U.S. Environmental Protection Agency, Washington, D.C. (TOMES CPS™ CD-ROM Version),  
Micromedex, Inc., Englewood, CO.

Annual Report on Carcinogens, National Toxicology Program, U.S. Department of Health and Human Services, Public Health Service.

Title 29 Code of Federal Regulations, Part 1910, Subpart Z, Toxic and Hazardous Substances, Occupational Safety and Health Administration (OSHA), (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

Registry of Toxic Effects of Chemical Substances, National Institute for Occupational Safety and Health, Cincinnati, OH,  
(TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

Ariel Insight™ (An integrated guide to industrial chemicals covered under major regulatory and advisory programs), North American Module, Western European Module, Chemical Inventories Module and the Generics Module (Ariel Insight™ CD-ROM Version), Ariel Research Corp., Bethesda, MD.

The Teratogen Information System, University of Washington, Seattle, WA (TOMES CPS™ CD-ROM Version), Micromedex, Inc., Englewood, CO.

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Prepared By : Product Safety Department  
Date issued : 03/14/2011  
Version Number : 1.19

### **APPENDIX 10.2.3**

#### **HAZARDOUS WASTE DISPOSAL APPLICATIONS/PERMITS**

### **10.2.3     Hazardous Waste Disposal Applications/Permits**

The Citrus Combined Cycle (CCC) Project may occasionally generate small quantities of hazardous waste (i.e., less than 100 kilograms per month), which results in a conditionally exempt small-quantity generator status, of potentially hazardous wastes during operation. The facility will obtain a site-specific U.S. Environmental Protection Agency (EPA) hazardous waste identification number prior to operations. No federal or state application or permit is required for the Project.

## **APPENDIX 10.2.4**

### **SECTION 10 OR 404 APPLICATIONS/PERMITS**



#### **10.2.4    Section 10 or 404 Applications/Permits**

Appendix 10.4 contains the Citrus Combined Cycle Joint Environmental Resource Permit/Section 404 permit application.

## **APPENDIX 10.2.5**

### **PREVENTION OF SIGNIFICANT DETERIORATION PERMIT APPLICATION**

### **10.2.5 Prevention of Significant Deterioration Permit Application**

As discussed in Section 4.4 of the Citrus Combined Cycle (CCC) Site Certification Application (SCA) and the following application in this appendix, a prevention of significant deterioration (PSD) applicability netting analysis was conducted to determine the net change in air emissions based on the air emissions increases due to the CCC Project compared to the air emissions decreases due to the shutdown of the existing coal-fired Crystal River Energy Complex (CREC) Units 1 and 2. Based on the results of the netting analysis, a PSD review and permit are not required for the Project.

This appendix provides the Florida Department of Environmental Protection (FDEP)-required minor source air construction permit application for the Project. The permit application has also been submitted separately to the Florida Department of Environmental Protection (FDEP) Division of Air Resources Management.

# Duke Energy Florida, Inc. Citrus Combined Cycle Project Air Construction Permit Application



Prepared by:

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## August 2014

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## LIST OF ACRONYMS AND ABBREVIATIONS

|                                |                                                |
|--------------------------------|------------------------------------------------|
| °F                             | degree Fahrenheit                              |
| µg/m <sup>3</sup>              | microgram per cubic meter                      |
| ARP                            | Acid Rain Program                              |
| BACT                           | best available control technology              |
| CAA                            | Clean Air Act                                  |
| CAIR                           | Clean Air Interstate Rule                      |
| CAMD                           | Clean Air Market Division                      |
| CCC                            | Citrus Combined Cycle                          |
| CEMS                           | continuous emissions monitoring system         |
| CFR                            | Code of Federal Regulations                    |
| CI                             | compression ignition                           |
| CO                             | carbon monoxide                                |
| CO <sub>2</sub>                | carbon dioxide                                 |
| CO <sub>2</sub> e              | carbon dioxide equivalent                      |
| CREC                           | Crystal River Energy Complex                   |
| CTG                            | combustion turbine generator                   |
| DEF                            | Duke Energy Florida, Inc.                      |
| ECT                            | Environmental Consulting & Technology, Inc.    |
| EPA                            | U.S. Environmental Protection Agency           |
| ESP                            | electrostatic precipitator                     |
| F.A.C.                         | Florida Administrative Code                    |
| FDEP                           | Florida Department of Environmental Protection |
| FGD                            | flue gas desulfurization                       |
| FR                             | Federal Register                               |
| g/bhp-hr                       | gram per brake horsepower-hour                 |
| GHG                            | greenhouse gas                                 |
| gr S/100 scf                   | grain of sulfur per 100 standard cubic feet    |
| H <sub>2</sub> SO <sub>4</sub> | sulfuric acid                                  |
| HAP                            | hazardous air pollutant                        |
| HHV                            | higher heating value                           |
| hp                             | horsepower                                     |
| hr/yr                          | hour per year                                  |
| HRSG                           | heat recovery steam generator                  |
| ICE                            | internal combustion engine                     |
| kW                             | kilowatt                                       |
| LAER                           | lowest achievable emissions rate               |
| lb/hr                          | pound per hour                                 |
| lb/MMBtu                       | pound per million British thermal units        |
| lb/MWh                         | pound per megawatt-hour                        |
| lb/ton                         | pound per ton                                  |
| MACT                           | maximum achievable control technology          |
| MMBtu/hr                       | million British thermal units per hour         |
| MW                             | megawatt                                       |



LIST OF ACRONYMS AND ABBREVIATIONS  
(Continued, Page 2 of 2)

|                   |                                                         |
|-------------------|---------------------------------------------------------|
| NAAQS             | national ambient air quality standards                  |
| NESHAP            | national emissions standard for hazardous air pollutant |
| NMHC              | nonmethane hydrocarbon                                  |
| NO <sub>2</sub>   | nitrogen dioxide                                        |
| NO <sub>x</sub>   | nitrogen oxides                                         |
| NSPS              | New Source Performance Standards                        |
| NSR               | New Source Review                                       |
| PM                | particulate matter                                      |
| PM <sub>10</sub>  | particulate matter less than or equal to 10 microns     |
| PM <sub>2.5</sub> | particulate matter less than or equal to 2.5 microns    |
| ppmv              | part per million by volume dry                          |
| PSD               | prevention of significant deterioration                 |
| RACT              | reasonably available control technology                 |
| RBL               | RACT/BACT/LAER Clearinghouse                            |
| RICE              | reciprocating internal combustion engine                |
| SCR               | selective catalytic reduction                           |
| SER               | significant emissions rate                              |
| SIP               | state implement plan                                    |
| SO <sub>2</sub>   | sulfur dioxide                                          |
| STG               | steam turbine generator                                 |
| tpy               | ton per year                                            |
| TSP               | total suspended particulates                            |
| ULSD              | ultra low-sulfur diesel                                 |
| VOC               | volatile organic compound                               |

## **1.0 INTRODUCTION AND SUMMARY**

### **1.1 INTRODUCTION**

Duke Energy Florida, Inc. (DEF), currently operates the Crystal River Energy Complex (CREC) located near Crystal River in Citrus County, Florida, under Title V Air Operation Permit No. 0170004-043-AV. This Title V air operation permit authorizes the operation of Units 1 and 2, two pulverized coal-fired, dry-bottom, tangentially fired boilers rated at 441 and 524 megawatts (MW), respectively, and Units 4 and 5, two pulverized coal-fired, dry-bottom, wall-fired boilers, each rated at 760 MW. Units 1 and 2 are equipped with low-nitrogen oxides (NO<sub>x</sub>) burners. Units 4 and 5 are equipped with low-NO<sub>x</sub> burners, selective catalytic reduction (SCR) systems, flue gas desulfurization (FGD) systems, acid mist mitigation systems, and an electrostatic precipitator (ESP).

DEF plans to construct and operate a nominal 1,640-MW natural gas-fired, combined cycle combustion turbine generator (CTG) facility, identified as the Citrus Combined Cycle (CCC) Project, on property contiguous to the existing CREC facility. Since the CCC Project will be under common control and ownership, have the same Standard Industrial Classification code, and be constructed and operated on property contiguous to the existing CREC, the CCC Project will be considered a modification to an existing major stationary source.

The CCC Project will consist of two power blocks, with each power block consisting of two CTGs, two heat recovery steam generators (HRSGs) equipped with duct burners, and one steam turbine generator (STG) arranged in a two-on-one configuration. The CTGs will be Mitsubishi Model 501GAC. Each power block will also be equipped with the following ancillary equipment: one fuel gas dew point heater rated at 11.2 million British thermal units per hour (MMBtu/hr), one diesel-fired emergency generator rated at 1,500 kilowatts (kW), one 14- or 16-cell mechanical draft cooling tower for process cooling water, and potentially one six-cell cooling tower for the inlet air chillers. (Note: At this time, DEF is evaluating whether to include the inlet air chiller system in the final design of the Project. At this time, DEF does not anticipate constructing the chiller system during the initial construction of the Project, but such a system may be included as the

final design as the Project progresses or postconstruction. Therefore, the construction and operation of the chiller system is included in this application and associated analyses but is considered a potential facility.) One auxiliary steam boiler rated at 216.2 MMBtu/hr and one diesel-fired emergency firewater pump rated at 575 horsepower (hp) will service both power blocks. The CTG/HRSGs, auxiliary steam boiler, and fuel gas dew point heater will be fired exclusively with pipeline-quality natural gas, and the diesel-fired emergency generators and firewater pumps engines will be fired exclusively with ultra low-sulfur diesel (ULSD) fuel oil.

Each CTG/HRSG unit will be permitted to operate up to 8,760 hours per year (hr/yr), including up to 4,000 hr/yr of natural gas-fired HRSG duct burner operation. The fuel gas dew point heaters and both cooling towers will also be permitted to operate up to 8,760 hr/yr. The auxiliary steam boiler will be permitted to operate up to 2,000 hr/yr, and the emergency generator and firewater pump will operate up to 100 hr/yr for maintenance and testing purposes. There are no limits on the emergency engines when operating for emergency purposes.

DEF will retire Crystal River Units 1 and 2 in coordination with the commercial operation of the CCC units. The combined operation of Crystal River Units 1 and 2 will be reduced to offset any emissions from the first CCC units when it comes online. The net air emissions increase for the new proposed CCC Project was calculated by conducting a netting analysis. A netting analysis for a new emissions unit is performed by comparing the baseline actual emissions to potential emissions for each prevention of significant deterioration (PSD) pollutant. This netting analysis is described in greater detail in Section 3.0. The results of the netting analysis demonstrate that the net air emissions increase from the CCC Project, taking into account the emissions decreases from shutting down Units 1 and 2, will not trigger PSD review for any pollutant.

This report is organized as follows:

- Section 1.2 provides an overview and summary of the key regulatory determinations.
- Section 2.0 describes the proposed facility and associated air emissions.

- Section 3.0 describes new source review (NSR) requirements and discusses applicability of these requirements to the proposed CCC Project.
- Section 4.0 describes applicable state and federal emissions standards.

Appendices A through C provide the Florida Department of Environmental Protection (FDEP) Application for Air Permit—Long Form, emissions rate calculations and summary of the netting analysis, and precautions to prevent particulate matter (PM) emissions, respectively. Appendices D and E contain FDEP's Acid Rain Part forms and Clean Air Interstate Rule (CAIR) forms.

## **1.2 SUMMARY**

The primary source of emissions from the CCC Project will result from the combustion of natural gas in the four CTG/HRSG units. Principal air emissions from the CTG/HRSG units include NO<sub>x</sub>, sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), volatile organic compounds (VOCs), PM, particulate matter up to 10 micrometers in size (PM<sub>10</sub>), particulate matter up to 2.5 micrometers in size (PM<sub>2.5</sub>), carbon dioxide (CO<sub>2</sub>), and sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) mist. The CTG/HRSG units will also emit trace amounts of metallic and organic compounds. Ancillary Project emissions sources include 14- or 16-cell mechanical draft cooling towers, inlet chiller cooling towers (optional), a fuel gas dew point heater, auxiliary boiler, emergency generator diesel engine, and emergency firewater pump diesel engine.

Construction of the CCC Project is anticipated to start in early 2016, with commercial operation planned for May 2018 for the first power block and December 2018 for second power block.

Based on an evaluation of anticipated worst-case annual operating scenarios and taking into account the emissions decreases from shutting down CREC Units 1 and 2, the CCC Project will have net emissions **decrease** of 3,747 tons per year (tpy) of NO<sub>x</sub>, 3,148 tpy of CO, 28,897 tpy of SO<sub>2</sub>, 562 tpy of PM, 1,766 tpy of PM<sub>10</sub>, 1,439 tpy of PM<sub>2.5</sub>, 0.38 tpy of lead, 49 tpy of H<sub>2</sub>SO<sub>4</sub> mist, and 0.07 tpy of mercury. The project will have a net emissions **increase** of 14 tpy of VOCs and 1,766,553 tpy of carbon dioxide equivalent

(CO<sub>2</sub>e). Based on these net potential annual emissions increases/decreases and a recent U.S. Supreme Court decision<sup>1</sup> (described in greater detail in Section 3.0), the CCC Project does not trigger PSD review for any pollutant.

The netting and regulatory applicability analyses required for this permit application have resulted in the following conclusions that address the primary CCC Project emissions sources, the four CTG/HRSG units:

- The proposed CCC Project will not result in an air emissions increase of any PSD pollutant above the significant emissions rate (SER).
- Dry low-NO<sub>x</sub> combustion and SCR will be used to control NO<sub>x</sub> emissions from the CTG/HRSGs. The proposed NO<sub>x</sub> emissions limit for operating scenarios greater than or equal to 75-percent load (i.e., with or without duct burner firing) is 15 parts per million by volume dry (ppmvd) corrected to 15-percent oxygen on a 30-unit operating day rolling average basis. The proposed NO<sub>x</sub> emissions limit for all operating scenarios less than 75-percent load (i.e., with or without duct burner firing) is 96 ppmvd corrected to 15-percent oxygen on a 30-unit operating day rolling average basis. These proposed NO<sub>x</sub> emissions limits represent the New Source Performance Standard (NSPS) Subpart KKKK limit for a CTG firing natural gas. The emergency generator diesel engine will achieve a NO<sub>x</sub> plus nonmethane hydrocarbons (NMHC) emissions rate of 4.8 grams per brake-horsepower-hour (g/bhp-hr), which complies with the NSPS IIII, Compression Ignition Reciprocating Internal Combustion Engines. The emergency firewater pump diesel engine will achieve a NO<sub>x</sub> plus NMHC emissions rate of 3.0 g/bhp-hr, which complies with NSPS Subpart IIII.
- Good combustion practices will be used to control CO and VOC emissions. CTG combustion design and operation requires a balancing of the competing goals to minimize the formation of both NO<sub>x</sub> and CO. The emergency generator and emergency firewater pump diesel engines will achieve a CO emissions rate of 2.6 g/bhp-hr, which complies with NSPS Subpart IIII.

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<sup>1</sup> Util. Regulatory Grp. v. EPA, No. 12-1146 (June 23, 2014).

- Exclusive use of pipeline-quality natural gas will be used to control PM (filterable) and PM<sub>10</sub>/PM<sub>2.5</sub> (filterable and condensable) emissions. Pipeline-quality natural gas will contain a maximum sulfur content of 2.0 grains of sulfur per 100 standard cubic feet (gr S/100 scf). The emergency generator diesel engine and emergency firewater pump diesel engine will be fired exclusively with ULSD fuel oil and will achieve a PM/PM<sub>10</sub>/PM<sub>2.5</sub> emissions rate of 0.15 g/bhp-hr, which complies with NSPS Subpart IIII. The mechanical draft cooling towers and inlet chiller cooling towers (optional) will employ high-efficiency drift eliminators to achieve a drift loss rate of no more than 0.0005 percent of the cooling tower recirculating water flow.
- Exclusive use of pipeline-quality natural gas will be used to control SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> mist. The proposed SO<sub>2</sub> limit is the exclusive use of pipeline-quality natural gas containing no more than 2.0 gr S/100 scf. The emergency generator and emergency firewater pump diesel engines will be fired exclusively with ULSD fuel oil.
- A recent U.S. Supreme Court decision (Util. Air Regulatory Grp .v. EPA, No. 12-1146 [June 23, 2014]) concluded that a facility could not be subject to PSD review solely based on CO<sub>2</sub> emissions. The Court also held that, if the Project triggers PSD for other pollutants, the U.S. Environmental Protection Agency (EPA) has the authority to impose best available control technology (BACT) for greenhouse gases (GHGs). Because the CCC Project is not subject to PSD review for any other PSD pollutant and it cannot trigger the PSD review solely based on GHG emissions, PSD review is not required for the CCC Project.

## 2.0 PROJECT DESCRIPTION

### 2.1 PROJECT LOCATION, AREA MAP, AND PLOT PLAN

The CCC Project will be located on an approximately 400-acre Site adjacent to the eastern boundary of DEF's existing CREC and north of the existing transmission line corridor to CREC. The facilities will consist of two two-on-one natural gas-fired combined cycle units with each unit using two advanced CTGs, two HRSGs, one STG, and directly associated facilities.

Figure 2-1 provides a Site location map for the existing CREC and proposed CCC Project. Figure 2-2 provides a Site layout of the proposed CTG/HRSG and ancillary equipment in relation to the Site. Figure 2-3 provides a detailed Site map showing the emissions units and ancillary equipment locations.

Major components of the facility will consist of:

- Four CTG/HRSG units equipped with inlet chillers (potentially), duct burners, and associated STG.
- One 216.2-MMBtu/hr natural gas-fired auxiliary boiler.
- Two 11.2-MMBtu/hr natural gas-fired fuel gas dew point heater
- Two 1,500-kW diesel fuel-fired emergency generators.
- One 575-hp diesel fuel-fired emergency firewater pump.
- Two 14- or 16-cell wet mechanical draft cooling tower (process steam).
- Two six-cell wet mechanical draft cooling tower for inlet air chillers (potentially).
- Ancillary equipment, including raw and demineralized water storage tanks and aqueous ammonia storage and handling equipment.

The four CTGs will be Mitsubishi Model 501GAC units utilizing state-of-the-art combustion technology, each capable of producing a nominal 270 MW of electricity. Each CTG may be equipped with inlet air chilling, which is designed to lower the turbine intake air during periods of higher ambient air temperatures. The CTGs will be



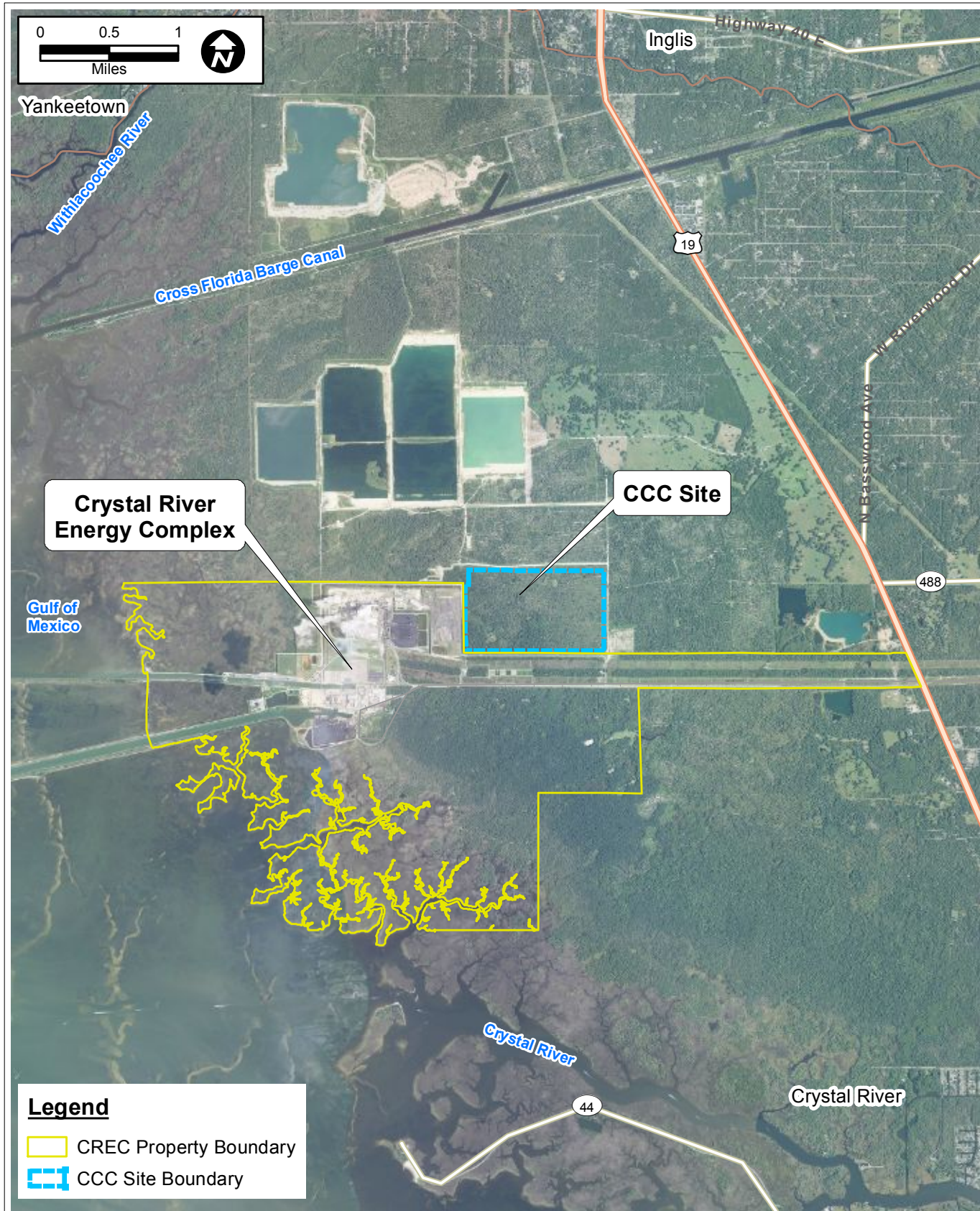


FIGURE 2-1.  
GENERAL VICINITY LOCATION OF CCC SITE

Sources: ESRI, 2013; NAIP, 2013; AMEC, 2013; ECT, 2014.





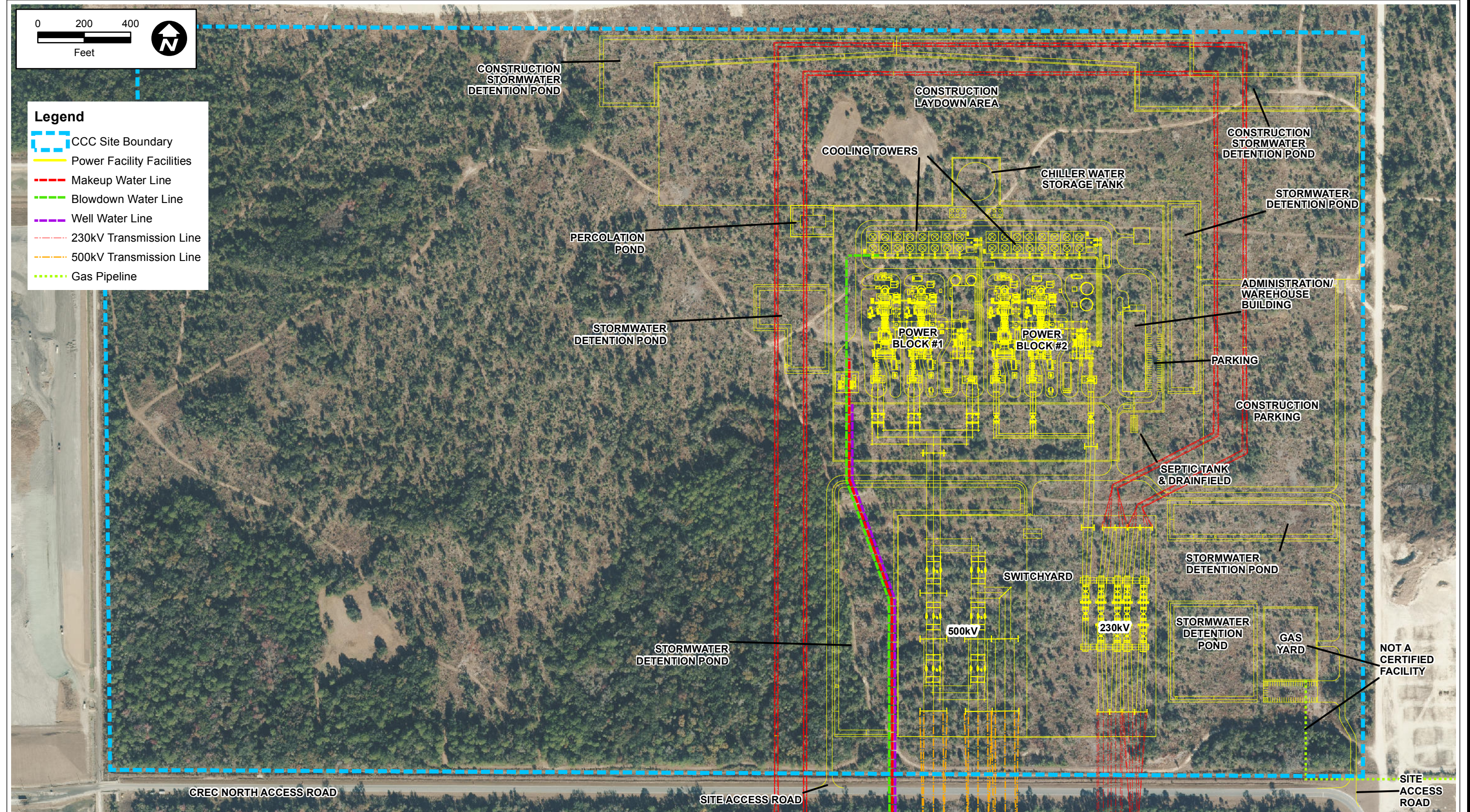


FIGURE 2-2.  
DETAILED SITE LAYOUT OF CCC FACILITIES ON THE SITE

Sources: FDOT, 2011; AMEC, 2013; Burns & McDonnell, 2014; ECT, 2014.



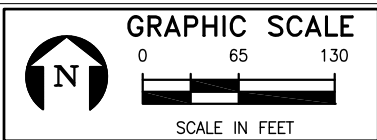


FIGURE 2-3.  
CCC PROJECT DETAIL SITE MAP

Sources: Burns & McDonnell, 2014; ECT, 2014.



capable of operating between a nominal 50- to 100-percent load. The associated HRSG units will each have the capability of supplementary duct burner firing. Each supplemental duct burner will have a nominal heat input of 250 MMBtu/hr (based on higher heating value [HHV]). The HRSG units will furnish steam to the STG, which will be capable of producing an additional 280 MW of electricity. Therefore, each power block, consisting of two CTGs and one STG will be capable of generating a nominal 820 MW of electricity. The entire CCC Project will consist of two power blocks and be capable of producing a nominal 1,640 MW of electricity.

DEF proposes to permit the CTG/HRSGs to operate for 8,760 hr/yr, with up to 4,000 hr/yr for duct burner firing. One auxiliary boiler will serve both power blocks and be permitted to operate up to 2,000 hr/yr. The fuel gas dew point heaters, main cooling towers, and potential inlet air chiller cooling towers will be permitted to operate up to 8,760 hr/yr. The emergency diesel-fired generator and the emergency diesel-fired firewater pump will be permitted to operate up to 100 hr/yr for maintenance and testing purposes only. The hours of operation for the emergency engines are not limited when operating due to an emergency.

## **2.2 PROJECT DESCRIPTION AND PROCESS FLOW DIAGRAM**

Figure 2-4 presents a process flow diagram for the CCC Project CTG/HRSGs and STG arranged in a two-on-one configuration. The CTG will be the Mitsubishi Model 501GAC using state-of-the-art combined cycle combustion technology. The CCC Project will consist of two identical power blocks, each capable of generating 820 MW of electrical generation for a total facility rating of 1,640 MW.

CTGs are heat engines that convert latent fuel energy into work using compressed hot gas as the working medium. CTGs deliver mechanical output by means of a rotating shaft that is used to drive an electrical generator, thereby converting a portion of the engine's mechanical output to electrical energy. Ambient air is first filtered and then compressed by the CTG compressor. The CTG compressor increases the pressure of the combustion air stream and also raises its temperature. If an air chiller system is constructed, on hot days, the turbine inlet ambient air would be cooled by an inlet air chiller, thus providing

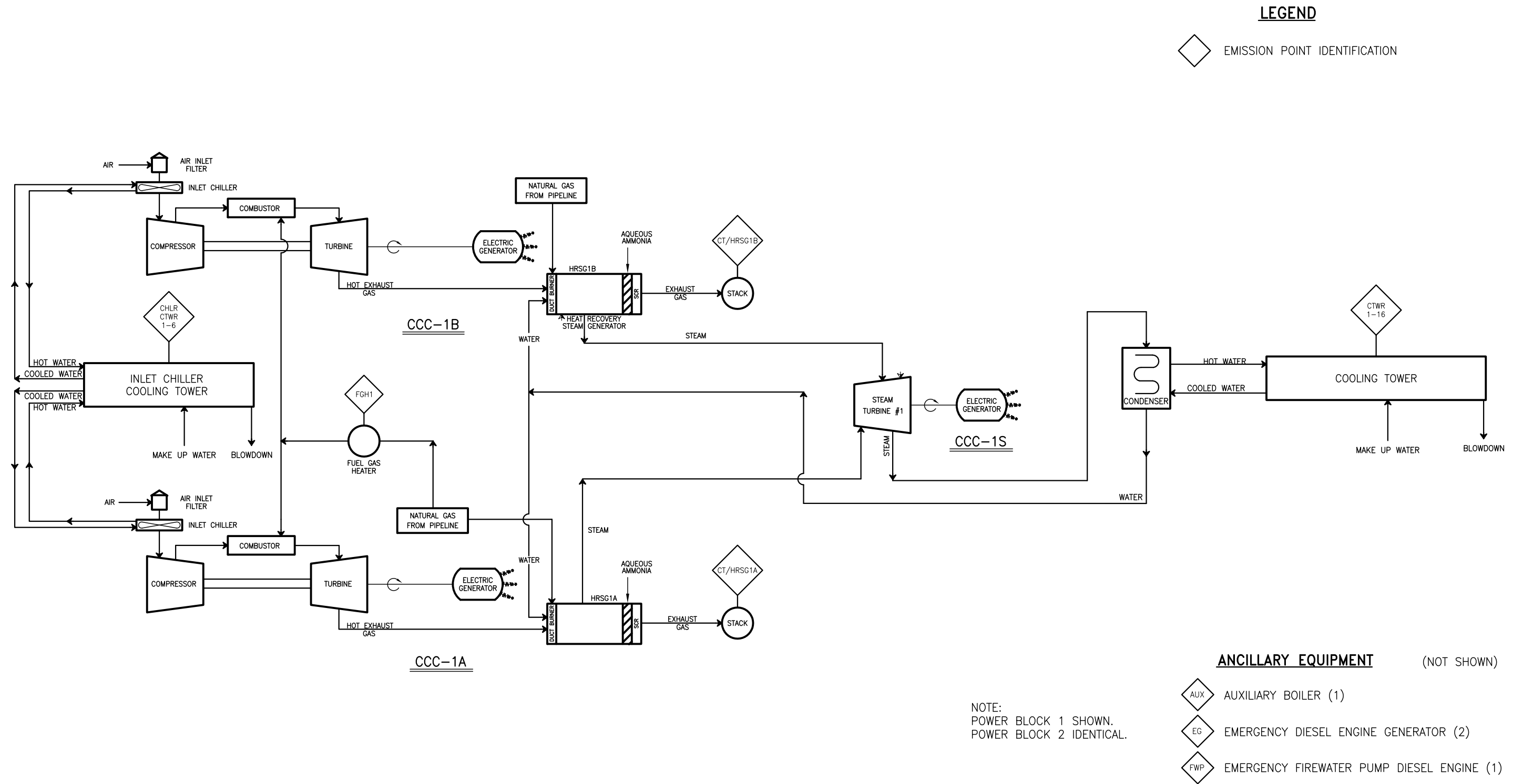


FIGURE 2-4.  
PROCESS FLOW DIAGRAM FOR COMBINED CYCLE COMBUSTION TURBINE PROCESS  
(ONE POWER BLOCK SHOWN)  
Source: ECT, 2014.



denser air for combustion and improving the power output. The compressed combustion air is then combined with natural gas fuel and burned in the CTG's high-pressure combustor to produce hot exhaust gases. These high-pressure, hot gases next expand and turn the CTG to produce rotary shaft power that is used to drive an electric generator as well as the CTG combustion air compressor.

The hot exhaust gases from the CTGs next flow to the HRSGs for the production of low-, intermediate-, and high-pressure steam. Each HRSG recovers exhaust heat from the CTGs to produce steam to power the STG. The STG, in turn, will drive an electric generator having a nominal generation capacity of 280 MW. Each of the HRSGs will be equipped with duct burners to provide additional steam as required to meet power demands. The duct burners will be located in the HRSGs and will be fired exclusively with pipeline-quality natural gas. Following recovery of the CTG exhaust waste heat by the HRSGs, the exhaust gases are discharged to the atmosphere at a much lower temperature.

Normal operation is expected to consist of both CTG/HRSG units operating at base load without supplemental duct burner firing. Alternate facility operating modes include chilling of the inlet air, duct burner firing at peak load, and reduced load operation (i.e., between a nominal 50 and 100 percent of base load) for either of the four CTG/HRSG units, depending on power demands. The CTGs will not be designed with bypass stacks and will operate only in the combined-cycle mode.

The CTGs and duct burners will use low- $\text{NO}_x$  combustion technology and SCR systems to control  $\text{NO}_x$  air emissions. Good combustion practices will be employed to control CO and VOC emissions. The exclusive use of pipeline-quality natural gas in the CTGs and HRSG duct burners will minimize  $\text{PM}/\text{PM}_{10}/\text{PM}_{2.5}$ ,  $\text{SO}_2$ , and  $\text{H}_2\text{SO}_4$  air emissions from the CTG/HRSG units.

## **2.3 EMISSIONS**

Table 2-1 provides maximum hourly pollutant emissions rates for each CTG/HRSG unit at three different loads and three different ambient temperatures, including inlet air chilling (optional) and duct burner operation. Appendix B, Table B-11, defines these

Table 2-1. CTG/HRSG—Pollutant Emissions Rates (per CTG/HRSG)

| Pollutant                                   | Unit                                | Value*       |
|---------------------------------------------|-------------------------------------|--------------|
| NO <sub>x</sub>                             | ppmvd at 15-percent oxygen<br>lb/hr | 15<br>175.3  |
| SO <sub>2</sub>                             | ppmvd at 15-percent oxygen<br>lb/hr | 2.23<br>17.7 |
| CO                                          | ppmvd at 15-percent oxygen<br>lb/hr | 6.33<br>50.2 |
| VOC                                         | ppmvd at 15-percent oxygen<br>lb/hr | 1.3<br>4.9   |
| PM <sub>10</sub> /PM <sub>2.5</sub> (total) | lb/hr                               | 22.2         |
| PM (filterable only)                        | lb/hr                               | 10.5         |
| H <sub>2</sub> SO <sub>4</sub> mist         | lb/hr                               | 2.6          |

\*Maximum rates for all operating cases.

Sources: Burns & McDonnell, 2014.  
ECT, 2014.

14 operating scenarios. The highest hourly emissions rate for each pollutant is identified, taking into account load, ambient temperature, and duct firing for use in calculating potential annual emissions. Maximum hourly emissions rates for all pollutants, in units of pounds per hour (lb/hr), are projected to occur for operations at low ambient temperature, CTG base load, and HRSG duct burner firing. Appendix B provides the basis for these emissions rates.

Table 2-2 summarizes the CCC Project potential annual emissions based on the worst-case operating scenario.

Maximum emissions of hazardous air pollutants (HAPs) are presented in Table B-16. These HAP emissions estimates were based on emissions factors obtained from AP-42, Section 3.1, dated April 2000, and other EPA data, for the CTGs; and AP-42, Section 1.4, dated July 1998, for the duct burners.

## **2.4 PROJECT FUELS**

Key factors in DEF's decision to select a natural gas-fired combined cycle CTG facility to meet its future power needs were the exclusive use of clean fuels, fuel costs, and use of proven technology. Use of natural gas will enable DEF to take full advantage of competitive fuel pricing and availability opportunities and transportation options in the future marketplace to provide low-cost, reliable electricity to its customers.

ULSD fuel oil will also be fired in the new emergency generator diesel engine and the emergency firewater pump.

The Project will fire natural gas exclusively in the CTGs and HRSG duct burners, as well as the auxiliary boiler and the fuel gas dew point heaters. Table 2-3 presents the typical composition of pipeline-quality natural gas in Florida.

The Project will fire ULSD fuel oil exclusively in the new emergency generator diesel engine and the new emergency firewater pump engine. Table 2-4 presents the typical composition of ULSD fuel oil. The ULSD fuel oil will have a maximum sulfur content of 0.0015 weight percent.

Table 2-2. Project Potential Annual Emissions Rate Summary (Including Startup and Shutdown Emissions for All Pollutants)

| Criteria Pollutant                  | Annual Emissions Rates (tpy) |                   |                   |                          |                               |                      |                           |                 |
|-------------------------------------|------------------------------|-------------------|-------------------|--------------------------|-------------------------------|----------------------|---------------------------|-----------------|
|                                     | CT/HRSG Units*†              | Cooling Tower (2) | Auxiliary Boiler‡ | Generator IC Engine (2)§ | Firewater Pump IC Engine (1)§ | Fuel Gas Heater (2)¶ | Chiller Cooling Tower (2) | Facility Totals |
| NO <sub>x</sub>                     | 2,672.0                      | N/A               | 21.2              | 8.17                     | 0.67                          | 9.49                 | N/A                       | 2,711.6         |
| CO                                  | 1,581.6                      | N/A               | 17.8              | 6.39                     | 0.82                          | 7.97                 | N/A                       | 1,614.6         |
| VOC                                 | 260.0                        | N/A               | 1.2               | 3.50                     | 0.29                          | 0.52                 | N/A                       | 265.5           |
| SO <sub>2</sub>                     | 270.5                        | N/A               | 0.1               | 0.00                     | 0.14                          | 0.06                 | N/A                       | 270.8           |
| PM                                  | 143.6                        | 131.8             | 1.6               | 0.37                     | 0.05                          | 0.72                 | 0.39                      | 278.6           |
| PM <sub>10</sub>                    | 322.3                        | 0.9               | 1.6               | 0.37                     | 0.05                          | 0.72                 | 0.20                      | 326.2           |
| PM <sub>2.5</sub>                   | 322.3                        | 0.9               | 1.6               | 0.37                     | 0.05                          | 0.72                 | 0.20                      | 326.2           |
| Lead                                | 2.32E-02                     | N/A               | 1.04E-07          | Negligible               | Negligible                    | 0.0                  | N/A                       | 2.32E-02        |
| H <sub>2</sub> SO <sub>4</sub> mist | 40.4                         | N/A               | Negligible        | Negligible               | Negligible                    | Negligible           | N/A                       | 40.4            |
| GHG (as CO <sub>2</sub> e)          | 5,600,070                    | N/A               | 25,302            | 2,242                    | 78                            | 11,482               | N/A                       | 5,639,174       |

Note: N/A = not applicable.

\*CT/HRSG annual emissions based on 15 ppmvd at 15-percent NO<sub>x</sub>.

†CT/HRSG annual emissions based on 4,000-hr/yr duct burner firing.

Startup/shutdown emissions have been included for all pollutants.

‡Auxiliary boiler annual emissions based on 2,000 hr/yr.

§Generator and firewater pump engine annual emissions based on 500 hr/yr.

¶Fuel gas heater annual emissions based on 8,760 hr/yr.

Source: ECT, 2014.



Table 2-3. Typical Natural Gas Composition

| Gas Composition                           | Mole Percent (by volume)     |
|-------------------------------------------|------------------------------|
| Pentane (C <sub>5</sub> H <sub>12</sub> ) | 0.007 to 0.030               |
| Propane (C <sub>3</sub> H <sub>8</sub> )  | 0.16 to 0.30                 |
| Butane (C <sub>4</sub> H <sub>10</sub> )  | 0.011 to 0.017               |
| Hexane (C <sub>6</sub> H <sub>14</sub> )  | 0.03                         |
| Nitrogen (N <sub>2</sub> )                | 0.27 to 0.45                 |
| Methane (CH <sub>4</sub> )                | 96.0 to 97.0                 |
| Carbon dioxide (CO <sub>2</sub> )         | 0.44 to 0.88                 |
| Ethane (C <sub>2</sub> H <sub>6</sub> )   | 1.6 to 2.6                   |
| Heptane (C <sub>7</sub> H <sub>16</sub> ) | 0.01                         |
| Other characteristics                     |                              |
| Heat content (HHV)                        | 22,600 Btu/lb; 1,020 Btu/scf |
| Sulfur content                            | 2.0 gr/100 scf*              |
| Water vapor (H <sub>2</sub> O)            | 0.6 lb/MMscf                 |

Note:      Btu/lb = British thermal unit per pound.  
              Btu/scf = British thermal unit per standard cubic foot.  
 gr/100 scf = grain per 100 standard cubic feet.  
              HHV = higher heating value.  
 lb/MMscf = pound per million standard cubic feet.

\*FDEP-recommended maximum value for air permitting purposes.

Sources: DEF, 2014.  
 ECT, 2014.

Table 2-4. Typical ULSD Composition

| Component                            | Maximum               |
|--------------------------------------|-----------------------|
| Carbon residue on 10-percent bottoms | 0.25 weight percent   |
| Water and sediment                   | 0.50 percent volume   |
| Vanadium                             | 1.5 ppm               |
| Calcium                              | 4.0 ppm               |
| Sulfur                               | 0.0015 weight percent |
| Ash                                  | 100 ppm               |
| Lead                                 | 1.0 ppm               |
| Heat content (HHV) (minimum)         | 130,000 Btu/gal       |

Note: Btu/gal = British thermal unit per gallon.

HHV = higher heating value.

ppm = part per million.

Source: ECT, 2014.

### **3.0 NEW SOURCE REVIEW ANALYSIS**

#### **3.1 NATIONAL AND STATE AMBIENT AIR QUALITY STANDARDS**

As a result of the 1977 Clean Air Act (CAA) Amendments (1990), EPA has enacted primary and secondary national ambient air quality standards (NAAQS) for six air pollutants (Title 40, Part 50, Code of Federal Regulations [CFR]). Primary NAAQS are intended to protect the public health, and secondary NAAQS are intended to protect the public welfare from any known or anticipated adverse effects associated with the presence of pollutants in the ambient air. Florida has adopted the federal NAAQS by reference in Rule 62-204.800(1), Florida Administrative Code (F.A.C.) Table 3-1 presents the current NAAQS.

Areas of the country in violation of NAAQS are designated as nonattainment areas, and new sources to be located in or near these areas may be subject to more stringent air permitting requirements. The CCC Project is located in Citrus County approximately 4 miles northwest of the city of Crystal River. Citrus County is presently designated in 40 CFR 81.310 as better than national standards for total suspended particulates (TSPs) and SO<sub>2</sub>; unclassifiable/attainment for NO<sub>2</sub>, CO, 8-hour ozone, PM<sub>2.5</sub>, and lead. Citrus County is designated attainment for ozone, SO<sub>2</sub>, CO, and NO<sub>2</sub> and unclassifiable for PM<sub>10</sub> and lead by Section 62-204.340, F.A.C.

#### **3.2 NONATTAINMENT NSR APPLICABILITY**

The CCC Project Site is located in Citrus County. As noted previously, Citrus County is presently designated as either better than national standards or unclassifiable/attainment for all criteria pollutants. Accordingly, the CCC Project is not subject to the nonattainment NSR requirements of Section 62-212.500, F.A.C.

Section 62-212.400, F.A.C., contains the preconstruction review requirements for PSD applicability. The following subsections describe the PSD applicability review for the CCC Project.

Table 3-1. National Ambient Air Quality Standards

| Pollutant<br>(units)                   | Averaging<br>Periods             | National Standards |           |
|----------------------------------------|----------------------------------|--------------------|-----------|
|                                        |                                  | Primary            | Secondary |
| SO <sub>2</sub> (ppb)                  | 1-hour*                          | 75                 |           |
|                                        | 3-hour†                          |                    | 500       |
|                                        | 24-hour†                         | 140                |           |
|                                        | Annual‡                          | 30                 | 20        |
| PM <sub>10</sub> (µg/m <sup>3</sup> )  | 24-hour§                         | 150                | 150       |
| PM <sub>2.5</sub> (µg/m <sup>3</sup> ) | 24-hour☼                         | 35                 | 35        |
|                                        | Annual**                         | 15                 | 15        |
| CO (ppm)                               | 1-hour†                          | 35                 |           |
|                                        | 8-hour†                          | 9                  |           |
| Ozone (ppm)                            | 1-hour††                         |                    |           |
|                                        | 8-hour‡‡                         | 0.075              | 0.075     |
| NO <sub>2</sub> (ppb)                  | Annual‡                          | 53                 | 53        |
|                                        | 1-hour§§                         | 100                |           |
| Lead (µg/m <sup>3</sup> )              | Calendar quarter arithmetic mean | 1.5                | 1.5       |
|                                        | Rolling quarterly average        | 0.15               | 0.15      |

Note: µg/m<sup>3</sup> = microgram per cubic meter.

ppb = part per billion.

ppm = part per million.

The 1971 annual and 24-hour SO<sub>2</sub> standards were revoked on June 2, 2010. However, these standards remain in effect until one year after an area is designated for the 2010 standard.

\*Compliance shown with three-year average of the 99<sup>th</sup> percentile of the annual distribution of the daily maximum 1-hour average concentrations.

†Not to be exceeded more than once per calendar year. Federal standard has been revoked (Volume 75, Page 35580, Federal Register [FR]) for 24-hour SO<sub>2</sub>.

‡Arithmetic mean. Federal standard has been revoked (75 FR 35580) for SO<sub>2</sub>.

§Standards are attained when expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup>, as determined in accordance with 40 CFR 50, Appendix K, is equal to or less than 1.

☼98<sup>th</sup> percentile concentration, as determined in accordance with 40 CFR 50, Appendix N.

\*\*Arithmetic mean concentration, as determined in accordance with 40 CFR 50, Appendix N.

††Standard attained when the expected number of calendar days per calendar year with maximum hourly average concentrations above the standard is equal to or less than 1, as determined by 40 CFR 50, Appendix H.

‡‡Standard attained when the average of the annual 4<sup>th</sup> highest daily maximum 8-hour average concentrations over a three-year period are less than or equal to the standard, as determined by 40 CFR 50, Appendix P.

§§Compliance shown with 3-year average of the 98<sup>th</sup> percentile of the annual distribution of the daily maximum 1-hour average concentrations.

Sources: 40 CFR 50.

Section 62-204.800(1), F.A.C.

### **3.3 PSD NSR APPLICABILITY - NETTING ANALYSIS**

#### **3.3.1 METHODOLOGY**

The CCC Project as proposed includes construct a 1,640-MW natural gas-fired combined cycle CTG facility to replace the existing CREC coal-fired boilers, Units 1 and 2. To assess PSD NSR applicability for the CCC Project, an actual-to-potential applicability test, or netting analysis, in accordance with Rule 62-212.400(2)(a)(2), F.A.C., was performed to determine the net emissions increase. The actual-to-potential applicability test is used for projects that propose to construct a new emissions unit(s) and permanently shut down an existing emissions unit(s).

*Net emissions increase* is defined in Rule 62-210.200(189)(a), F.A.C., in part, as:

- (a) With respect to any PSD pollutant emitted by a major stationary source, the amount by which the sum of the following exceeds zero (0):
  - 1. The increase in emissions from a particular physical change or change in the method of operation as calculated pursuant to paragraph 62-212.400(2)(a), F.A.C.; and
  - 2. Any other increases or decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are creditable. Baseline actual emissions for calculating increases and decreases under this subparagraph shall be determined as provided in the definition of “baseline actual emissions,” except paragraphs (a)3. and (a)4. of such definition shall not apply.

Table 3-2 presents the results of the baseline actual emissions-to-potential emissions applicability test. As shown in Table 3-2, the results of this netting analysis demonstrate that the CCC Project will not have a significant net emissions increase of any PSD pollutant and, therefore, does not trigger PSD applicability.

Table 3-2. CCC Project Net Emissions Increase Compared to PSD SERs

| Pollutant                                                                                                                                                                                 | Project Net Emissions Increase (tpy) | PSD SER (tpy)        | PSD Applicability |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------|-------------------|
| CO                                                                                                                                                                                        | -3,148                               | 100                  | No                |
| NO <sub>x</sub>                                                                                                                                                                           | -3,747                               | 40                   | No                |
| SO <sub>2</sub>                                                                                                                                                                           | -28,897                              | 40                   | No                |
| PM (filterable)                                                                                                                                                                           | -562                                 | 25                   | No                |
| PM <sub>10</sub> (filterable and condensable)                                                                                                                                             | -1,766                               | 15                   | No                |
| PM <sub>2.5</sub> (filterable and condensable)                                                                                                                                            | -1,439                               | 10                   | No                |
| Ozone/VOC                                                                                                                                                                                 | 14                                   | 40                   | No                |
| Lead                                                                                                                                                                                      | -0.38                                | 0.6                  | No                |
| Fluorides                                                                                                                                                                                 | Not present                          | 3                    | No                |
| H <sub>2</sub> SO <sub>4</sub> mist                                                                                                                                                       | -49                                  | 7                    | No                |
| Hydrogen sulfide                                                                                                                                                                          | Not present                          | 10                   | No                |
| Total reduced sulfur (including hydrogen sulfide)                                                                                                                                         | Not present                          | 10                   | No                |
| Reduced sulfur compounds (including hydrogen sulfide)                                                                                                                                     | Not present                          | 10                   | No                |
| Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)                                                                | Not present                          | $3.5 \times 10^{-6}$ | No                |
| Municipal waste combustor metals (measured as PM)                                                                                                                                         | Not present                          | 15                   | No                |
| Municipal waste combustor acid gases (measured as SO <sub>2</sub> and hydrogen chloride)                                                                                                  | Not present                          | 40                   | No                |
| Municipal solid waste landfills emissions (measured as nonmethane organic compounds)                                                                                                      | Not present                          | 50                   | No                |
| Mercury                                                                                                                                                                                   | -0.07                                | 0.1                  | No                |
| For the pollutants listed above, and for major stationary sources locating within 10 km of a Class I area having an impact equal to or greater than 1 µg/m <sup>3</sup> , 24-hour average | Not applicable                       | Any amount           | No                |
| GHGs (as CO <sub>2</sub> e)                                                                                                                                                               | 1,766,553                            | —                    | No*               |

\*Based on Util. Air Regulatory Grp. v. EPA, No. 12-1146 ( June 23, 2014).

Sources: Rule 62-210.200(258), F.A.C.  
 Burns & McDonnell, 2014.  
 DEF, 2014.  
 ECT, 2014.

### 3.3.2 BASELINE ACTUAL EMISSIONS – CREC UNITS 1 AND 2

*Baseline actual emissions* is defined in Rule 62-210.200(28), F.A.C., in part, as:

The rate of emissions, in tons per year, of a PSD pollutant, as follows:

- (a) For any existing electric utility steam generating unit, baseline actual emissions means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding the date a complete permit application is received by the Department . . .

Furthermore, Rule 62-210.200(28)(a)(3), F.A.C., states:

For a PSD pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period can be used for each PSD pollutant.

For NO<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub>, baseline actual emissions were calculated based on reported emissions data obtained from EPA's Clean Air Market Division (CAMD) database. These reported monthly emissions were based on continuous emissions monitoring system (CEMS) data reported under EPA's Acid Rain Program (ARP) and include emissions during periods of startup and shutdown. Emissions data was obtained for the five-year period from August 2009 through July 2014, as this represents the five-year period immediately preceding the date a complete permit application is received by FDEP.

Tables B-3, B-4, and B-5 in Appendix B present the five highest average annual 24-month periods for baseline actual emissions of NO<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub>, respectively. As shown, the highest average annual 24-month period is the period from August 2009 to July 2011 for all three pollutants. While this period did not represent the highest baseline actual emissions period for Units 1 and 2 individually, this period was selected as both units must use the same 24-month period for each pollutant.

As shown in Table B-3 in Appendix B, the NO<sub>x</sub> baseline actual emissions for Units 1 and 2 were 6,459 tpy. As shown in Table B-4, the SO<sub>2</sub> baseline actual emissions for Units 1 and 2 were 28,878 tpy. As shown in Table B-5, the CO<sub>2</sub> baseline actual emissions for Units 1 and 2 were 3,872,096 tpy.

To obtain baseline actual emissions for CO<sub>2</sub>e, methane and nitrous oxide emissions were calculated based on the actual reported monthly heat input (MMBtu per month), obtained from EPA's CAMD. The highest annual heat rate, averaged over any 24-month period, was calculated and multiplied by the corresponding emissions factor obtained from the Mandatory GHG Reporting Rule, 40 CFR 98. Table B-6 in Appendix B presents the calculations for methane and nitrous oxide emissions. The same 24-month period, August 2009 through July 2011, was used for calculating methane and nitrous oxide baseline actual emissions as was used to calculate the CO<sub>2</sub> baseline actual emissions.

Actual emissions for VOC, PM, PM<sub>10</sub>, PM<sub>2.5</sub>, condensable PM and lead were obtained from annual operating reports for the years 2009 through 2013. Tables B-7 and B-8 in Appendix B present these emissions for Units 1 and 2, respectively. Since PM does not include condensables, the PM baseline actual emissions only include those reported as PM in the annual operating reports. PM<sub>10</sub> and PM<sub>2.5</sub> emissions include both filterable and condensable. Therefore, reported emissions for condensable PM must be added to the reported emissions for PM<sub>10</sub> and PM<sub>2.5</sub> to include both the filterable and condensable portion.

These reported emissions were based on the total fuel combusted and AP-42 emissions factors and, therefore, do not include emissions during periods of startup and shutdown. The only baseline actual emissions that include emissions during periods of startup and shutdown are NO<sub>x</sub>, SO<sub>2</sub>, and CO<sub>2</sub>, because these emissions were actually recorded by a CEMS.

Actual emissions for H<sub>2</sub>SO<sub>4</sub> mist were calculated based on the actual reported SO<sub>2</sub> emissions for the five-year period of August 2009 through July 2011. Table B-9 in Appen-



dix B presents the baseline actual H<sub>2</sub>SO<sub>4</sub> mist emissions, which are also summarized in Tables B-7 and B-8.

Actual emissions for mercury were calculated based on the actual reported tons of coal consumed and the gallons of fuel oil consumed for each calendar year. Table B-10 presents the actual mercury emissions for 2009 through 2013 based on emissions factors obtained from AP-42. Baseline actual emissions were calculated based on the period 2009 through 2010 and are also summarized in Tables B-7 and B-8.

Actual emissions for CO were reported for both Units 1 and 2 in the annual operating reports for 2009 through 2013. These reported actual CO emissions were based on an emissions factor of 0.5 pound of CO per ton of bituminous coal burned (AP-42, Table 1.1-3, September 1998), which is equivalent to 0.02 pound per million British thermal units (lb/MMBtu).<sup>2</sup> This emissions factor used to report actual CO emissions for Units 1 and 2 is extremely low for boilers that are equipped or retrofit with low-NO<sub>x</sub> burners.

While the primary function of low-NO<sub>x</sub> burners is to provide some form of staged combustion to reduce NO<sub>x</sub> emissions, the resulting effect is that CO emissions tend to increase. Environmental Consulting & Technology, Inc. (ECT), reviewed several documents, including a recent permitting determination where Oklahoma Gas & Electric Company retrofitted Units 1 and 2 at their Sooner Generating Station with low-NO<sub>x</sub> burners and overfire air. Oklahoma Department of Environmental Quality stated in their technical evaluation that staged combustion through the installation of low-NO<sub>x</sub> burners provides lower combustion temperatures, which, in turn, results in higher CO emissions.

Units 1 and 2 at the Sooner Generating Station used the 0.5 pound per ton (lb/ton) coal AP-42 emissions factor for reporting purposes prior to the installation of the low-NO<sub>x</sub> burners and overfire air system. The Oklahoma Department of Environmental Quality determined that an emissions factor of 0.37 lb/MMBtu, based on manufacturer data, was more representative of the actual CO emissions after installation of the low-NO<sub>x</sub> burners

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<sup>2</sup> Based on the reported heat content of the coal of 23.95 million British thermal units per ton.

and overfire air system. In support of this determination, a review of EPA's Reasonably Available Control Technology (RACT)/BACT/Lowest Achievable Emission Rate (LAER) Clearinghouse (RBLC) database was conducted for permitted CO emissions limits for coal-fired boilers with originally equipped or retrofit with low-NO<sub>x</sub> burners. There were 22 facilities identified with CO permit limits ranging from 0.15 to 0.50 lb/MMBtu, with a mean CO permit limit of 0.28 lb/MMBtu. Lakeland Electric McIntosh Unit 3 is a similar sized boiler, 364 MW, to CREC Units 1 and 2 and has a CO permit limit of 0.20 lb/MMBtu.

The CO emissions used as the baseline actual emissions for this netting analysis were based on a CO emissions factor of 0.20 lb/MMBtu. This emissions factor and resulting CO emissions are more representative of actual CO emissions for a coal-fired boiler equipped with low-NO<sub>x</sub> burners than those calculated using the AP-42 emissions factor. Actual measured heat input (million British thermal units per year) was obtained for the CAMD database for CREC Units 1 and 2. The highest annual heat input for any 24-month average over the past five years was calculated and presented in Table B-10 in Appendix B. The resultant CO emissions are also presented in Table B-10 and are the baseline actual CO emissions for Units 1 and 2.

### **3.3.3 POTENTIAL EMISSIONS—CCC PROJECT**

Potential annual emissions for the proposed CCC Project were calculated based on maximum hourly emissions rates and potential annual hours of operation for each emissions source. Maximum hourly emissions rates for the CTG/HRSG are presented in Table B-12 in Appendix B and include hourly emissions for three different ambient air temperatures and three different loads. Table B-12 also contains emissions duct firing at three different ambient air temperatures and the potential inlet chilling at the mid and high ambient air temperature cases.

Table 3-3 presents potential annual hours of operation for the proposed emissions units.

Table 3-3. CCC Project Potential Annual Hours of Operation

| Emissions Unit                            | Potential Annual<br>Hours of Operation<br>(hr/yr) |
|-------------------------------------------|---------------------------------------------------|
| CTGs                                      | 8,760                                             |
| HRSGs                                     | 4,000                                             |
| Auxiliary boiler                          | 2,000                                             |
| Fuel gas dew point heater                 | 8,760                                             |
| Cooling towers                            | 8,760                                             |
| Inlet chiller cooling tower (potentially) | 8,760                                             |
| Emergency diesel generators               | 500                                               |
| Emergency diesel fire pump                | 500                                               |

Source: DEF, 2014.

Potential annual air emissions for the CT/HRSGs were calculated based on three different annual operating profiles. Annual operating profile #1 considered all 8,760 hr/yr of operation to be at the mid ambient air temperature of 68.6 degrees Fahrenheit (°F) with 4,000 hr/yr of duct burner firing. Table B-13 in Appendix B presents these potential annual emissions.

Annual operating profile #2 considered 1,000 hr/yr at the low ambient air temperature of 17.2°F and 2,000 hr/yr at the high ambient air temperature of 91.4°F. The remaining hours of operation were assumed to be at the mid ambient air temperature. The 4,000 hr/yr of duct firing was equally split between the mid and the high ambient air temperature cases. Table B-14 in Appendix B provides the potential annual emissions for operating profile #2.

Annual operating profile #3 is identical to annual operating profile #2 but includes emissions during periods of startup and shutdown. A startup is defined as the operation period beginning when continuous fuel flow to the gas turbine is initiated and ending when stack emissions compliance is achieved. A cold startup is defined as a startup in which the turbine has not been operational for the preceding 72 hours or more. A hot startup is defined as a startup in which the turbine has not been operational for 8 hours or less. A warm startup is defined as any startup that is neither a cold startup or a hot startup. A shutdown is defined as the operation period beginning when the turbine load is reduced and stack emissions compliance is not achieved and ending when fuel flow is discontinued to the gas turbine.

The CCC Project has assumed 6 cold startups, 15 warm startups, 174 hot startups, and 195 shutdowns per year. Emissions during periods of cold, warm, and hot startups and shutdowns have been provided by the turbine manufacturer. These emissions are provided in units of pounds per event. The durations, in minutes, for each startup and shutdown mode, are also provided by the turbine manufacturer. Table B-15 in Appendix B provides the potential annual emissions for operating profile #3.

Tables B-22 through B-29 in Appendix B present potential annual emissions for the ancillary equipment such as the auxiliary boiler, fuel gas dew point heaters, emergency diesel generators, emergency diesel fire pump, and cooling towers.

Table B-17 presents the potential emissions for the entire CCC Project that are used in the PSD netting analysis. As discussed in Section 3.3.2, the baseline actual emissions used in the netting analysis only included startup and shutdown emissions for NO<sub>x</sub> and SO<sub>2</sub>. NO<sub>x</sub> and SO<sub>2</sub> were the only pollutants that included startup and shutdown emissions, because the actual emissions were obtained from EPA CAMD database and were based on actual emissions measured by a CEMS. These actual emissions capture emissions during all operating periods, including periods of startup and shutdown. The potential emissions for all other pollutants presented in Table B-17 do not include emissions during startup and shutdown. These potential emissions must only be used for purposes of conducting the PSD netting analysis.

Table B-18 provides potential emissions for the entire CCC Project that include emissions during periods of startup and shutdown for all pollutants.

### **3.3.4 GREENHOUSE GAS EMISSIONS**

Rule 62-210.200(174), F.A.C., defines a *major* stationary source to include, “a stationary source that emits, or has the potential to emit, more than 250 tpy of any PSD pollutant” or more than 100 tpy for any of the 28 listed source categories. One of the 28 source categories is fossil fuel-fired steam electric plants of more than 250 MMBtu/hr heat input. Since the CCC Project is considered a fossil fuel-fired steam electric plant of more than 250 MMBtu/hr heat input, the PSD applicability threshold is 100 tpy.

On June 3, 2010, EPA issued a final rule that “tailors” the applicability provisions of the PSD program to allow EPA and states to phase in permitting requirements for GHG emissions. This final rule is more commonly known as the “Tailoring Rule.” The Tailoring Rule established PSD applicability for GHG emissions for a new stationary source to be 100,000 tpy, measured as CO<sub>2</sub>e.

Table B-21 in Appendix B provides potential GHG emissions, expressed as CO<sub>2</sub>e, for the entire CCC Project. These potential GHG emissions were calculated based on the heat input (MMBtu/hr) to the CTG at base load obtained from manufacturer's data and emissions factors for natural gas combustion from the Mandatory GHG Reporting Rule contained in 40 CFR 68. These potential GHG emissions were used with the baseline actual emissions in the netting analysis as shown in Table B-1. The result is that the net increase in GHG emissions is calculated to be 1,766,553 tpy.

On June 23, 2014, the Supreme Court of the United States issued a decision with respect to GHG applicability to the PSD program as well as the Title V operating permit program. The decision stated that, "EPA exceeded its statutory authority when it interpreted the Clean Air Act to require PSD and Title V permitting for stationary sources based on their greenhouse gas emissions. Specifically, the Agency may not treat greenhouse gases as a pollutant for purposes of defining a 'major emitting facility' (or a 'modification' thereof) in the PSD context or a 'major source' in the Title V context" (Util. Air Regulatory Grp. v. EPA, Case No. 12-1146, Slip Op. at 29 [June 23, 2014]).

The decision goes on further to state that, "EPA may, however, continue to treat greenhouse gases as a 'pollutant subject to regulation under this chapter' for purposes of requiring BACT for 'anyway' sources." An "anyway" source is defined as a source that would be subject to PSD applicability "anyway" due to PSD applicability of another PSD pollutant (Id).

The CCC project is not considered an "anyway" source, because the net emissions increase of all other PSD pollutants is below their respective SERs. Therefore, based on the U.S. Supreme Court's decision, the CCC Project, including its GHG emissions, is not subject to PSD applicability or BACT review.

### **3.4 HAP REQUIREMENTS**

Florida relies on the requirements of the CAA with respect to the regulation of HAPs (also known as toxic air pollutants). These federal requirements include a comprehensive set of technology-based emissions standards referred to as National Emission Standards

for Hazardous Air Pollutants (NESHAPs). These standards establish HAP emissions limitations for a wide variety of industrial source categories. Recent NESHAPs (i.e., those adopted after the 1990 Amendments to the CAA) reflect maximum achievable control technology (MACT). Section 4.2 provides a discussion of the NESHAPs program and its applicability to the CCC Project.

## **4.0 STATE AND FEDERAL EMISSIONS STANDARDS**

### **4.1 NEW SOURCE PERFORMANCE STANDARDS**

Section 111 of the CAA, Standards of Performance of New Stationary Sources, requires EPA to establish federal emissions standards for source categories that cause or contribute significantly to air pollution. These standards are intended to promote use of the best air pollution control technologies, taking into account the cost of such technology and any other non-air quality, health, and environmental impact and energy requirements. These standards apply to sources that have been constructed or modified since the proposal of the standard. Since December 23, 1971, EPA has promulgated more than 75 standards. The NSPS are codified in 40 CFR 60.

Major components of the CCC Project include four CTG/HRSG units, two 14- or 16-cell mechanical draft cooling tower, two inlet air chiller cooling towers (potentially), one auxiliary boiler, two fuel gas dew point heaters, two emergency generator diesel engines, and one emergency firewater pump diesel engine. NSPSs that are potentially applicable to these Project emissions sources are discussed in the following subsections.

#### **4.1.1 NSPS SUBPART KKKK—STATIONARY COMBUSTION TURBINES**

Subpart KKKK establishes emissions limits for CTG/HRSG units that commenced construction, modification, or reconstruction after February 18, 2005, and have a heat input at peak load equal to greater than 10.7 gigajoules (10 MMBtu/hr) based on the HHV of the fuel. HRSGs and duct burners regulated under Subpart KKKK are exempt from the requirements of NSPS Subparts Da, Db, and Dc.

The affected facility under Subpart KKKK is a *stationary* combustion turbine, which is defined by Subpart KKKK (40 CFR 60.4420) as:

all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), heat recovery system, and any ancillary components and sub-components comprising any simple cycle stationary combustion turbine, any regenerative/recuperative cycle stationary combustion turbine, any combined cycle combustion turbine, and any combined heat and power combustion turbine based system. Stationary means that the combustion



turbine is not self propelled or intended to be propelled while performing its function. It may, however, be mounted on a vehicle for portability.

NSPS Subpart KKKK specifies emissions limitations, monitoring, reporting, and record-keeping requirements for NO<sub>x</sub> and SO<sub>2</sub>. Applicable NSPS Subpart KKKK emissions standards are summarized as follows:

- NO<sub>x</sub>—15 ppmvd at 15-percent oxygen, or 0.43 pound per megawatt-hour (lb/MWh) gross energy output (CTG loads greater than or equal to 75 percent of peak load).
- NO<sub>x</sub>—96 ppmvd at 15-percent oxygen, or 4.7 lb/MWh gross energy output (CTG loads less than 75 percent of peak load).
- SO<sub>2</sub>—0.90 lb/MWh gross energy output, or 0.060 pound per million British thermal units (lb/MMBtu).

The CCC Project CTG/HRSGs will have NO<sub>x</sub> and SO<sub>2</sub> emissions well below the NSPS Subpart KKKK emissions standards and will comply with the applicable monitoring, reporting, and performance test requirements of NSPS Subpart KKKK. On January 8, 2014, EPA proposed a rule that would either revise Subparts Da and KKKK or adopt a new Subpart TTTT to address GHG emissions from new electric utility generating stationary sources. DEF acknowledges the rule will be applicable upon the effective date of the final rule and will comply with same.

#### **4.1.2 NSPS SUBPART IIII—STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES**

NSPS Subpart IIII is applicable to owners and operators of stationary compression ignition (CI) internal combustion engines (ICE) that commence construction after July 11, 2005, where the CI ICE are manufactured after April 1, 2006, and are not fire pump engines or after July 1, 2006, for certified National Fire Protection Association fire pump engines.

NSPS Subpart IIII specifies emissions limitations, monitoring, reporting, and recordkeeping requirements for NO<sub>x</sub>, CO, NMHC, and PM. Applicable NSPS Subpart IIII emissions standards for the Project emergency generator diesel engine are summarized as follows:

- Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emissions standards for new nonroad CI engines in 40 CFR 60.4202 for all pollutants for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.
- Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emissions standards in Table 4 of NSPS Subpart IIII for all pollutants.

The CCC Project emergency generator diesel engines and emergency firewater pump diesel engine will comply with the applicable requirements of NSPS Subpart IIII.

#### **4.2 NATIONAL EMISSIONS STANDARDS FOR HAPs**

Section 112 of the CAA contains the provisions that address the control of HAP emissions, or air toxics. Section 112 includes provisions for the promulgation of NESHAPs, or MACT standards, as well as several related programs to enhance and support the NESHAPs program. Section 112 requires EPA to publish and regularly update (at least every eight years) a list of all categories and subcategories of major and area sources that emit HAPs. The Section 112(c) list of source categories was initially published in the Federal Register (FR) on July 16, 1992, and has been periodically revised thereafter. EPA must promulgate regulations establishing emissions standards (NESHAPs) for each category or subcategory of major sources and area sources of HAPs that are listed pursuant to Section 112(c). The standards must require the maximum degree of emissions reduction that EPA determines to be achievable by each particular source category. Different criteria for MACT apply for new and existing sources. Less stringent standards, known as generally available control technology standards, are allowed at the EPA Administrator's discretion for area sources.

#### **4.2.1 NESHAPs SUBPART DDDDD—NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR MAJOR SOURCES: INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS**

EPA promulgated a final NESHAPs for stationary CTGs (40 CFR 63, Subpart DDDDD) on February 1, 2013. Pursuant to 40 CFR 63.7485, the auxiliary boiler and fuel gas dew point heater are subject to Subpart DDDDD.

According to 40 CFR 63.7500(e), the auxiliary boiler and fuel gas dew point heater are not subject to the emissions limits in Tables 1, 2, or 11 through 13 in Subpart DDDDD. The auxiliary boiler and fuel gas dew point heater are required to conduct an annual tune-up as specified in 40 CFR 63.7540(a)(10).

#### **4.2.2 NESHAPs SUBPART ZZZZ—RECIPROCATING INTERNAL COMBUSTION ENGINES**

The source category list presently includes stationary reciprocating internal combustion engines (RICE). As required in Section 112 of the CAA, EPA promulgated a final NESHAPs for stationary RICE (40 CFR 63, Subpart ZZZZ) on June 15, 2004. Subpart ZZZZ was subsequently amended on March 3, 2010, to address CI RICE located at area HAP sources.

Pursuant to 40 CFR 63.6590(b)(1)(i), new stationary RICE with a site rating of more than 500 brake-horsepower located at a major source does not have to meet the requirements of this subpart or of Subpart A of this part except for the initial notification requirements of 40 CFR 63.6645(f). Therefore, the emergency generator diesel engine and emergency firewater pump diesel engine are not subject to Subpart ZZZZ.

#### **4.2.3 NESHAPs SUBPART YYYY—STATIONARY COMBUSTION TURBINES**

EPA promulgated a final NESHAPs for stationary CTGs (40 CFR 63, Subpart YYYY) on March 5, 2004. On April 7, 2004, EPA proposed to delete lean premix gas-fired stationary CTGs, diffusion flame gas-fired CTGs, emergency CTGs, and stationary CTGs located on the North Slope of Alaska from the Section 112(c) list of HAP source categories. On August 18, 2004, EPA stayed the effectiveness of two Subpart YYYY subcate-

gories: lean premix and diffusion flame gas-fired turbines. This stay is still currently in effect.

### **4.3 ACID RAIN PROGRAM**

The overall goal of EPA's ARP is to achieve significant environmental and public health benefits through reductions in emissions of SO<sub>2</sub> and NO<sub>x</sub>, the primary causes of acid rain. To achieve this goal at the lowest cost to society, the program employs both traditional and innovative, market-based approaches for controlling air pollution. In addition, the program encourages energy efficiency and pollution prevention.

Title IV of the CAA sets a goal of reducing annual SO<sub>2</sub> emissions by 10 million tons below 1980 levels. To achieve these reductions, the law required a two-phase tightening of the restrictions placed on fossil fuel-fired power plants. Phase I began in 1995 and affected 263 units at 110 mostly coal-burning electric utility plants located in 21 eastern and midwestern states. An additional 182 units joined Phase I of the program as substitution or compensating units, bringing the total of Phase I-affected units to 445. Phase II, which began in the year 2000, tightened the annual emissions limits imposed on these large, higher emitting plants and also set restrictions on smaller, cleaner plants fired by coal, oil, and gas, encompassing more than 2,000 units in all. The program affects existing utility units serving generators with an output capacity of greater than 25 MW and all new utility units.

For SO<sub>2</sub>, the ARP introduced an allowance trading system that harnesses the incentives of the free market to reduce pollution. Under this cap-and-trade program, affected existing utility units (i.e., those in operation prior to November 15, 1990) are allocated allowances based on their historical fuel consumption and a specific emissions rate. Each allowance permits a unit to emit 1 ton of SO<sub>2</sub> during or after a specified year. For each ton of SO<sub>2</sub> emitted in a given year, one allowance is retired, that is, it can no longer be used. Allowances may be bought, sold, or banked. Anyone may acquire allowances and participate in the trading system. However, regardless of the number of allowances a source holds, it may not emit at levels that would violate federal or state limits set under Title I of the CAA to protect public health. During Phase II of the program (now in effect), the

CAA set a permanent ceiling (or cap) of 8.95 million allowances for total annual SO<sub>2</sub> allowance allocations to utilities. This cap firmly restricts emissions and ensures that environmental benefits will be achieved and maintained. New utility units (i.e., those that commence operation on and after November 15, 1990) are not allocated any SO<sub>2</sub> allowances and must obtain such allowances annually from the ARP SO<sub>2</sub> allowance market in amounts equal to their actual SO<sub>2</sub> emissions rates.

The CAA also required a 2-million-ton reduction in NO<sub>x</sub> emissions by the year 2000. A significant portion of this reduction has been achieved by coal-fired utility boilers that will be required to install low-NO<sub>x</sub> burner technologies and meet new emissions standards. The ARP NO<sub>x</sub> emissions reduction requirements are only applicable to existing utility units (i.e., those in operation prior to November 15, 1990).

The Project CTG/HRSG units are subject to the ARP, because they are new utility units (i.e., commenced operation after November 15, 1990) and will serve a generator that produces electricity for sale.

#### **4.4 CROSS-STATE AIR POLLUTION RULE**

On August 8, 2011, EPA issued the final Cross-State Air Pollution Rule with an effective date of October 7, 2011. This rule is also referred to as the Transport Rule and replaced the 2005 CAIR. The Cross-State Air Pollution Rule was stayed by the U.S. Court of Appeals, District of Columbia Circuit, on December 30, 2011. On August 21, 2012, the same court vacated the Transport Rule and required EPA to continue to administer CAIR until a replacement Transport Rule is promulgated. On April 29, 2014, the Supreme Court reversed the vacatur and remanded the Cross-State Rule back to the DC Circuit for further proceedings. CAIR remains in effect.

#### **4.5 CLEAN AIR INTERSTATE RULE**

On March 10, 2005, EPA issued the final CAIR. The objective of CAIR is to assist states with PM<sub>2.5</sub> and 8-hour ozone nonattainment areas to achieve attainment by reducing precursor emissions at sources located in 28 states (including Florida) situated upwind of these nonattainment areas. Based on regional dispersion modeling, EPA determined that

these 28 upwind states significantly contribute to PM<sub>2.5</sub> and 8-hour ozone nonattainment in downwind areas.

The CAIR reductions of precursor emissions address annual SO<sub>2</sub> and NO<sub>x</sub> emissions (for reductions in annual and daily average ambient PM<sub>2.5</sub> impacts) and ozone season (May through September) NO<sub>x</sub> emissions (for reductions in 8-hour average ambient ozone impacts). The SO<sub>2</sub> and NO<sub>x</sub> reductions will be implemented by means of a regional two-phase cap-and-trade program. For SO<sub>2</sub>, the first cap begins in calendar year 2010 and extends through 2014. For NO<sub>x</sub>, the first cap begins in calendar year 2009 and also extends through 2014. The second phase cap for both pollutants becomes effective in calendar year 2015 and thereafter. The SO<sub>2</sub> caps will reduce current ARP SO<sub>2</sub> emissions by 50 percent in Phase I and 65 percent in Phase II. The NO<sub>x</sub> caps reflect NO<sub>x</sub> emissions rates of 0.15 and 0.125 lb/MMBtu for the first and second phase caps, respectively.

For each phase cap, CAIR assigns SO<sub>2</sub> and NO<sub>x</sub> emissions budgets (in units of tons per year and tons per ozone season) to each affected upwind state. These state emissions budgets were developed by EPA based on the application of cost-effective control technologies (i.e., FGD) for SO<sub>2</sub> and SCR for NO<sub>x</sub>. The affected states were required to submit revised state implementation plans (SIPs) within 18 months (i.e., by September 11, 2006) for EPA review and approval.

Following SIP approval and allocation of the state SO<sub>2</sub> and NO<sub>x</sub> budgets to individual emissions sources, emissions units at these sources must possess sufficient SO<sub>2</sub> and NO<sub>x</sub> allowances such that actual emissions (as measured by continuing emissions monitoring system) do not exceed the allocations for each control period beginning in 2009 for NO<sub>x</sub> and 2010 for SO<sub>2</sub>. Sources that have actual emissions in excess of their allocation will need to reduce actual emissions rates or purchase additional allowances on the open market. Emissions sources that have surplus allowances may bank the allowances for use in any future control period or sell the surplus allowances on the open market.

Florida's proposed SIP revisions implementing CAIR were submitted to EPA Region 4 on March 16, 2007, for review and approval in accordance with EPA's abbreviated SIP

approval process. Florida's SIP provided details as to the procedures that will be used to allocate the state NO<sub>x</sub> and SO<sub>2</sub> budgets to individual sources. EPA approved Florida's SIP revision regarding CAIR on October 12, 2007.

Florida has adopted EPA's 40 CFR 96 CAIR NO<sub>x</sub> and SO<sub>2</sub> trading programs for SIPs by reference in Section 62-204.800, F.A.C. Florida's implementation of the federal CAIR is set forth at Section 62-296.470, F.A.C. The Florida CAIR program includes emissions trading program requirements for annual SO<sub>2</sub> and NO<sub>x</sub> and ozone season (May 1 through September 30) NO<sub>x</sub>.

#### **4.6 FLORIDA EMISSIONS STANDARDS**

FDEP emissions standards for stationary sources are contained in Chapter 62-296, F.A.C., Stationary Sources, Emissions Standards. General pollutant emissions limit standards are included in Section 62-296.320, F.A.C. Sections 62-296.401 through 62-296.418, F.A.C., specify emissions standards for 18 categories of sources. Section 62-296.470 addresses CAIR requirements. Sections 62-296.500 through 570, F.A.C., establish RACT requirements for VOC- and NO<sub>x</sub>-emitting facilities. RACT requirements for lead and PM are found in Sections 62-296.600 through 605 and 62-296.700 through 712, F.A.C., respectively. Section 62-204.800, F.A.C., adopts federal regulations, including NSPS, by reference.

With respect to the Project emissions sources, the general Rule 62-296.320(4)(b), F.A.C., visible emissions limitation of 20-percent opacity will apply to all point (i.e., stack) emissions sources. Reasonable precautions to prevent unconfined PM emissions (e.g., feedstock storage piles) will be required pursuant to Rule 62-296.320(4)(c), F.A.C.

Section 62-296.405, F.A.C., Fossil Fuel Steam Generators with More than 250 MMBtu/hr Heat Input, will apply to the CC HRSG duct burners. This section requires compliance with applicable NSPS requirements (e.g., NSPS Subpart Da or Subpart KKKK).

None of the remaining emissions standards specified in Sections 62-296.401 through 418, F.A.C., are applicable to the CCC Project.

NSPS Subparts IIII (for the emergency generator diesel engine) and KKKK (for the four CC units) will be applicable to the Project.

The Project emissions sources will comply with the applicable Florida emissions standards noted herein.



## **APPENDIX A**

### **FDEP APPLICATION FOR AIR PERMIT LONG FORM**



# Department of Environmental Protection

## Division of Air Resource Management

### APPLICATION FOR AIR PERMIT - LONG FORM

#### I. APPLICATION INFORMATION

**Air Construction Permit** – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

**Air Operation Permit** – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

**To ensure accuracy, please see form instructions.**

#### Identification of Facility

|                                                                                                                                                                                                                                            |                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| 1. Facility Owner/Company Name: <b>Duke Energy Florida, Inc. (DEF)</b>                                                                                                                                                                     |                                                                                                                |
| 2. Site Name: <b>Citrus Combined Cycle (CCC) Project</b>                                                                                                                                                                                   |                                                                                                                |
| 3. Facility Identification Number: <b>0170004</b>                                                                                                                                                                                          |                                                                                                                |
| 4. Facility Location...<br>Street Address or Other Locator: <b>North of Crystal River, west of U.S. 19, east of<br/>Crystal River Energy Center (CREC)</b><br>City: <b>Crystal River</b> County: <b>Citrus</b> Zip Code: <b>34428-6708</b> |                                                                                                                |
| 5. Relocatable Facility?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                            | 6. Existing Title V Permitted Facility?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

#### Application Contact

|                                                                                                                                                                                                                                          |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Application Contact Name: <b>John (Jamie) Hunter</b>                                                                                                                                                                                  |  |
| 2. Application Contact Mailing Address...<br>Organization/Firm: <b>Duke Energy Florida, Inc.</b><br>Street Address: <b>299 First Avenue North, Floor 903</b><br>City: <b>St. Petersburg</b> State: <b>Florida</b> Zip Code: <b>33701</b> |  |
| 3. Application Contact Telephone Numbers...<br>Telephone: <b>(727) 820 – 5764</b> ext. Fax: ( ) -                                                                                                                                        |  |
| 4. Application Contact E-mail Address: <b>john.hunter@duke-energy.com</b>                                                                                                                                                                |  |

#### Application Processing Information (DEP Use)

|                                    |                                   |
|------------------------------------|-----------------------------------|
| 1. Date of Receipt of Application: | 3. PSD Number (if applicable):    |
| 2. Project Number(s):              | 4. Siting Number (if applicable): |

## APPLICATION INFORMATION

### Purpose of Application

**This application for air permit is being submitted to obtain: (Check one)**

#### **Air Construction Permit**

- ☒ Air construction permit.
- ☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).
- ☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

#### **Air Operation Permit**

- ☐ Initial Title V air operation permit.
- ☐ Title V air operation permit revision.
- ☐ Title V air operation permit renewal.
- ☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
- ☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

#### **Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)**

- ☐ Air construction permit and Title V permit revision, incorporating the proposed project.
- ☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

**Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:**

- ☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

### Application Comment

**DEF's proposed CCC Project will involve the construction and operation of a new nominal 1,640-megawatt (MW) electric generating power plant and directly associated facilities on an approximately 400-acre Site in Citrus County. The Site is located adjacent to the eastern property boundary of DEF's existing CREC and adjacent to the north of the DEF-owned approximately 1,330-foot-wide transmission line and road corridor running east from CREC. The power plant will consist of four Mitsubishi 501GAC combustion turbines (CTs) with heat recovery steam generators (HRSGs) and two steam turbines arranged in a two-on-one configuration. Each power block will be rated for a nominal 820 MW. Construction activities for the Project are scheduled to begin in February 2016, and commercial operation is scheduled for May 2018 for the first power block and December 2018 for the second power block.**

## APPLICATION INFORMATION

### Scope of Application

| Emissions Unit ID Number | Description of Emissions Unit       | Air Permit Type | Air Permit Processing Fee |
|--------------------------|-------------------------------------|-----------------|---------------------------|
| <b>Not applicable</b>    | <b>CTs/HRSGs</b>                    | <b>AC1B</b>     | <b>Not applicable</b>     |
| <b>Not applicable</b>    | <b>Auxiliary boiler</b>             | <b>AC1E</b>     | <b>Not applicable</b>     |
| <b>Not applicable</b>    | <b>Emergency generator</b>          | <b>AC1E</b>     | <b>Not applicable</b>     |
| <b>Not applicable</b>    | <b>Emergency firewater pump</b>     | <b>AC1F</b>     | <b>Not applicable</b>     |
| <b>Not applicable</b>    | <b>Fuel gas dew point heater</b>    | <b>AC1E</b>     | <b>Not applicable</b>     |
| <b>Not applicable</b>    | <b>Cooling towers</b>               | <b>AC1B</b>     | <b>Not applicable</b>     |
| <b>Not applicable</b>    | <b>Inlet chiller cooling towers</b> | <b>AC1F</b>     | <b>Not applicable</b>     |
|                          |                                     |                 |                           |
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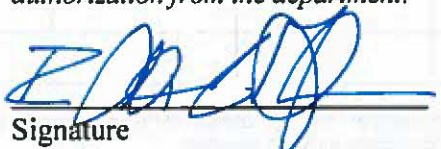
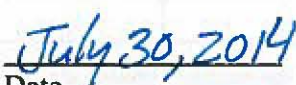
### Application Processing Fee

Check one: ☐ Attached - Amount: \$\_\_\_\_\_ ☒ Not Applicable

## APPLICATION INFORMATION

### Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Owner/Authorized Representative Name :<br><b>R. Alexander Glenn</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2. Owner/Authorized Representative Mailing Address...<br>Organization/Firm: <b>Duke Energy Florida, Inc.</b><br>Street Address: <b>299 First Avenue North</b><br>City: <b>St. Petersburg</b> State: <b>Florida</b> Zip Code: <b>33701</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3. Owner/Authorized Representative Telephone Numbers...<br>Telephone: <b>(727) 820 - 5657</b> ext. Fax: <b>( ) -</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4. Owner/Authorized Representative E-mail Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5. Owner/Authorized Representative Statement:<br><i>I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.</i><br><br><br>Signature<br><br><br>Date |

## APPLICATION INFORMATION

### Application Responsible Official Certification

**Not Applicable**

**Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the “application responsible official” need not be the “primary responsible official.”**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Application Responsible Official Name:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):<br><input type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.<br><input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively.<br><input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.<br><input type="checkbox"/> The designated representative at an Acid Rain source or CAIR source.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3. Application Responsible Official Mailing Address...<br>Organization/Firm:<br>Street Address:<br>City: State: Zip Code:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4. Application Responsible Official Telephone Numbers...<br>Telephone: ( ) - ext. Fax: ( ) -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5. Application Responsible Official E-mail Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6. Application Responsible Official Certification:<br><br><i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i><br><br>_____<br>Signature<br><br>_____<br>Date |



## APPLICATION INFORMATION

### Professional Engineer Certification

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Professional Engineer Name: <b>William F. Karl</b><br>Registration Number: <b>67498</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 2. Professional Engineer Mailing Address...<br>Organization/Firm: <b>Environmental Consulting and Technology, Inc.</b><br>Street Address: <b>3701 Northwest 98<sup>th</sup> Street</b><br>City: <b>Gainesville</b> State: <b>Florida</b> Zip Code: <b>32606</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3. Professional Engineer Telephone Numbers...<br>Telephone: <b>(352) 248 – 3313</b> ext. Fax: <b>(352) 332 – 6722</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4. Professional Engineer E-mail Address: <b>bkarl@ectinc.com</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5. Professional Engineer Statement:<br><i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i><br><i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i><br><i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i><br><i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input type="checkbox"/>, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i><br><i>(4) If the purpose of this application is to obtain an air construction permit (check here <input checked="" type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i><br><i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i><br><br><div style="display: flex; justify-content: space-between;"><div>Signature<br/>(seal)</div><div>Date</div></div> |

\* Attach any exception to certification statement.

## II. FACILITY INFORMATION

### A. GENERAL FACILITY INFORMATION

#### Facility Location and Type

|                                                                                                                |                                         |                                                                                                                         |                                    |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 1. Facility UTM Coordinates...<br>Zone <b>17</b> East (km) <b>336.8652924</b><br>North (km) <b>3205.689760</b> |                                         | 2. Facility Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/07.88</b><br>Longitude (DD/MM/SS) <b>-82/40/27.35</b> |                                    |
| 3. Governmental<br>Facility Code:<br><b>O</b>                                                                  | 4. Facility Status<br>Code:<br><b>C</b> | 5. Facility Major<br>Group SIC Code:<br><b>49</b>                                                                       | 6. Facility SIC(s):<br><b>4911</b> |
| 7. Facility Comment :                                                                                          |                                         |                                                                                                                         |                                    |

#### Facility Contact

|                                                                                                                                                                                                                             |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 1. Facility Contact Name:<br><b>C. Wayne Toms</b>                                                                                                                                                                           |  |  |  |
| 2. Facility Contact Mailing Address...<br>Organization/Firm: <b>Duke Energy Florida, Inc.</b><br>Street Address: <b>8564 West Venable Street</b><br>City: <b>Crystal River</b> State: <b>Florida</b> Zip Code: <b>34428</b> |  |  |  |
| 3. Facility Contact Telephone Numbers:<br>Telephone: ( <b>352</b> ) <b>464 – 7751</b> ext. Fax: ( ) -                                                                                                                       |  |  |  |
| 4. Facility Contact E-mail Address: <a href="mailto:cwayne.toms@duke-energy.com">cwayne.toms@duke-energy.com</a>                                                                                                            |  |  |  |

#### Facility Primary Responsible Official

Complete if an “application responsible official” is identified in Section I that is not the facility “primary responsible official.”

|                                                                                                                                |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| 1. Facility Primary Responsible Official Name:                                                                                 |  |  |  |
| 2. Facility Primary Responsible Official Mailing Address...<br>Organization/Firm:<br>Street Address:<br>City: State: Zip Code: |  |  |  |
| 3. Facility Primary Responsible Official Telephone Numbers...<br>Telephone: ( ) - ext. Fax: ( ) -                              |  |  |  |
| 4. Facility Primary Responsible Official E-mail Address:                                                                       |  |  |  |



## FACILITY INFORMATION

### Facility Regulatory Classifications

**Check all that would apply following completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a “major source” and a “synthetic minor source.”**

|                                                                                                                                       |                                  |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| 1. <input type="checkbox"/> Small Business Stationary Source                                                                          | <input type="checkbox"/> Unknown |
| 2. <input type="checkbox"/> Synthetic Non-Title V Source                                                                              |                                  |
| 3. <input checked="" type="checkbox"/> Title V Source                                                                                 |                                  |
| 4. <input checked="" type="checkbox"/> Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)                     |                                  |
| 5. <input type="checkbox"/> Synthetic Minor Source of Air Pollutants, Other than HAPs                                                 |                                  |
| 6. <input checked="" type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)                                                |                                  |
| 7. <input type="checkbox"/> Synthetic Minor Source of HAPs                                                                            |                                  |
| 8. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS (40 CFR Part 60)                                   |                                  |
| 9. <input type="checkbox"/> One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)                               |                                  |
| 10. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)                     |                                  |
| 11. <input type="checkbox"/> Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))                                             |                                  |
| 12. Facility Regulatory Classifications Comment:<br><br><b>Applicable state and federal regulations are discussed in Section 4.0.</b> |                                  |

## FACILITY INFORMATION

### List of Pollutants Emitted by Facility

| 1. Pollutant Emitted                    | 2. Pollutant Classification | 3. Emissions Cap<br>[Y or N]? |
|-----------------------------------------|-----------------------------|-------------------------------|
| <b>PM</b>                               | <b>A</b>                    | <b>No</b>                     |
| <b>PM<sub>10</sub></b>                  | <b>A</b>                    | <b>No</b>                     |
| <b>PM<sub>2.5</sub></b>                 | <b>A</b>                    | <b>No</b>                     |
| <b>NO<sub>x</sub></b>                   | <b>A</b>                    | <b>No</b>                     |
| <b>CO</b>                               | <b>A</b>                    | <b>No</b>                     |
| <b>SO<sub>2</sub></b>                   | <b>A</b>                    | <b>No</b>                     |
| <b>VOC</b>                              | <b>A</b>                    | <b>No</b>                     |
| <b>H<sub>2</sub>SO<sub>4</sub> mist</b> | <b>A</b>                    | <b>No</b>                     |
| <b>Lead</b>                             | <b>B</b>                    | <b>No</b>                     |
|                                         |                             |                               |
|                                         |                             |                               |
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|                                         |                             |                               |

## FACILITY INFORMATION

### B. EMISSIONS CAPS

#### Facility-Wide or Multi-Unit Emissions Caps

**Not Applicable**

| 1. Pollutant Subject to Emissions Cap | 2. Facility-Wide Cap [Y or N]? (all units) | 3. Emissions Unit ID's Under Cap (if not all units) | 4. Hourly Cap (lb/hr) | 5. Annual Cap (ton/yr) | 6. Basis for Emissions Cap |
|---------------------------------------|--------------------------------------------|-----------------------------------------------------|-----------------------|------------------------|----------------------------|
|                                       |                                            |                                                     |                       |                        |                            |
|                                       |                                            |                                                     |                       |                        |                            |
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|                                       |                                            |                                                     |                       |                        |                            |

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

## FACILITY INFORMATION

### C. FACILITY ADDITIONAL INFORMATION

#### **Additional Requirements for All Applications, Except as Otherwise Stated**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b><u>Section 2.0</u></b> <input type="checkbox"/> Previously Submitted, Date: _____                                               |
| 2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b><u>Section 2.0</u></b> <input type="checkbox"/> Previously Submitted, Date: _____                                          |
| 3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b><u>Appendix C</u></b> <input type="checkbox"/> Previously Submitted, Date: _____ |

#### **Additional Requirements for Air Construction Permit Applications**

|                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Area Map Showing Facility Location:<br><input checked="" type="checkbox"/> Attached, Document ID: <b><u>Section 2.0</u></b> <input type="checkbox"/> Not Applicable (existing permitted facility) |
| 2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL):<br><input checked="" type="checkbox"/> Attached, Document ID: <b><u>Section 2.0</u></b>               |
| 3. Rule Applicability Analysis:<br><input checked="" type="checkbox"/> Attached, Document ID: <b><u>Section 4.0</u></b>                                                                              |
| 4. List of Exempt Emissions Units:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility)                         |
| 5. Fugitive Emissions Identification:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                    |
| 6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                    |
| 7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                  |
| 8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                        |
| 9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable        |
| 10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                    |

## FACILITY INFORMATION

### C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

#### Additional Requirements for FESOP Applications

|                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. List of Exempt Emissions Units:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (no exempt units at facility) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Additional Requirements for Title V Air Operation Permit Applications

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. List of Insignificant Activities: (Required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable (revision application)                                                                                                                                                                                                                                                                                            |
| 2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____<br><input checked="" type="checkbox"/> Not Applicable (revision application with no change in applicable requirements)                                                                                                                              |
| 3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable<br>Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing. |
| 4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____<br><input type="checkbox"/> Equipment/Activities Onsite but Not Required to be Individually Listed<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                         |
| 5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                              |
| 6. Requested Changes to Current Title V Air Operation Permit:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                           |

## FACILITY INFORMATION

### C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

#### Additional Requirements for Facilities Subject to Acid Rain or CAIR Program

1. Acid Rain Program Forms:

Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):

- ☒ Attached, Document ID: **Appendix D** ☐ Previously Submitted, Date: \_\_\_\_\_  
☐ Not Applicable (not an Acid Rain source)

Phase II NO<sub>x</sub> Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):

- ☐ Attached, Document ID: \_\_\_\_\_ ☐ Previously Submitted, Date: \_\_\_\_\_  
☐ Not Applicable

New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):

- ☐ Attached, Document ID: \_\_\_\_\_ ☐ Previously Submitted, Date: \_\_\_\_\_  
☐ Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):

- ☒ Attached, Document ID: **Appendix E** ☐ Previously Submitted, Date: \_\_\_\_\_  
☐ Not Applicable (not a CAIR source)

#### Additional Requirements Comment

**EMISSIONS UNIT INFORMATION**

Section [ 1 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

|                                                                                                                                                                                                                                                                                     |                                |                          |                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------|-----------------------------------------|
| 1. Type of Emissions Unit Addressed in this Section: (Check one)                                                                                                                                                                                                                    |                                |                          |                                         |
| <input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent). |                                |                          |                                         |
| <input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.              |                                |                          |                                         |
| <input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.                                                                               |                                |                          |                                         |
| 2. Description of Emissions Unit Addressed in this Section:                                                                                                                                                                                                                         |                                |                          |                                         |
| <b>Four Mitsubishi 501GAC CTs with HRSG</b>                                                                                                                                                                                                                                         |                                |                          |                                         |
| 3. Emissions Unit Identification Number: <b>CCC-1A, -1B, -2A and -2B</b>                                                                                                                                                                                                            |                                |                          |                                         |
| 4. Emissions Unit Status Code:                                                                                                                                                                                                                                                      | 5. Commence Construction Date: | 6. Initial Startup Date: | 7. Emissions Unit Major Group SIC Code: |
| <b>C</b>                                                                                                                                                                                                                                                                            | <b>2016</b>                    | <b>2018</b>              | <b>49</b>                               |
| 8. Federal Program Applicability: (Check all that apply)                                                                                                                                                                                                                            |                                |                          |                                         |
| <input checked="" type="checkbox"/> Acid Rain Unit                                                                                                                                                                                                                                  |                                |                          |                                         |
| <input checked="" type="checkbox"/> CAIR Unit                                                                                                                                                                                                                                       |                                |                          |                                         |
| 9. Package Unit:                                                                                                                                                                                                                                                                    |                                |                          |                                         |
| Manufacturer: <b>MPS</b>                                                                                                                                                                                                                                                            |                                |                          |                                         |
| Model Number: <b>MPS 501G</b>                                                                                                                                                                                                                                                       |                                |                          |                                         |
| 10. Generator Nameplate Rating: <b>270 MW</b>                                                                                                                                                                                                                                       |                                |                          |                                         |
| 11. Emissions Unit Comment:                                                                                                                                                                                                                                                         |                                |                          |                                         |
| <b>The four CTs will be configured in a two-on-one configuration with each CT having a nominal rating of 270 MW, and the steam turbine having a nominal rating of 280 MW. Each power block will have a nominal rating of 820 MW.</b>                                                |                                |                          |                                         |

## EMISSIONS UNIT INFORMATION

Section [ 1 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control 1 of 2

1. Control Equipment/Method Description:

**Selective catalytic reduction (SCR)**

2. Control Device or Method Code: **139**

**Emissions Unit Control Equipment/Method:** Control 2 of 2

1. Control Equipment/Method Description:

**Low NO<sub>x</sub> burners**

2. Control Device or Method Code: **205**

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:



## EMISSIONS UNIT INFORMATION

Section [ 1 ] of [ 7 ]

### B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

#### Emissions Unit Operating Capacity and Schedule

|                                                                                   |                                 |
|-----------------------------------------------------------------------------------|---------------------------------|
| 1. Maximum Process or Throughput Rate:                                            |                                 |
| 2. Maximum Production Rate:                                                       |                                 |
| 3. Maximum Heat Input Rate: <b>See Appendix B</b>                                 |                                 |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                               |                                 |
| 5. Requested Maximum Operating Schedule:<br>24 hours/day<br>52 weeks/year         | 7 days/week<br>8,760 hours/year |
| 6. Operating Capacity/Schedule Comment:<br><br><b>See Appendix B for details.</b> |                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 1 ] of [ 7 ]

**C. EMISSION POINT (STACK/VENT) INFORMATION****(Optional for unregulated emissions units.)****Emission Point Description and Type**

|                                                                                                                           |  |                                                                                                                                  |  |
|---------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>001</b>                                                       |  | 2. Emission Point Type Code:<br><b>1</b>                                                                                         |  |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable</b>           |  |                                                                                                                                  |  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>          |  |                                                                                                                                  |  |
| 5. Discharge Type Code:<br><b>V</b>                                                                                       |  | 6. Stack Height:<br><b>180 feet</b>                                                                                              |  |
| 7. Exit Diameter:<br><b>22 feet</b>                                                                                       |  |                                                                                                                                  |  |
| 8. Exit Temperature:<br><b>See Appendix B °F</b>                                                                          |  | 9. Actual Volumetric Flow Rate:<br><b>See Appendix B acfm</b>                                                                    |  |
| 10. Water Vapor:<br><b>See Appendix B %</b>                                                                               |  |                                                                                                                                  |  |
| 11. Maximum Dry Standard Flow Rate:<br><b>See Appendix B dscfm</b>                                                        |  | 12. Nonstack Emission Point Height:<br><b>See Appendix B feet</b>                                                                |  |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>336.8232017</b><br>North (km): <b>3205.6260506</b> |  | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS): <b>28/58/05.79</b><br>Longitude (DD/MM/SS): <b>-82/40/28.88</b> |  |
| 15. Emission Point Comment:<br><br><b>See Appendix B for details of the proposed emissions units.</b>                     |  |                                                                                                                                  |  |

**EMISSIONS UNIT INFORMATION**

Section [ 1 ] of [ 7 ]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

|                                                                                                |                                                  |                                              |
|------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br><b>Natural gas</b>                          |                                                  |                                              |
| 2. Source Classification Code (SCC):<br><b>20100201</b>                                        |                                                  | 3. SCC Units:<br><b>Million Cubic Feet</b>   |
| 4. Maximum Hourly Rate:<br><b>See Appendix B</b>                                               | 5. Maximum Annual Rate:<br><b>See Appendix B</b> | 6. Estimated Annual Activity Factor:         |
| 7. Maximum % Sulfur:                                                                           | 8. Maximum % Ash:                                | 9. Million Btu per SCC Unit:<br><b>1,033</b> |
| 10. Segment Comment:<br><br><b>See Appendix B for details of the proposed emissions units.</b> |                                                  |                                              |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                                                                     |                         |                                      |
|-------------------------------------------------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br><br><br><br><br><br><br><br><br> |                         |                                      |
| 2. Source Classification Code (SCC):                                                |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                                                             | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                                                                | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:<br><br><br><br><br><br><br><br><br><br>                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

Section [ 1 ] of [ 7 ]

**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted                    | 2. Primary Control Device Code      | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|-----------------------------------------|-------------------------------------|----------------------------------|------------------------------|
| <b>PM</b>                               | <b>Pipeline-quality natural gas</b> |                                  | <b>WP</b>                    |
| <b>PM<sub>10</sub></b>                  | <b>Pipeline-quality natural gas</b> |                                  | <b>WP</b>                    |
| <b>PM<sub>2.5</sub></b>                 | <b>Pipeline-quality natural gas</b> |                                  | <b>WP</b>                    |
| <b>NO<sub>x</sub></b>                   | <b>139</b>                          | <b>205</b>                       | <b>EL</b>                    |
| <b>CO</b>                               | <b>Good combustion</b>              |                                  | <b>WP</b>                    |
| <b>SO<sub>2</sub></b>                   | <b>Pipeline-quality natural gas</b> |                                  | <b>WP</b>                    |
| <b>VOC</b>                              | <b>Good combustion</b>              |                                  | <b>WP</b>                    |
| <b>H<sub>2</sub>SO<sub>4</sub> mist</b> | <b>Pipeline-quality natural gas</b> |                                  | <b>WP</b>                    |
| <b>Lead</b>                             |                                     |                                  | <b>NS</b>                    |
| <b>Mercury compounds (H114)</b>         |                                     |                                  | <b>NS</b>                    |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |
|                                         |                                     |                                  |                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                              |  |                                                                                                         |  |
|------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM</b>                                                                                           |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                     |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                    |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br>Reference: <b>See Appendix B</b>                                                |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                             |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emissions calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                       |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                         |
|-------------------------------------------------------------------|---------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:        |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour tons/year |
| 5. Method of Compliance:                                          |                                                         |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                         |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                         |
|-------------------------------------------------------------------|---------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:        |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour tons/year |
| 5. Method of Compliance:                                          |                                                         |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                         |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                         |
|-------------------------------------------------------------------|---------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:        |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour tons/year |
| 5. Method of Compliance:                                          |                                                         |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                         |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM<sub>10</sub></b>                                                                             |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>See Appendix B</b>                                           |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |



**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM<sub>2.5</sub></b>                                                                            |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>See Appendix B</b>                                           |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                                    |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>NO<sub>x</sub></b>                                                                              |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                                   |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                   |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                                    |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>NSPS Subpart KKKK, Table 1</b>                               |  | 7. Emissions<br>Method Code:<br><b>0</b>                                                                           |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                                    |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input checked="" type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                                    |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                                    |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions **1** of **2**

|                                                                                                                                                                        |                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>RULE – NSPS Subpart KKKK, Table 1</b>                                                                                     | 2. Future Effective Date of Allowable Emissions:                                     |
| 3. Allowable Emissions and Units:<br><b>15 ppmvd @ 15% O<sub>2</sub> (Load ≥ 75%)</b>                                                                                  | 4. Equivalent Allowable Emissions:<br><b>See App. B lb/hour See App. B tons/year</b> |
| 5. Method of Compliance:<br><b>CEMS (30-unit operating day rolling average)</b>                                                                                        |                                                                                      |
| 6. Allowable Emissions Comment (Description of Operating Method):<br><b>Allowable emissions are based on the emission unit operating at or above 75% of base load.</b> |                                                                                      |

**Allowable Emissions** Allowable Emissions **2** of **2**

|                                                                                                                                                                  |                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>RULE – NSPS Subpart KKKK, Table 1</b>                                                                               | 2. Future Effective Date of Allowable Emissions:                                     |
| 3. Allowable Emissions and Units:<br><b>96 ppmvd @ 15% O<sub>2</sub> (Load &lt; 75%)</b>                                                                         | 4. Equivalent Allowable Emissions:<br><b>See App. B lb/hour See App. B tons/year</b> |
| 5. Method of Compliance:<br><b>CEMS (30-unit operating day rolling average)</b>                                                                                  |                                                                                      |
| 6. Allowable Emissions Comment (Description of Operating Method):<br><b>Allowable emissions are based on the emission unit operating below 75% of base load.</b> |                                                                                      |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                         |
|-------------------------------------------------------------------|---------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:        |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour tons/year |
| 5. Method of Compliance:                                          |                                                         |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                         |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>CO</b>                                                                                          |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br>Reference: <b>See Appendix B</b>                                               |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>SO<sub>2</sub></b>                                                                              |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>See Appendix B</b>                                           |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |



**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>VOC</b>                                                                                         |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>See Appendix B</b>                                           |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>H<sub>2</sub>SO<sub>4</sub> mist</b>                                                            |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>See Appendix B</b>                                           |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                             |  |                                                                                                         |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>Lead</b>                                                                                        |  | 2. Total Percent Efficiency of Control:<br><b>See Appendix B</b>                                        |  |
| 3. Potential Emissions:<br><b>See Appendix B</b> lb/hour <b>See Appendix B</b> tons/year                                    |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                   |  |                                                                                                         |  |
| 6. Emission Factor: <b>See Appendix B</b><br><br>Reference: <b>See Appendix B</b>                                           |  | 7. Emissions<br>Method Code:<br><b>See App. B</b>                                                       |  |
| 8.a. Baseline Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                            |  | 8.b. Baseline 24-month Period:<br>From: <b>See App. B</b> To: <b>See App. B</b>                         |  |
| 9.a. Projected Actual Emissions (if required):<br><b>See Appendix B</b> tons/year                                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed emission calculations for proposed emissions units.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                      |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**EMISSIONS UNIT INFORMATION**

Section [ 1 ] of [ 7 ]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation 1 of 1

|                                                                                                                                                                                                   |                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:<br><b>VE10</b>                                                                                                                                                      | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input checked="" type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                            |
| 4. Method of Compliance:<br><b>EPA Method 9</b>                                                                                                                                                   |                                                                                                            |
| 5. Visible Emissions Comment:<br><br><b>DEF is requesting that only an initial VE test be required for the CT/HRSGs.</b>                                                                          |                                                                                                            |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 1 ] of [ 7 ]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor 1 of 1

|                                                                            |                                                                         |
|----------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 1. Parameter Code:<br><b>EM</b>                                            | 2. Pollutant(s):<br><b>NO<sub>x</sub></b>                               |
| 3. CMS Requirement:                                                        | <input checked="" type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                                         |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                                 |
| 7. Continuous Monitor Comment:                                             |                                                                         |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |



## EMISSIONS UNIT INFORMATION

Section [ 1 ] of [ 7 ]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                      |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                           |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                              |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                        |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Section [ 1 ] of [ 7 ]

### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                       |                                                    |
|--------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

[illegible]

**EMISSIONS UNIT INFORMATION**

Section [ 2 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

|                                                                                                                                                                                                                                                                                     |                                |                          |                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------|-----------------------------------------|
| 1. Type of Emissions Unit Addressed in this Section: (Check one)                                                                                                                                                                                                                    |                                |                          |                                         |
| <input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent). |                                |                          |                                         |
| <input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.              |                                |                          |                                         |
| <input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.                                                                               |                                |                          |                                         |
| 2. Description of Emissions Unit Addressed in this Section:                                                                                                                                                                                                                         |                                |                          |                                         |
| <b>Auxiliary boiler</b>                                                                                                                                                                                                                                                             |                                |                          |                                         |
| 3. Emissions Unit Identification Number: <b>AUX</b>                                                                                                                                                                                                                                 |                                |                          |                                         |
| 4. Emissions Unit Status Code:                                                                                                                                                                                                                                                      | 5. Commence Construction Date: | 6. Initial Startup Date: | 7. Emissions Unit Major Group SIC Code: |
| <b>C</b>                                                                                                                                                                                                                                                                            | <b>2016</b>                    | <b>2018</b>              | <b>49</b>                               |
| 8. Federal Program Applicability: (Check all that apply)                                                                                                                                                                                                                            |                                |                          |                                         |
| <input type="checkbox"/> Acid Rain Unit                                                                                                                                                                                                                                             |                                |                          |                                         |
| <input type="checkbox"/> CAIR Unit                                                                                                                                                                                                                                                  |                                |                          |                                         |
| 9. Package Unit:                                                                                                                                                                                                                                                                    |                                |                          |                                         |
| Manufacturer:                                                                                                                                                                                                                                                                       |                                | Model Number:            |                                         |
| 10. Generator Nameplate Rating: MW                                                                                                                                                                                                                                                  |                                |                          |                                         |
| 11. Emissions Unit Comment:                                                                                                                                                                                                                                                         |                                |                          |                                         |
| <b>216.2 MMBtu/hr auxiliary boiler</b>                                                                                                                                                                                                                                              |                                |                          |                                         |

## EMISSIONS UNIT INFORMATION

Section [ 2 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control 1 of 1

1. Control Equipment/Method Description:

**Low NO<sub>x</sub> burners**

2. Control Device or Method Code: **205**

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [ 2 ] of [ 7 ]

**B. EMISSIONS UNIT CAPACITY INFORMATION****(Optional for unregulated emissions units.)****Emissions Unit Operating Capacity and Schedule**

|                                                                           |                                 |
|---------------------------------------------------------------------------|---------------------------------|
| 1. Maximum Process or Throughput Rate:                                    |                                 |
| 2. Maximum Production Rate:                                               |                                 |
| 3. Maximum Heat Input Rate: <b>216.2</b> million Btu/hr                   |                                 |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                       |                                 |
| 5. Requested Maximum Operating Schedule:<br>24 hours/day<br>52 weeks/year | 7 days/week<br>2,000 hours/year |
| 6. Operating Capacity/Schedule Comment:                                   |                                 |

## Section [ 2 ] of [ 7 ]

**(Optional for unregulated emissions units.)**

|                                                                                                                          |  |                                                                                                                                 |  |
|--------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>028</b>                                                      |  | 2. Emission Point Type Code:<br><b>1</b>                                                                                        |  |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable</b>          |  |                                                                                                                                 |  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>         |  |                                                                                                                                 |  |
| 5. Discharge Type Code:<br><b>V</b>                                                                                      |  | 6. Stack Height:<br><b>50 feet</b>                                                                                              |  |
| 7. Exit Diameter:<br><b>5 feet</b>                                                                                       |  | 8. Exit Temperature:<br><b>300 °F</b>                                                                                           |  |
| 9. Actual Volumetric Flow Rate:<br>acfm                                                                                  |  | 10. Water Vapor:<br>%                                                                                                           |  |
| 11. Maximum Dry Standard Flow Rate:<br>dscfm                                                                             |  | 12. Nonstack Emission Point Height:<br>feet                                                                                     |  |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>336.9273348</b><br>North (km): <b>3205.591192</b> |  | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/04.70</b><br>Longitude (DD/MM/SS) <b>-82/40/25.016</b> |  |
| 15. Emission Point Comment:                                                                                              |  |                                                                                                                                 |  |

**EMISSIONS UNIT INFORMATION**

Section [ 2 ] of [ 7 ]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

|                                                                                                |                                                  |                                                   |
|------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br><b>Natural gas</b>                          |                                                  |                                                   |
| 2. Source Classification Code (SCC):<br><b>20100201</b>                                        |                                                  | 3. SCC Units:<br><b>Million cubic feet burned</b> |
| 4. Maximum Hourly Rate:<br><b>See Appendix B</b>                                               | 5. Maximum Annual Rate:<br><b>See Appendix B</b> | 6. Estimated Annual Activity Factor:              |
| 7. Maximum % Sulfur:                                                                           | 8. Maximum % Ash:                                | 9. Million Btu per SCC Unit:<br><b>1,033</b>      |
| 10. Segment Comment:<br><br><b>See Appendix B for details of the proposed emissions units.</b> |                                                  |                                                   |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

Section [ 2 ] of [ 7 ]

**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted  | 2. Primary Control Device Code | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|-----------------------|--------------------------------|----------------------------------|------------------------------|
| <b>NO<sub>x</sub></b> | <b>205</b>                     |                                  | <b>WP</b>                    |
| <b>CO</b>             | <b>Good combustion</b>         |                                  | <b>WP</b>                    |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
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|                       |                                |                                  |                              |
|                       |                                |                                  |                              |





**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                        |  |                                                                                                         |  |
|----------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>CO</b>                                                     |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>17.81 lb/hour</b> <b>17.8 tons/year</b>                  |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year              |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.0824 lb/MMBtu</b><br><br>Reference: <b>AP-42, Table 1.4-1</b> |  | 7. Emissions<br>Method Code:<br><b>3</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                             |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                            |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b>   |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                 |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_ of \_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**EMISSIONS UNIT INFORMATION**

Section [ 2 ] of [ 7 ]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_ **Not Applicable**

|                                                                                                                               |                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                 | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions: % Exceptional Conditions: %<br>Maximum Period of Excess Opacity Allowed: min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                      |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                 |                                                                                                 |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_

|                                                                                                                               |                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                 | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions: % Exceptional Conditions: %<br>Maximum Period of Excess Opacity Allowed: min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                      |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                 |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 2 ] of [ 7 ]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_ **Not Applicable**

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

## EMISSIONS UNIT INFORMATION

Section [ 2 ] of [ 7 ]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                      |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                           |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                              |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                        |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Section [ 2 ] of [ 7 ]

### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                                  |                                                    |
|--------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input checked="" type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____            | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____            | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____            | <input checked="" type="checkbox"/> Not Applicable |

[illegible]



**EMISSIONS UNIT INFORMATION**

Section [ 3 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)
- ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

**Emergency Generator**

3. Emissions Unit Identification Number: **EG**

|                                |                                |                          |                                         |
|--------------------------------|--------------------------------|--------------------------|-----------------------------------------|
| 4. Emissions Unit Status Code: | 5. Commence Construction Date: | 6. Initial Startup Date: | 7. Emissions Unit Major Group SIC Code: |
| <b>C</b>                       | <b>2016</b>                    | <b>2018</b>              | <b>49</b>                               |

8. Federal Program Applicability: (Check all that apply)

- ☐ Acid Rain Unit
- ☐ CAIR Unit

9. Package Unit:

Manufacturer: **Cummins (or equivalent)** Model Number: **DQGAB (or equivalent)**

10. Generator Nameplate Rating: **1.5 MW**

11. Emissions Unit Comment:

**Two 1,500-kW emergency generators, one generator for each power block.**

## EMISSIONS UNIT INFORMATION

Section [ 3 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_ **Not Applicable**

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [ 3 ] of [ 7 ]

**B. EMISSIONS UNIT CAPACITY INFORMATION****(Optional for unregulated emissions units.)****Emissions Unit Operating Capacity and Schedule**

|                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Maximum Process or Throughput Rate: <b>200.0 gallons per hour</b>                                                                                                                                                                                                                                                         |
| 2. Maximum Production Rate:                                                                                                                                                                                                                                                                                                  |
| 3. Maximum Heat Input Rate: million Btu/hr                                                                                                                                                                                                                                                                                   |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                                                                                                                                                                                                                                                                          |
| 5. Requested Maximum Operating Schedule:<br><div style="display: flex; justify-content: space-between;"><div><b>24</b> hours/day<br/><b>52</b> weeks/year</div><div><b>7</b> days/week<br/><b>500</b> hours/year</div></div>                                                                                                 |
| 6. Operating Capacity/Schedule Comment:<br><br><b>Generators will be operated for emergency purposes only. Maintenance and testing will not exceed 100 hours per year. Unit is allowed to run continuously during emergency events. Potential emissions are based on 500 hours per year in accordance with EPA guidance.</b> |

## Section [ 3 ] of [ 7 ]

**(Optional for unregulated emissions units.)**

|                                                                                                                           |  |                                                                                                                                  |  |
|---------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>041</b>                                                       |  | 2. Emission Point Type Code:<br><b>1</b>                                                                                         |  |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable</b>           |  |                                                                                                                                  |  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>          |  |                                                                                                                                  |  |
| 5. Discharge Type Code:<br><b>V</b>                                                                                       |  | 6. Stack Height:<br><b>10 feet</b>                                                                                               |  |
| 7. Exit Diameter:<br><b>0.5 feet</b>                                                                                      |  |                                                                                                                                  |  |
| 8. Exit Temperature:<br><b>835 °F</b>                                                                                     |  | 9. Actual Volumetric Flow Rate:<br><b>11,000 acfm</b>                                                                            |  |
| 10. Water Vapor:<br><b>%</b>                                                                                              |  |                                                                                                                                  |  |
| 11. Maximum Dry Standard Flow Rate:<br>dscfm                                                                              |  | 12. Nonstack Emission Point Height:<br>feet                                                                                      |  |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>336.8833362</b><br>North (km): <b>3205.4930491</b> |  | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/01.500</b><br>Longitude (DD/MM/SS) <b>-82/40/26.589</b> |  |
| 15. Emission Point Comment:                                                                                               |  |                                                                                                                                  |  |

**EMISSIONS UNIT INFORMATION**

Section [ 3 ] of [ 7 ]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

|                                                                                                |                                                  |                                            |
|------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br><b>Ultra low-sulfur diesel (ULSD)</b>       |                                                  |                                            |
| 2. Source Classification Code (SCC):<br><b>20100102</b>                                        |                                                  | 3. SCC Units:<br><b>1,000 gallons</b>      |
| 4. Maximum Hourly Rate:<br><b>See Appendix B</b>                                               | 5. Maximum Annual Rate:<br><b>See Appendix B</b> | 6. Estimated Annual Activity Factor:       |
| 7. Maximum % Sulfur:                                                                           | 8. Maximum % Ash:                                | 9. Million Btu per SCC Unit:<br><b>130</b> |
| 10. Segment Comment:<br><br><b>See Appendix B for details of the proposed emissions units.</b> |                                                  |                                            |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

Section [ 3 ] of [ 7 ]

**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted      | 2. Primary Control Device Code | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|---------------------------|--------------------------------|----------------------------------|------------------------------|
| <b>NO<sub>x</sub></b>     |                                |                                  | <b>EL</b>                    |
| <b>CO</b>                 |                                |                                  | <b>EL</b>                    |
| <b>PM/PM<sub>10</sub></b> |                                |                                  | <b>EL</b>                    |
| <b>VOC</b>                |                                |                                  | <b>EL</b>                    |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
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|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
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|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                                               |  |                                                                                                         |                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|---------------------------------------|
| 1. Pollutant Emitted:<br><b>NO<sub>x</sub></b>                                                                                                |  | 2. Total Percent Efficiency of Control:                                                                 |                                       |
| 3. Potential Emissions:<br><b>16.35 lb/hour</b>                                                                                               |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |                                       |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                                     |  |                                                                                                         |                                       |
| 6. Emission Factor: <b>3.34 g/hp-hr (NO<sub>x</sub> EF is based on 70% of NMHC+NO<sub>x</sub> EF)</b><br>Reference: <b>NSPS, Subpart IIII</b> |  |                                                                                                         | 7. Emissions Method Code:<br><b>0</b> |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                                                                                    |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |                                       |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                                                                                   |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |                                       |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b>                                                          |  |                                                                                                         |                                       |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                                        |  |                                                                                                         |                                       |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                                                                        |                                                                                                |
|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>Rule</b>                                                                  | 2. Future Effective Date of Allowable Emissions:                                               |
| 3. Allowable Emissions and Units:<br><b>3.34 g/hp-hr (NO<sub>x</sub> EF is based on 70% of NMHC+NO<sub>x</sub> EF)</b> | 4. Equivalent Allowable Emissions:<br><b>16.35 lb/hour                      8.17 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>                                                        |                                                                                                |
| 6. Allowable Emissions Comment (Description of Operating Method):                                                      |                                                                                                |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |



**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                       |  |                                                                                                         |  |
|---------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>CO</b>                                                    |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>12.77 lb/hour</b>                                       |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year             |  |                                                                                                         |  |
| 6. Emission Factor: <b>2.6 g/hp-hr</b><br><br>Reference: <b>NSPS, Subpart IIII</b>    |  | 7. Emissions<br>Method Code:<br><b>0</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                            |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                           |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations.</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                   |                                                                                                |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>Rule</b>             | 2. Future Effective Date of Allowable Emissions:                                               |
| 3. Allowable Emissions and Units:<br><b>2.6 g/hp-hr</b>           | 4. Equivalent Allowable Emissions:<br><b>12.77 lb/hour                      6.39 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>   |                                                                                                |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                                                |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM/PM<sub>10</sub></b>                                   |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>0.73 lb/hour</b>                                       |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.15 g/hp-hr</b><br><br>Reference: <b>NSPS, Subpart IIII</b>  |  | 7. Emissions<br>Method Code:<br><b>0</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                   |                                                                                 |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>RULE</b>             | 2. Future Effective Date of Allowable Emissions:                                |
| 3. Allowable Emissions and Units:<br><b>0.15 g/hp-hr</b>          | 4. Equivalent Allowable Emissions:<br><b>0.73 lb/hour</b> <b>0.37 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>   |                                                                                 |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                                 |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                                    |  |                                                                                                         |                                       |
|------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|---------------------------------------|
| 1. Pollutant Emitted:<br><b>VOC</b>                                                                                                |  | 2. Total Percent Efficiency of Control:                                                                 |                                       |
| 3. Potential Emissions:<br><b>7.00 lb/hour</b> <b>3.50 tons/year</b>                                                               |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |                                       |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                          |  |                                                                                                         |                                       |
| 6. Emission Factor: <b>1.43 g/hp-hr (VOC EF is based on 70% of NMHC+NO<sub>x</sub> EF)</b><br>Reference: <b>NSPS, Subpart IIII</b> |  |                                                                                                         | 7. Emissions Method Code:<br><b>0</b> |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                                                                         |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |                                       |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                                                                        |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |                                       |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b>                                               |  |                                                                                                         |                                       |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                             |  |                                                                                                         |                                       |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                                                             |                                                                                               |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>RULE</b>                                                       | 2. Future Effective Date of Allowable Emissions:                                              |
| 3. Allowable Emissions and Units:<br><b>1.43 g/hp-hr (VOC EF is based on 70% of NMHC+NO<sub>x</sub> EF)</b> | 4. Equivalent Allowable Emissions:<br><b>7.00 lb/hour                      3.50 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>                                             |                                                                                               |
| 6. Allowable Emissions Comment (Description of Operating Method):                                           |                                                                                               |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**EMISSIONS UNIT INFORMATION**

Section [ 3 ] of [ 7 ]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_ **Not Applicable**

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 3 ] of [ 7 ]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_ **Not Applicable**

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |



## EMISSIONS UNIT INFORMATION

Section [ 3 ] of [ 7 ]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                      |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                           |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                              |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                        |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Section [ 3 ] of [ 7 ]

### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                       |                                                    |
|--------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

[illegible]

**EMISSIONS UNIT INFORMATION**

Section [ 4 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)
- ☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)
- ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.
2. Description of Emissions Unit Addressed in this Section:
- Emergency firewater pump**
3. Emissions Unit Identification Number: **FWP**
- |                                            |                                               |                                         |                                                      |
|--------------------------------------------|-----------------------------------------------|-----------------------------------------|------------------------------------------------------|
| 4. Emissions Unit Status Code:<br><b>C</b> | 5. Commence Construction Date:<br><b>2016</b> | 6. Initial Startup Date:<br><b>2018</b> | 7. Emissions Unit Major Group SIC Code:<br><b>49</b> |
|--------------------------------------------|-----------------------------------------------|-----------------------------------------|------------------------------------------------------|
8. Federal Program Applicability: (Check all that apply)
- ☐ Acid Rain Unit
- ☐ CAIR Unit
9. Package Unit:  
Manufacturer: **Cummins (or equivalent)** Model Number: **CFP15E-F30 (or equivalent)**
10. Generator Nameplate Rating: **0.38 MW**
11. Emissions Unit Comment:
- 575-hp emergency firewater pump**

## EMISSIONS UNIT INFORMATION

Section [ 4 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_ **Not Applicable**

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [ 4 ] of [ 7 ]

**B. EMISSIONS UNIT CAPACITY INFORMATION****(Optional for unregulated emissions units.)****Emissions Unit Operating Capacity and Schedule**

|                                                                                                                                                                                                                                                                                                                                  |                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| 1. Maximum Process or Throughput Rate: <b>14.0 gallons per hour</b>                                                                                                                                                                                                                                                              |                               |
| 2. Maximum Production Rate:                                                                                                                                                                                                                                                                                                      |                               |
| 3. Maximum Heat Input Rate: million Btu/hr                                                                                                                                                                                                                                                                                       |                               |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                                                                                                                                                                                                                                                                              |                               |
| 5. Requested Maximum Operating Schedule:<br>24 hours/day<br>52 weeks/year                                                                                                                                                                                                                                                        | 7 days/week<br>500 hours/year |
| 6. Operating Capacity/Schedule Comment:<br><br><b>Firewater pump will be operated for emergency purposes only. Maintenance and testing will not exceed 100 hours per year. Unit is allowed to run continuously during emergency events. Potential emissions are based on 500 hours per year in accordance with EPA guidance.</b> |                               |

## Section [ 4 ] of [ 7 ]

**(Optional for unregulated emissions units.)**

|                                                                                                                           |  |                                                                                                                                  |  |
|---------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>017</b>                                                       |  | 2. Emission Point Type Code:<br><b>1</b>                                                                                         |  |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable.</b>          |  |                                                                                                                                  |  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>          |  |                                                                                                                                  |  |
| 5. Discharge Type Code:<br><b>V</b>                                                                                       |  | 6. Stack Height:<br><b>10 feet</b>                                                                                               |  |
| 7. Exit Diameter:<br><b>0.5 feet</b>                                                                                      |  |                                                                                                                                  |  |
| 8. Exit Temperature:<br><b>895 °F</b>                                                                                     |  | 9. Actual Volumetric Flow Rate:<br><b>3,164 acfm</b>                                                                             |  |
| 10. Water Vapor:<br><b>%</b>                                                                                              |  |                                                                                                                                  |  |
| 11. Maximum Dry Standard Flow Rate:<br>dscfm                                                                              |  | 12. Nonstack Emission Point Height:<br>feet                                                                                      |  |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>337.0770342</b><br>North (km): <b>3205.6426034</b> |  | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/06.447</b><br>Longitude (DD/MM/SS) <b>-82/40/19.513</b> |  |
| 15. Emission Point Comment:                                                                                               |  |                                                                                                                                  |  |

**EMISSIONS UNIT INFORMATION**

Section [ 4 ] of [ 7 ]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

|                                                                                                |                                                  |                                            |
|------------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br><b>ULSD</b>                                 |                                                  |                                            |
| 2. Source Classification Code (SCC):<br><b>20100102</b>                                        |                                                  | 3. SCC Units:<br><b>1,000 gallons</b>      |
| 4. Maximum Hourly Rate:<br><b>See Appendix B</b>                                               | 5. Maximum Annual Rate:<br><b>See Appendix B</b> | 6. Estimated Annual Activity Factor:       |
| 7. Maximum % Sulfur:                                                                           | 8. Maximum % Ash:                                | 9. Million Btu per SCC Unit:<br><b>130</b> |
| 10. Segment Comment:<br><br><b>See Appendix B for details of the proposed emissions units.</b> |                                                  |                                            |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

Section [ 4 ] of [ 7 ]

**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted      | 2. Primary Control Device Code | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|---------------------------|--------------------------------|----------------------------------|------------------------------|
| <b>NO<sub>x</sub></b>     |                                |                                  | <b>EL</b>                    |
| <b>CO</b>                 |                                |                                  | <b>EL</b>                    |
| <b>PM/PM<sub>10</sub></b> |                                |                                  | <b>EL</b>                    |
| <b>VOC</b>                |                                |                                  | <b>EL</b>                    |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
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|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |



**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                                               |  |                                                                                                         |                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|---------------------------------------|
| 1. Pollutant Emitted:<br><b>NO<sub>x</sub></b>                                                                                                |  | 2. Total Percent Efficiency of Control:                                                                 |                                       |
| 3. Potential Emissions:<br><b>2.66 lb/hour</b>                                                                                                |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |                                       |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                                     |  |                                                                                                         |                                       |
| 6. Emission Factor: <b>2.10 g/hp-hr (NO<sub>x</sub> EF is based on 70% of NMHC+NO<sub>x</sub> EF)</b><br>Reference: <b>NSPS, Subpart IIII</b> |  |                                                                                                         | 7. Emissions Method Code:<br><b>0</b> |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                                                                                    |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |                                       |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                                                                                   |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |                                       |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b>                                                          |  |                                                                                                         |                                       |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                                        |  |                                                                                                         |                                       |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                                                                        |                                                                                               |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>Rule</b>                                                                  | 2. Future Effective Date of Allowable Emissions:                                              |
| 3. Allowable Emissions and Units:<br><b>2.10 g/hp-hr (NO<sub>x</sub> EF is based on 70% of NMHC+NO<sub>x</sub> EF)</b> | 4. Equivalent Allowable Emissions:<br><b>2.66 lb/hour                      0.67 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>                                                        |                                                                                               |
| 6. Allowable Emissions Comment (Description of Operating Method):                                                      |                                                                                               |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS  
(Optional for unregulated emissions units.)**

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>CO</b>                                                   |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>3.30 lb/hour</b> <b>0.82 tons/year</b>                 |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>2.6 g/hp-hr</b><br><br>Reference: <b>NSPS, Subpart IIII</b>   |  | 7. Emissions<br>Method Code:<br><b>0</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                   |                                                                                               |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>Rule</b>             | 2. Future Effective Date of Allowable Emissions:                                              |
| 3. Allowable Emissions and Units:<br><b>2.6 g/hp-hr</b>           | 4. Equivalent Allowable Emissions:<br><b>3.30 lb/hour                      0.82 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>   |                                                                                               |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                                               |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM/PM<sub>10</sub></b>                                   |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>0.19 lb/hour</b> <b>0.08 tons/year</b>                 |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.15 g/hp-hr</b><br><br>Reference: <b>NSPS, Subpart IIII</b>  |  | 7. Emissions<br>Method Code:<br><b>0</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                   |                                                                               |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>RULE</b>             | 2. Future Effective Date of Allowable Emissions:                              |
| 3. Allowable Emissions and Units:<br><b>0.15 g/hp-hr</b>          | 4. Equivalent Allowable Emissions:<br><b>0.19 lb/hour      0.05 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>   |                                                                               |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                               |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                              |
|-------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour      tons/year |
| 5. Method of Compliance:                                          |                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                              |
|-------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour      tons/year |
| 5. Method of Compliance:                                          |                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                                                                    |  |                                                                                                         |                                          |
|------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|------------------------------------------|
| 1. Pollutant Emitted:<br><b>VOC</b>                                                                                                |  | 2. Total Percent Efficiency of Control:                                                                 |                                          |
| 3. Potential Emissions:<br><b>1.14 lb/hour</b> <b>0.29 tons/year</b>                                                               |  | 4. Synthetically Limited?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No        |                                          |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year                                                          |  |                                                                                                         |                                          |
| 6. Emission Factor: <b>0.90 g/hp-hr (VOC EF is based on 30% of NMHC+NO<sub>x</sub> EF)</b><br>Reference: <b>NSPS, Subpart IIII</b> |  |                                                                                                         | 7. Emissions<br>Method Code:<br><b>0</b> |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                                                                         |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |                                          |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                                                                        |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |                                          |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b>                                               |  |                                                                                                         |                                          |
| 11. Potential, Fugitive, and Actual Emissions Comment:                                                                             |  |                                                                                                         |                                          |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions 1 of 1

|                                                                                                             |                                                                                               |
|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:<br><b>RULE</b>                                                       | 2. Future Effective Date of Allowable Emissions:                                              |
| 3. Allowable Emissions and Units:<br><b>0.90 g/hp-hr (VOC EF is based on 30% of NMHC+NO<sub>x</sub> EF)</b> | 4. Equivalent Allowable Emissions:<br><b>1.14 lb/hour                      0.29 tons/year</b> |
| 5. Method of Compliance:<br><b>Manufacturer's certification</b>                                             |                                                                                               |
| 6. Allowable Emissions Comment (Description of Operating Method):                                           |                                                                                               |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_ of \_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |



**EMISSIONS UNIT INFORMATION**

Section [ 4 ] of [ 7 ]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_ **Not Applicable**

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 4 ] of [ 7 ]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_ **Not Applicable**

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

## EMISSIONS UNIT INFORMATION

Section [ 4 ] of [ 7 ]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                                           |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                                 |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                      |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                                                         |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                   |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br>_____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br>_____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br>_____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Section [ 4 ] of [ 7 ]

### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                       |                                                    |
|--------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

[illegible]

**EMISSIONS UNIT INFORMATION**

Section [ 5 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

☒ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)

☒ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

**Fuel Gas Dew Point Heater**

3. Emissions Unit Identification Number: **FGH**

4. Emissions Unit Status Code:

**C**

5. Commence Construction Date:

**2016**

6. Initial Startup Date:

**2018**

7. Emissions Unit Major Group SIC Code:

**49**

8. Federal Program Applicability: (Check all that apply)

☐ Acid Rain Unit

☐ CAIR Unit

9. Package Unit:

Manufacturer:

Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

**Two 11.2-MMBtu/hr natural gas fired fuel gas dew point heaters. One heater per power block.**

## EMISSIONS UNIT INFORMATION

Section [ 5 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_ **Not Applicable**

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_ of \_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [ 5 ] of [ 7 ]

**B. EMISSIONS UNIT CAPACITY INFORMATION****(Optional for unregulated emissions units.)****Emissions Unit Operating Capacity and Schedule**

|                                                                           |                                 |
|---------------------------------------------------------------------------|---------------------------------|
| 1. Maximum Process or Throughput Rate:                                    |                                 |
| 2. Maximum Production Rate:                                               |                                 |
| 3. Maximum Heat Input Rate: <b>11.20 million Btu/hr (HHV)</b>             |                                 |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                       |                                 |
| 5. Requested Maximum Operating Schedule:<br>24 hours/day<br>52 weeks/year | 7 days/week<br>8,760 hours/year |
| 6. Operating Capacity/Schedule Comment:                                   |                                 |

## Section [ 5 ] of [ 7 ]

**(Optional for unregulated emissions units.)**

|                                                                                                                           |                                               |                                                                                                                                  |                                       |
|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>098</b>                                                       |                                               | 2. Emission Point Type Code:<br><b>1</b>                                                                                         |                                       |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable</b>           |                                               |                                                                                                                                  |                                       |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>          |                                               |                                                                                                                                  |                                       |
| 5. Discharge Type Code:<br><b>V</b>                                                                                       | 6. Stack Height:<br><b>14 feet - 5 inches</b> |                                                                                                                                  | 7. Exit Diameter:<br><b>1.33 feet</b> |
| 8. Exit Temperature:<br><b>410 °F</b>                                                                                     | 9. Actual Volumetric Flow Rate:<br>acfm       |                                                                                                                                  | 10. Water Vapor:<br>%                 |
| 11. Maximum Dry Standard Flow Rate:<br>dscfm                                                                              |                                               | 12. Nonstack Emission Point Height:<br>feet                                                                                      |                                       |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>336.8547853</b><br>North (km): <b>3205.6243101</b> |                                               | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/05.750</b><br>Longitude (DD/MM/SS) <b>-82/40/27.712</b> |                                       |
| 15. Emission Point Comment:                                                                                               |                                               |                                                                                                                                  |                                       |



**EMISSIONS UNIT INFORMATION**

Section [ 5 ] of [ 7 ]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment 1 of 1

|                                                                                                |                                                  |                                                   |
|------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br><b>Natural gas</b>                          |                                                  |                                                   |
| 2. Source Classification Code (SCC):<br><b>20100201</b>                                        |                                                  | 3. SCC Units:<br><b>Million cubic feet burned</b> |
| 4. Maximum Hourly Rate:<br><b>See Appendix B</b>                                               | 5. Maximum Annual Rate:<br><b>See Appendix B</b> | 6. Estimated Annual Activity Factor:              |
| 7. Maximum % Sulfur:                                                                           | 8. Maximum % Ash:                                | 9. Million Btu per SCC Unit:<br><b>1,033</b>      |
| 10. Segment Comment:<br><br><b>See Appendix B for details of the proposed emissions units.</b> |                                                  |                                                   |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                                     |                         |                                      |
|-----------------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type):<br><br> |                         |                                      |
| 2. Source Classification Code (SCC):                |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                             | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                                | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:<br><br>                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

Section [ 5 ] of [ 7 ]

**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted  | 2. Primary Control Device Code | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|-----------------------|--------------------------------|----------------------------------|------------------------------|
| <b>NO<sub>x</sub></b> | <b>Good combustion</b>         |                                  | <b>WP</b>                    |
| <b>CO</b>             | <b>Good combustion</b>         |                                  | <b>WP</b>                    |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
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|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |
|                       |                                |                                  |                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>NO<sub>x</sub></b>                                       |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>1.08 lb/hour</b>                                       |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>100 lb/MMcf</b><br><br>Reference: <b>AP-42. Table 1.4-1</b>   |  | 7. Emissions<br>Method Code:<br><b>3</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>CO</b>                                                   |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>0.91 lb/hour</b>                                       |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>84.0 lb/MMcf</b><br><br>Reference: <b>AP-42, Table 1.4-1</b>  |  | 7. Emissions<br>Method Code:<br><b>3</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**EMISSIONS UNIT INFORMATION**

Section [ 5 ] of [ 7 ]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_ **Not Applicable**

|                                                                                                                               |                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                 | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions: % Exceptional Conditions: %<br>Maximum Period of Excess Opacity Allowed: min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                      |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                 |                                                                                                 |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_

|                                                                                                                               |                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                 | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions: % Exceptional Conditions: %<br>Maximum Period of Excess Opacity Allowed: min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                      |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                 |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 5 ] of [ 7 ]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_ **Not Applicable**

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |



## EMISSIONS UNIT INFORMATION

Section [ 5 ] of [ 7 ]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                      |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                           |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                              |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                        |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Section [ 5 ] of [ 7 ]

### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                       |                                                    |
|--------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

[illegible]

**EMISSIONS UNIT INFORMATION**

Section [ 6 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- ☐ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☒ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- ☒ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

**Cooling towers**

3. Emissions Unit Identification Number: **CTWR**

|                                                |                                                   |                                             |                                                          |
|------------------------------------------------|---------------------------------------------------|---------------------------------------------|----------------------------------------------------------|
| 4. Emissions Unit Status Code:<br><br><b>C</b> | 5. Commence Construction Date:<br><br><b>2016</b> | 6. Initial Startup Date:<br><br><b>2018</b> | 7. Emissions Unit Major Group SIC Code:<br><br><b>49</b> |
|------------------------------------------------|---------------------------------------------------|---------------------------------------------|----------------------------------------------------------|

8. Federal Program Applicability: (Check all that apply)

- ☐ Acid Rain Unit
- ☐ CAIR Unit

9. Package Unit:  
Manufacturer:

Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

**Two 16-cell mechanical draft cooling towers. One cooling tower per power block.**

## EMISSIONS UNIT INFORMATION

Section [ 6 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control 1 of 1

1. Control Equipment/Method Description:

**Mist eliminator – high velocity**

2. Control Device or Method Code: **014**

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [ 6 ] of [ 7 ]

**B. EMISSIONS UNIT CAPACITY INFORMATION****(Optional for unregulated emissions units.)****Emissions Unit Operating Capacity and Schedule**

|                                                                           |                                 |
|---------------------------------------------------------------------------|---------------------------------|
| 1. Maximum Process or Throughput Rate:                                    |                                 |
| 2. Maximum Production Rate:                                               |                                 |
| 3. Maximum Heat Input Rate:                                               |                                 |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                       |                                 |
| 5. Requested Maximum Operating Schedule:<br>24 hours/day<br>52 weeks/year | 7 days/week<br>8,760 hours/year |
| 6. Operating Capacity/Schedule Comment:                                   |                                 |

## Section [ 6 ] of [ 7 ]

**(Optional for unregulated emissions units.)**

|                                                                                                                           |  |                                                                                                                                  |  |
|---------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>007</b>                                                       |  | 2. Emission Point Type Code:<br><b>4</b>                                                                                         |  |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable</b>           |  |                                                                                                                                  |  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>          |  |                                                                                                                                  |  |
| 5. Discharge Type Code:<br><b>V</b>                                                                                       |  | 6. Stack Height:<br><b>58 feet</b>                                                                                               |  |
| 7. Exit Diameter:<br><b>Not applicable</b>                                                                                |  |                                                                                                                                  |  |
| 8. Exit Temperature:<br><b>Not applicable</b>                                                                             |  | 9. Actual Volumetric Flow Rate:<br>acfm                                                                                          |  |
| 10. Water Vapor:<br>%                                                                                                     |  |                                                                                                                                  |  |
| 11. Maximum Dry Standard Flow Rate:<br>dscfm                                                                              |  | 12. Nonstack Emission Point Height:<br>feet                                                                                      |  |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>336.8652924</b><br>North (km): <b>3205.6897606</b> |  | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/07.881</b><br>Longitude (DD/MM/SS) <b>-82/40/27.359</b> |  |
| 15. Emission Point Comment:                                                                                               |  |                                                                                                                                  |  |

**EMISSIONS UNIT INFORMATION**

Section [ 6 ] of [ 7 ]

**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment \_\_ of \_\_ **Not Applicable**

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

Section [ 6 ] of [ 7 ]

**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted      | 2. Primary Control Device Code | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|---------------------------|--------------------------------|----------------------------------|------------------------------|
| <b>PM/PM<sub>10</sub></b> | <b>014</b>                     |                                  | <b>NS</b>                    |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
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|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |



**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM</b>                                                   |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>30.1 lb/hour</b> <b>131.8 tons/year</b>                |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.0005 % Drift Loss Rate</b><br><br>Reference:                |  | 7. Emissions<br>Method Code:<br><b>5</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM<sub>10</sub></b>                                      |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>0.20 lb/hour</b>                                       |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.0005 % Drift Loss Rate</b><br><br>Reference:                |  | 7. Emissions<br>Method Code:<br><b>5</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**EMISSIONS UNIT INFORMATION**

Section [ 6 ] of [ 7 ]

**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_ **Not Applicable**

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

Section [ 6 ] of [ 7 ]

**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_ **Not Applicable**

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

## EMISSIONS UNIT INFORMATION

Section [ 6 ] of [ 7 ]

### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                      |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                           |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                              |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                        |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Section [ 6 ] of [ 7 ]

### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                       |                                                    |
|--------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |



**EMISSIONS UNIT INFORMATION**

Section [ 7 ] of [ 7 ]

**III. EMISSIONS UNIT INFORMATION****A. GENERAL EMISSIONS UNIT INFORMATION****Title V Air Operation Permit Emissions Unit Classification**

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

- ☐ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.
- ☒ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

**Emissions Unit Description and Status**

1. Type of Emissions Unit Addressed in this Section: (Check one)

- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).
- ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.
- ☒ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:

**Inlet chiller cooling towers**

3. Emissions Unit Identification Number: **CHLR CTWR**

4. Emissions Unit Status Code:

**C**

5. Commence Construction Date:

**2016**

6. Initial Startup Date:

**2018**

7. Emissions Unit Major Group SIC Code:

**49**

8. Federal Program Applicability: (Check all that apply)

- ☐ Acid Rain Unit
- ☐ CAIR Unit

9. Package Unit:  
Manufacturer:

Model Number:

10. Generator Nameplate Rating:

11. Emissions Unit Comment:

**Two six-cell mechanical draft cooling towers. One inlet chiller cooling tower per power block.**

## EMISSIONS UNIT INFORMATION

Section [ 7 ] of [ 7 ]

**Emissions Unit Control Equipment/Method:** Control 1 of 1

1. Control Equipment/Method Description:  
**Mist Eliminator – High Velocity**

2. Control Device or Method Code: **014**

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**Emissions Unit Control Equipment/Method:** Control \_\_\_\_ of \_\_\_\_

1. Control Equipment/Method Description:

2. Control Device or Method Code:

**EMISSIONS UNIT INFORMATION**

Section [ 7 ] of [ 7 ]

**B. EMISSIONS UNIT CAPACITY INFORMATION****(Optional for unregulated emissions units.)****Emissions Unit Operating Capacity and Schedule**

|                                                                           |                                 |
|---------------------------------------------------------------------------|---------------------------------|
| 1. Maximum Process or Throughput Rate:                                    |                                 |
| 2. Maximum Production Rate:                                               |                                 |
| 3. Maximum Heat Input Rate:                                               |                                 |
| 4. Maximum Incineration Rate: pounds/hr<br>tons/day                       |                                 |
| 5. Requested Maximum Operating Schedule:<br>24 hours/day<br>52 weeks/year | 7 days/week<br>8,760 hours/year |
| 6. Operating Capacity/Schedule Comment:                                   |                                 |

## Section [ 7 ] of [ 7 ]

**(Optional for unregulated emissions units.)**

|                                                                                                                          |  |                                                                                                                                  |  |
|--------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------------------|--|
| 1. Identification of Point on Plot Plan or Flow Diagram: <b>101</b>                                                      |  | 2. Emission Point Type Code:<br><b>4</b>                                                                                         |  |
| 3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:<br><br><b>Not applicable</b>          |  |                                                                                                                                  |  |
| 4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:<br><br><b>Not applicable</b>         |  |                                                                                                                                  |  |
| 5. Discharge Type Code:<br><b>V</b>                                                                                      |  | 6. Stack Height:<br><b>43 feet</b>                                                                                               |  |
| 7. Exit Diameter:<br><b>Not applicable</b>                                                                               |  |                                                                                                                                  |  |
| 8. Exit Temperature:<br><b>Not applicable</b>                                                                            |  | 9. Actual Volumetric Flow Rate:<br>acfm                                                                                          |  |
| 10. Water Vapor:<br>%                                                                                                    |  |                                                                                                                                  |  |
| 11. Maximum Dry Standard Flow Rate:<br>dscfm                                                                             |  | 12. Nonstack Emission Point Height:<br>feet                                                                                      |  |
| 13. Emission Point UTM Coordinates...<br>Zone: <b>17</b> East (km): <b>336.920479</b><br>North (km): <b>3205.7280786</b> |  | 14. Emission Point Latitude/Longitude...<br>Latitude (DD/MM/SS) <b>28/58/09.151</b><br>Longitude (DD/MM/SS) <b>-82/40/25.340</b> |  |
| 15. Emission Point Comment:                                                                                              |  |                                                                                                                                  |  |

**EMISSIONS UNIT INFORMATION**

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**D. SEGMENT (PROCESS/FUEL) INFORMATION****Segment Description and Rate:** Segment \_\_ of \_\_ **Not Applicable**

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**Segment Description and Rate:** Segment \_\_ of \_\_

|                                             |                         |                                      |
|---------------------------------------------|-------------------------|--------------------------------------|
| 1. Segment Description (Process/Fuel Type): |                         |                                      |
| 2. Source Classification Code (SCC):        |                         | 3. SCC Units:                        |
| 4. Maximum Hourly Rate:                     | 5. Maximum Annual Rate: | 6. Estimated Annual Activity Factor: |
| 7. Maximum % Sulfur:                        | 8. Maximum % Ash:       | 9. Million Btu per SCC Unit:         |
| 10. Segment Comment:                        |                         |                                      |

**EMISSIONS UNIT INFORMATION**

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**E. EMISSIONS UNIT POLLUTANTS****List of Pollutants Emitted by Emissions Unit**

| 1. Pollutant Emitted      | 2. Primary Control Device Code | 3. Secondary Control Device Code | 4. Pollutant Regulatory Code |
|---------------------------|--------------------------------|----------------------------------|------------------------------|
| <b>PM/PM<sub>10</sub></b> | <b>014</b>                     |                                  | <b>NS</b>                    |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |
|                           |                                |                                  |                              |

**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM</b>                                                   |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>0.1 lb/hour</b>                                        |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.0005 % Drift Loss Rate</b><br><br>Reference:                |  | 7. Emissions<br>Method Code:<br><b>5</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |



**F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION –  
POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS**  
(Optional for unregulated emissions units.)

**Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.**

**Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions**

|                                                                                      |  |                                                                                                         |  |
|--------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------|--|
| 1. Pollutant Emitted:<br><b>PM<sub>10</sub></b>                                      |  | 2. Total Percent Efficiency of Control:                                                                 |  |
| 3. Potential Emissions:<br><b>0.0 lb/hour</b>                                        |  | 4. Synthetically Limited?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No        |  |
| 5. Range of Estimated Fugitive Emissions (as applicable):<br>to tons/year            |  |                                                                                                         |  |
| 6. Emission Factor: <b>0.0005 % Drift Loss Rate</b><br><br>Reference:                |  | 7. Emissions<br>Method Code:<br><b>5</b>                                                                |  |
| 8.a. Baseline Actual Emissions (if required):<br>tons/year                           |  | 8.b. Baseline 24-month Period:<br>From: To:                                                             |  |
| 9.a. Projected Actual Emissions (if required):<br>tons/year                          |  | 9.b. Projected Monitoring Period:<br><input type="checkbox"/> 5 years <input type="checkbox"/> 10 years |  |
| 10. Calculation of Emissions:<br><br><b>See Appendix B for detailed calculations</b> |  |                                                                                                         |  |
| 11. Potential, Fugitive, and Actual Emissions Comment:                               |  |                                                                                                         |  |

**F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION -  
ALLOWABLE EMISSIONS**

**Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.**

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_ **Not Applicable**

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**Allowable Emissions** Allowable Emissions \_\_\_ of \_\_\_

|                                                                   |                                                                              |
|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| 1. Basis for Allowable Emissions Code:                            | 2. Future Effective Date of Allowable Emissions:                             |
| 3. Allowable Emissions and Units:                                 | 4. Equivalent Allowable Emissions:<br>lb/hour                      tons/year |
| 5. Method of Compliance:                                          |                                                                              |
| 6. Allowable Emissions Comment (Description of Operating Method): |                                                                              |

**EMISSIONS UNIT INFORMATION**

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**G. VISIBLE EMISSIONS INFORMATION**

**Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.**

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_ **Not Applicable**

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**Visible Emissions Limitation:** Visible Emissions Limitation \_\_ of \_\_\_\_

|                                                                                                                                                                                                   |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. Visible Emissions Subtype:                                                                                                                                                                     | 2. Basis for Allowable Opacity:<br><input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 3. Allowable Opacity:<br>Normal Conditions:                      %      Exceptional Conditions:                      %<br>Maximum Period of Excess Opacity Allowed:                      min/hour |                                                                                                 |
| 4. Method of Compliance:                                                                                                                                                                          |                                                                                                 |
| 5. Visible Emissions Comment:                                                                                                                                                                     |                                                                                                 |

**EMISSIONS UNIT INFORMATION**

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**H. CONTINUOUS MONITOR INFORMATION**

**Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.**

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_ **Not Applicable**

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

**Continuous Monitoring System:** Continuous Monitor \_\_\_\_ of \_\_\_\_

|                                                                            |                                                              |
|----------------------------------------------------------------------------|--------------------------------------------------------------|
| 1. Parameter Code:                                                         | 2. Pollutant(s):                                             |
| 3. CMS Requirement:                                                        | <input type="checkbox"/> Rule <input type="checkbox"/> Other |
| 4. Monitor Information...<br>Manufacturer:<br>Model Number: Serial Number: |                                                              |
| 5. Installation Date:                                                      | 6. Performance Specification Test Date:                      |
| 7. Continuous Monitor Comment:                                             |                                                              |

## EMISSIONS UNIT INFORMATION

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### I. EMISSIONS UNIT ADDITIONAL INFORMATION

#### Additional Requirements for All Applications, Except as Otherwise Stated

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                                |
| 2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 2.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                                      |
| 3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input checked="" type="checkbox"/> Attached, Document ID: <b>Section 1.0</b> <input type="checkbox"/> Previously Submitted, Date _____                                                                                                                                                                                                                                                                                                                                           |
| 4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable (construction application)                                                                                                                                                                                                                                                                              |
| 5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)<br><input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously Submitted, Date _____<br><input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                        |
| 6. Compliance Demonstration Reports/Records:<br><input type="checkbox"/> Attached, Document ID: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> Previously Submitted, Date: _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input type="checkbox"/> To be Submitted, Date (if known): _____<br>Test Date(s)/Pollutant(s) Tested: _____<br><input checked="" type="checkbox"/> Not Applicable<br>Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application. |
| 7. Other Information Required by Rule or Statute:<br><input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

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### **Additional Requirements for Air Construction Permit Applications**

- |                                                                                                                      |                                                       |                                                    |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.):            | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only)              | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

|                                                        |                                                       |                                                    |
|--------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 1. Identification of Applicable Requirements:          | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 2. Compliance Assurance Monitoring:                    | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 3. Alternative Methods of Operation:                   | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |
| 4. Alternative Modes of Operation (Emissions Trading): | <input type="checkbox"/> Attached, Document ID: _____ | <input checked="" type="checkbox"/> Not Applicable |

**APPENDIX B**

**EMISSIONS RATE CALCULATIONS**

## Appendix B. Emissions Rate Calculations—List of Tables

| Table | Description                                                                                                                                                 |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B-1   | Netting Analysis Summary                                                                                                                                    |
| B-2   | NO <sub>x</sub> Baseline Emissions CREC Units 1 and 2                                                                                                       |
| B-3   | SO <sub>2</sub> Baseline Emissions CREC Units 1 and 2                                                                                                       |
| B-4   | CO <sub>2</sub> e Baseline Emissions CREC Units 1 and 2                                                                                                     |
| B-5   | Methane and N <sub>2</sub> O Baseline Emissions CREC Units 1 and 2                                                                                          |
| B-6   | CO Baseline Emissions CREC Units 1 and 2                                                                                                                    |
| B-7   | Baseline Emissions CREC Unit 1                                                                                                                              |
| B-8   | Baseline Emissions CREC Unit 2                                                                                                                              |
| B-9   | Sulfuric Acid Mist Baseline Emissions CREC Units 1 and 2                                                                                                    |
| B-10  | Mercury Baseline Emissions CREC Units 1 and 2                                                                                                               |
| B-11  | Operating Scenarios—Two 2-on-1 CT/HRSG Units Operating in Combined Cycle Mode                                                                               |
| B-12  | CTG/HRSG (Combined Cycle Mode) Hourly Emissions Rates (Per CTG/HRSG) Criteria and Selected Noncriteria Air Pollutants                                       |
| B-13  | CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 1 Criteria Air Pollutants and Sulfuric Acid Mist |
| B-14  | CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 2 Criteria Air Pollutants and Sulfuric Acid Mist |
| B-15  | CT/HRSG Emissions Rates For Four CT/HRSG Units Operating in CC Mode - Annual Profile 3: Criteria Air Pollutants and Sulfuric Acid Mist                      |
| B-16  | Maximum CT and Duct Burner HAP Emissions: Four CT/HRSG Units in Combined Cycle Mode Firing Natural Gas                                                      |
| B-17  | Summary of Facility Annual Pollutant Emissions Rates for PSD Netting Analysis                                                                               |
| B-18  | Summary of Facility Annual Pollutant Emissions Rates (Including Startup and Shutdown Emissions for All Pollutants)                                          |
| B-19  | Natural Gas Fuel Flow Rates (Combined Cycle Mode)                                                                                                           |
| B-20  | CTG/HRSG (Combined Cycle Mode) Exhaust Flow Rates (per CTG/HRSG)                                                                                            |
| B-21  | Potential Greenhouse Gas (GHG) Emissions                                                                                                                    |
| B-22  | Potential Emissions Inventory Worksheet—Natural Gas-Fired Auxiliary Boiler                                                                                  |
| B-23  | Potential Emissions Inventory Worksheet—Emergency Generator                                                                                                 |
| B-24  | Potential Emissions Inventory Worksheet—Firewater Pump                                                                                                      |
| B-25  | Potential Emissions Inventory Worksheet—Natural Gas-Fired Fuel Gas Dew Point Heater                                                                         |
| B-26  | Potential Emissions Inventory Worksheet—Cooling Towers                                                                                                      |
| B-27  | Cooling Tower PM <sub>10</sub> Fraction—Cooling Towers                                                                                                      |
| B-28  | Potential Emissions Inventory Worksheet—Inlet Chiller Cooling Towers                                                                                        |
| B-29  | Cooling Tower PM <sub>10</sub> Fraction—Inlet Chiller Cooling Towers                                                                                        |



Table B-1. Netting Analysis Summary

| Pollutant         |           | Potential Emissions§ (tpy) | Net Emissions Increase/ (Decrease)‡ (tpy) | PSD Significant Level (tpy) | Trigger PSD? |
|-------------------|-----------|----------------------------|-------------------------------------------|-----------------------------|--------------|
| NO <sub>x</sub>   | 6,459     | 2,712                      | (3,747)                                   | 40                          | No           |
| SO <sub>2</sub>   | 29,168    | 271                        | (28,897)                                  | 40                          | No           |
| CO <sub>2</sub> e | 3,872,621 | 5,639,174                  | 1,766,553                                 | —                           | No           |
| CO                | 3,774     | 626                        | (3,148)                                   | 100                         | No           |
| VOC               | 54        | 68                         | 14                                        | 40                          | No           |
| PM§               | 840       | 279                        | (562)                                     | 25                          | No           |
| PM <sub>10</sub>  | 2,092     | 326                        | (1,766)                                   | 15                          | No           |
| PM <sub>2.5</sub> | 1,765     | 326                        | (1,439)                                   | 10                          | No           |
| SAM               | 89        | 40                         | (49)                                      | 7                           | No           |
| Lead¥             | 0.38      | Neg.                       | (0.38)                                    | 0.6                         | No           |
| Mercury¥          | 0.07      | Neg.                       | (0.07)                                    | 0.1                         | No           |

\*Based on highest actual 24-month annual average over past five years starting August 2009.

†Based on Mitsubishi 501G operating 8,760 hr/yr; maximum emissions based on all scenarios. NO<sub>x</sub> and SO<sub>2</sub> potential emissions include SUSD emissions. All other pollutants do not include startup/shutdown emissions for PSD netting analysis only.

‡Potential emissions minus baseline emissions.

§PM emissions include filterable emission only.

||PM<sub>10</sub> and PM<sub>2.5</sub> emissions include filterable and condensable emissions.

¥Lead and mercury potential emissions are considered to be negligible.

Sources: Clean Air Markets, Acid Rain Program, 2014.  
FDEP Annual Operating Reports, 2009 through 2013.  
DEF, 2014.  
ECT, 2014.

Table B-2.NO<sub>x</sub> Baseline Emissions CREC Units 1 and 2

|              | Aug 2009 -<br>Jul 2011 | Sept 2009 -<br>Aug 2011 | Oct 2009 -<br>Sept 2011 | Nov 2009 -<br>Oct 2011 | Dec 2009 -<br>Nov 2011 |
|--------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|
| CREC Unit 1  | 3,173                  | 3,145                   | 3,149                   | 3,040                  | 3,031                  |
| CREC Unit 2  | <u>3,286</u>           | <u>3,284</u>            | <u>3,300</u>            | <u>3,270</u>           | <u>3,266</u>           |
| <b>TOTAL</b> | <b>6,459</b>           | 6,429                   | 6,448                   | 6,310                  | 6,297                  |

Note: Maximum annual NO<sub>x</sub> emissions (tpy) based on 24-month rolling annual average.  
Five highest 24-month annual averages shown within the 5-year period  
immediately preceding the date a complete permit application is  
received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.  
DEF, 2014.  
ECT, 2014.

Table B-3. SO<sub>2</sub> Baseline Emissions CREC Units 1 and 2

|              | Aug 2009 -<br>Jul 2011 | Sept 2009 -<br>Aug 2011 | Oct 2009 -<br>Sept 2011 | Nov 2009 -<br>Oct 2011 | Dec 2009 -<br>Nov 2011 |
|--------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|
| CREC Unit 1  | 13,054                 | 12,942                  | 12,994                  | 12,576                 | 12,453                 |
| CREC Unit 2  | <u>16,114</u>          | <u>16,084</u>           | <u>15,997</u>           | <u>15,607</u>          | <u>15,486</u>          |
| <b>TOTAL</b> | <b>29,168</b>          | 29,026                  | 28,991                  | 28,183                 | 27,940                 |

Note: Maximum annual NO<sub>x</sub> emissions (tpy) based on 24-month rolling annual average.  
 Five highest 24-month annual averages shown within the 5-year period  
 immediately preceding the date a complete permit application is  
 received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.  
 DEF, 2014.  
 ECT, 2014.

Table B-4. CO<sub>2</sub>e Baseline Emissions CREC Units 1 and 2

|                                                 | Emissions (tpy)        |                         |                         |                        |                        |
|-------------------------------------------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|
|                                                 | Aug 2009 -<br>Jul 2011 | Sept 2009 -<br>Aug 2011 | Oct 2009 -<br>Sept 2011 | Nov 2009 -<br>Oct 2011 | Dec 2009 -<br>Nov 2011 |
| <u>CREC Unit 1</u>                              |                        |                         |                         |                        |                        |
| CO <sub>2</sub>                                 | 1,721,686              | 1,707,465               | 1,714,671               | 1,662,990              | 1,644,161              |
| Methane                                         | 204                    | 202                     | 203                     | 197                    | 194                    |
| N <sub>2</sub> O                                | <u>30</u>              | <u>29</u>               | <u>29</u>               | <u>29</u>              | <u>28</u>              |
| CO <sub>2</sub> e                               | 1,721,920              | 1,707,696               | 1,714,903               | 1,663,216              | 1,644,384              |
| <u>CREC Unit 2</u>                              |                        |                         |                         |                        |                        |
| CO <sub>2</sub>                                 | 2,150,410              | 2,145,785               | 2,140,997               | 2,096,704              | 2,077,662              |
| Methane                                         | 254                    | 254                     | 253                     | 248                    | 246                    |
| N <sub>2</sub> O                                | <u>37</u>              | <u>37</u>               | <u>37</u>               | <u>36</u>              | <u>36</u>              |
| CO <sub>2</sub> e                               | 2,150,702              | 2,146,075               | 2,141,287               | 2,096,988              | 2,077,943              |
| Total CO <sub>2</sub> e<br>(CREC Units 1 and 2) | <b>3,872,621</b>       | 3,853,771               | 3,856,190               | 3,760,203              | 3,722,326              |

Note: Maximum annual CO<sub>2</sub> emissions (tpy) based on 24-month rolling annual average.

Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.  
DEF, ECT; 2014.

Table B-5. Methane and N<sub>2</sub>O Baseline Emissions CREC Units 1 and 2

|                        | Emissions              |                         |                         |                        |                        |
|------------------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|
|                        | Aug 2009 -<br>Jul 2011 | Sept 2009 -<br>Aug 2011 | Oct 2009 -<br>Sept 2011 | Nov 2009 -<br>Oct 2011 | Dec 2009 -<br>Nov 2011 |
| <b>CREC Unit 1</b>     |                        |                         |                         |                        |                        |
| Heat input (MMBtu/yr)  | <b>16,780,598</b>      | 16,641,990              | 16,712,214              | 16,208,506             | 16,024,977             |
| Methane (tpy)          | <b>204</b>             | 202                     | 203                     | 197                    | 194                    |
| N <sub>2</sub> O (tpy) | <b>30</b>              | 29                      | 29                      | 29                     | 28                     |
| <b>CREC Unit 2</b>     |                        |                         |                         |                        |                        |
| Heat input (MMBtu/yr)  | <b>20,959,203</b>      | 20,914,114              | 20,867,438              | 20,435,741             | 20,250,149             |
| Methane                | <b>254</b>             | 254                     | 253                     | 248                    | 246                    |
| N <sub>2</sub> O       | <b>37</b>              | 37                      | 37                      | 36                     | 36                     |

Note: Methane and N<sub>2</sub>O emissions based on 1.1 E-02 kg/MMBtu and 1.6E-03 kg/MMBtu, respectively.

Ref: 40 CFR 98, Subpart C, Table C-2.

Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.

DEF, 2014.

ECT, 2014.

Table B-6. CO Baseline Emissions CREC Units 1 and 2

|                       | Baseline Emissions     |                         |                         |                        |                        |
|-----------------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|
|                       | Aug 2009 -<br>Jul 2011 | Sept 2009 -<br>Aug 2011 | Oct 2009 -<br>Sept 2011 | Nov 2009 -<br>Oct 2011 | Dec 2009 -<br>Nov 2011 |
| <b>CREC Unit 1</b>    |                        |                         |                         |                        |                        |
| Heat input (MMBtu/yr) | <b>16,780,598</b>      | 16,641,990              | 16,712,214              | 16,208,506             | 16,024,977             |
| CO EF (lb/MMBtu)      | <b>0.20</b>            | <b>0.20</b>             | <b>0.20</b>             | <b>0.20</b>            | <b>0.20</b>            |
| CO (tpy)              | <b>1,678</b>           | <b>1,664</b>            | <b>1,671</b>            | <b>1,621</b>           | <b>1,602</b>           |
| <b>CREC Unit 2</b>    |                        |                         |                         |                        |                        |
| Heat input (MMBtu/yr) | <b>20,959,203</b>      | 20,914,114              | 20,867,438              | 20,435,741             | 20,250,149             |
| CO EF (lb/MMBtu)      | <b>0.20</b>            | <b>0.20</b>             | <b>0.20</b>             | <b>0.20</b>            | <b>0.20</b>            |
| CO (tpy)              | <b>2,096</b>           | <b>2,091</b>            | <b>2,087</b>            | <b>2,044</b>           | <b>2,025</b>           |

Note: CO emission factor based on average of similar units retrofitted with LNBs.

Five highest 24-month annual averages shown within the 5-year period immediately preceding the date a complete permit application is received by FDEP; highest 24-month annual average shown in **bold**.

Sources: Clean Air Markets, Acid Rain Program, 2014.

DEF, 2014.

ECT, 2014.

Table B-7. Baseline Emissions CREC Unit 1

|                   | Annual Emissions (tpy) |       |       |              |              | Baseline Emissions (tpy) |
|-------------------|------------------------|-------|-------|--------------|--------------|--------------------------|
|                   | 2013                   | 2012  | 2011  | 2010         | 2009         |                          |
| VOC               | 15.6                   | 14.9  | 14.7  | <b>23.3</b>  | <b>24.4</b>  | 23.9                     |
| PM                | 414.0                  | 447.4 | 402.0 | <b>429.9</b> | <b>454.5</b> | 442.2                    |
| PM <sub>10</sub>  | 277.3                  | 274.9 | 269.3 | <b>288.0</b> | <b>304.5</b> | 296.2                    |
| PM <sub>2.5</sub> | 120.0                  | 119.0 | 116.5 | <b>101.3</b> | <b>106.5</b> | 103.9                    |
| CPM               | 421.6                  | 426.6 | 372.9 | <b>674.5</b> | <b>673.5</b> | 674.0                    |
| Lead              | 0.11                   | 0.10  | 0.10  | <b>0.16</b>  | <b>0.17</b>  | 0.17                     |
| Mercury           | 0.02                   | 0.02  | 0.02  | <b>0.03</b>  | <b>0.03</b>  | 0.03                     |

Sources: FDEP Annual Operating Reports, 2009 through 2013.  
 AP-42, Section 1.1 and 1.3  
 ECT, 2014.

Table B-8. Baseline Emissions CREC Unit 2

|                   | Annual Emissions (tpy) |       |       |              |              | Baseline Emissions (tpy) |
|-------------------|------------------------|-------|-------|--------------|--------------|--------------------------|
|                   | 2013                   | 2012  | 2011  | 2010         | 2009         |                          |
| VOC               | 22.9                   | 17.8  | 19.8  | <b>29.1</b>  | <b>31.5</b>  | 30.3                     |
| PM                | 135.2                  | 490.6 | 264.8 | <b>381.0</b> | <b>414.8</b> | 397.9                    |
| PM <sub>10</sub>  | 90.5                   | 159.5 | 177.3 | <b>255.3</b> | <b>277.8</b> | 266.6                    |
| PM <sub>2.5</sub> | 39.2                   | 69.0  | 76.7  | <b>126.7</b> | <b>137.1</b> | 131.9                    |
| CPM               | 622.3                  | 521.5 | 502.7 | <b>843.9</b> | <b>867.4</b> | 855.7                    |
| Lead              | 0.16                   | 0.12  | 0.14  | <b>0.20</b>  | <b>0.22</b>  | 0.21                     |
| Mercury           | 0.03                   | 0.02  | 0.03  | <b>0.04</b>  | <b>0.04</b>  | 0.04                     |

Sources: FDEP Annual Operating Reports, 2009 through 2013.  
 AP-42, Section 1.1 and 1.3  
 ECT, 2014.



Table B-9. Sulfuric Acid Mist Baseline Emissions CREC Units 1 and 2

Estimation Procedure:

$$E = K \times F1 \times F2 \times E2$$

E = H<sub>2</sub>SO<sub>4</sub> mist emission rate, lb/yr

K = conversion factor = 3,063

F1 = fuel impact factor = 0.008 (eastern bituminous coal, PC boiler)

F2 = technology factor = 0.5 (air heater) x 0.5 (cold-side ESP) = 0.25

E2 = SO<sub>2</sub> emissions from CEMS; tons/yr

Source: An Updated Method for Estimating Total Sulfuric Acid Emissions from Stationary Power Plants, Southern Company, Revised March 2003.

|                                 | Aug 2009 -<br>Jul 2011 | Sept 2009 -<br>Aug 2011 | Oct 2009 -<br>Sept 2011 | Nov 2009 -<br>Oct 2011 | Dec 2009 -<br>Nov 2011 |
|---------------------------------|------------------------|-------------------------|-------------------------|------------------------|------------------------|
| <u>CREC Unit 1</u>              |                        |                         |                         |                        |                        |
| SO <sub>2</sub> emissions (tpy) | 13,054                 | 12,942                  | 12,994                  | 12,576                 | 12,453                 |
| Fuel impact factor              | 0.008                  | 0.008                   | 0.008                   | 0.008                  | 0.008                  |
| Technology impact factor        | 0.25                   | 0.25                    | 0.25                    | 0.25                   | 0.25                   |
| SAM emissions (tpy)             | 40                     | 40                      | 40                      | 39                     | 38                     |
| <u>CREC Unit 2</u>              |                        |                         |                         |                        |                        |
| SO <sub>2</sub> emissions (tpy) | 16,114                 | 16,084                  | 15,997                  | 15,607                 | 15,486                 |
| Fuel impact factor              | 0.008                  | 0.008                   | 0.008                   | 0.008                  | 0.008                  |
| Technology impact factor        | 0.25                   | 0.25                    | 0.25                    | 0.25                   | 0.25                   |
| SAM emissions (tpy)             | 49                     | 49                      | 49                      | 48                     | 47                     |

Sources: An Updated Method for Estimating Total Sulfuric Acid Emissions from Stationary Power Plants; Revised March 2003.

DEF, 2014.

ECT, 2014.

Table B-10. Mercury Baseline Emissions CREC Units 1 and 2

|                                    | 2013     | 2012     | 2011     | 2010     | 2009      | Baseline<br>Emissions<br>(tpy) |
|------------------------------------|----------|----------|----------|----------|-----------|--------------------------------|
| <u>CREC Unit 1</u>                 |          |          |          |          |           |                                |
| Coal combusted (tpy)               | 518,139  | 495,551  | 487,432  | 774,057  | 813,538   |                                |
| Fuel oil combusted (1,000 gal/yr)  | 321      | 315      | 473.55   | 241.878  | 326.172   |                                |
| Mercury EF - coal (lb/ton)         | 8.3E-05  | 8.3E-05  | 8.3E-05  | 8.3E-05  | 8.3E-05   |                                |
| Mercury EF - fuel oil (lb/ton)     | 1.13E-04 | 1.13E-04 | 1.13E-04 | 1.13E-04 | 1.13E-04  |                                |
| Mercury emissions - coal (tpy)     | 0.022    | 0.021    | 0.020    | 0.032    | 0.034     |                                |
| Mercury emissions - fuel oil (tpy) | 1.8E-05  | 1.8E-05  | 2.7E-05  | 1.4E-05  | 1.8E-05   |                                |
| Mercury emissions - total          | 0.022    | 0.021    | 0.020    | 0.032    | 0.034     | <b>0.033</b>                   |
| <u>CREC Unit 2</u>                 |          |          |          |          |           |                                |
| Coal combusted (tpy)               | 764,033  | 592,686  | 660,526  | 968,132  | 1,047,981 |                                |
| Fuel oil combusted (1,000 gal/yr)  | 217      | 271      | 240.11   | 172.28   | 254.772   |                                |
| Mercury EF - coal (lb/ton)         | 8.3E-05  | 8.3E-05  | 8.3E-05  | 8.3E-05  | 8.3E-05   |                                |
| Mercury EF - fuel oil (lb/ton)     | 1.13E-04 | 1.13E-04 | 1.13E-04 | 1.13E-04 | 1.13E-04  |                                |
| Mercury emissions - coal (tpy)     | 0.032    | 0.025    | 0.027    | 0.040    | 0.043     |                                |
| Mercury emissions - fuel oil (tpy) | 1.2E-05  | 1.5E-05  | 1.4E-05  | 9.7E-06  | 1.4E-05   |                                |
| Mercury emissions - total          | 0.032    | 0.025    | 0.027    | 0.040    | 0.044     | <b>0.042</b>                   |

Sources: FDEP Annual Operating Reports, 2009-2014.  
DEF, 2014.  
ECT; 2014.

Table B-11. Operating Scenarios—Two 2-on-1 CT/HRSG Units Operating in Combined Cycle Mode

| Case                  | Mitsubishi Case | Ambient Temperature (° F) | CT/HRSG Percent Load |     |     | Annual Profile #1 (hr/yr) | Annual Profile #2 (hr/yr) | Annual Profile #3 (hr/yr) | Inlet Air Evaporative Cooling | Duct Burner Firing |
|-----------------------|-----------------|---------------------------|----------------------|-----|-----|---------------------------|---------------------------|---------------------------|-------------------------------|--------------------|
|                       |                 |                           | 100                  | 75* | 50* |                           |                           |                           |                               |                    |
| <u>Winter</u>         |                 |                           |                      |     |     |                           |                           |                           |                               |                    |
| 1                     | 9               | 17.2                      | x                    |     |     |                           | 1,000                     | 1,000                     |                               |                    |
| 2                     | 13              | 17.2                      | x                    |     |     |                           |                           |                           |                               | x                  |
| 3                     | 5               | 17.2                      |                      | x   |     |                           |                           |                           |                               |                    |
| 4                     | 1               | 17.2                      |                      |     | x   |                           |                           |                           |                               |                    |
| <u>Annual Average</u> |                 |                           |                      |     |     |                           |                           |                           |                               |                    |
| 5                     | 10              | 68.6                      | x                    |     |     | 4,760                     | 3,760                     | 2,807                     |                               |                    |
| 6                     | 14              | 68.6                      | x                    |     |     | 4,000                     | 2,000                     | 2,000                     |                               | x                  |
| 7                     | 6               | 68.6                      |                      | x   |     |                           |                           |                           |                               |                    |
| 8                     | 2               | 68.6                      |                      |     | x   |                           |                           |                           |                               | x                  |
| <u>Summer</u>         |                 |                           |                      |     |     |                           |                           |                           |                               |                    |
| 9                     | 11              | 91.4                      | x                    |     |     |                           |                           |                           |                               |                    |
| 10                    | 15              | 91.4                      | x                    |     |     |                           | 2,000                     | 2,000                     |                               | x                  |
| 11                    | -               | 91.4                      | x                    |     |     |                           |                           |                           | x                             |                    |
| 12                    | 21              | 91.4                      | x                    |     |     |                           |                           |                           | x                             | x                  |
| 13                    | 14              | 91.4                      |                      | x   |     |                           |                           |                           |                               |                    |
| 14                    | 19              | 91.4                      |                      |     | x   |                           |                           |                           |                               |                    |
| Startups              |                 |                           |                      |     |     |                           |                           |                           |                               |                    |
|                       |                 | Cold                      |                      |     |     |                           |                           | 33                        |                               |                    |
|                       |                 | Warm                      |                      |     |     |                           |                           | 38                        |                               |                    |
|                       |                 | Hot                       |                      |     |     |                           |                           | 226                       |                               |                    |
| Shutdowns             |                 |                           |                      |     |     |                           |                           |                           |                               |                    |
|                       |                 | Downtime                  |                      |     |     |                           |                           | 552                       |                               |                    |
|                       |                 | Total                     |                      |     |     | 8,760                     | 8,760                     | 8,760                     |                               |                    |

\*At low operating loads CT/HRSG units can be operated interchangeably.

Sources: Burns and McDonnell Combined Cycle Systems Emissions Data, March 17, 2014.  
DEF, 2014.  
ECT, 2014.

Table B-12. CTG/HRS (Combined Cycle Mode) Hourly Emissions Rates (Per CTG/HRS) Criteria and Selected Noncriteria Air Pollutants

| Temperature<br>(°F) | Case | Load<br>(%)     | PM              |              | PM <sub>10</sub> /PM <sub>2.5</sub> * |             | SO <sub>2</sub> † |             | H <sub>2</sub> SO <sub>4</sub> ‡ |              | Lead§         |                |
|---------------------|------|-----------------|-----------------|--------------|---------------------------------------|-------------|-------------------|-------------|----------------------------------|--------------|---------------|----------------|
|                     |      |                 | lb/hr           | g/sec        | lb/hr                                 | g/sec       | lb/hr             | g/sec       | lb/hr                            | g/sec        | lb/hr         | g/sec          |
| 17.2                | 1    | 100             | 7.9             | 1.00         | 18.7                                  | 2.36        | 16.30             | 2.05        | 2.43                             | 0.307        | 0.0014        | 0.00018        |
|                     | 2    | 100             | 10.5            | 1.32         | 22.2                                  | 2.80        | 17.70             | 2.23        | 2.64                             | 0.333        | 0.0015        | 0.00019        |
|                     | 3    | 75              | 6.5             | 0.82         | 14.9                                  | 1.88        | 12.80             | 1.61        | 1.91                             | 0.241        | 0.0011        | 0.00014        |
|                     | 4    | 50              | 4.9             | 0.62         | 11.4                                  | 1.44        | 9.80              | 1.23        | 1.46                             | 0.184        | 0.0008        | 0.00011        |
| 68.6                | 5    | 100             | 7.0             | 0.88         | 16.8                                  | 2.12        | 14.80             | 1.86        | 2.21                             | 0.278        | 0.0013        | 0.00016        |
|                     | 6    | 100             | 9.6             | 1.21         | 20.3                                  | 2.56        | 16.20             | 2.04        | 2.42                             | 0.305        | 0.0014        | 0.00018        |
|                     | 7    | 75              | 5.9             | 0.74         | 13.5                                  | 1.70        | 11.50             | 1.45        | 1.72                             | 0.216        | 0.0010        | 0.00012        |
|                     | 8    | 50              | 4.5             | 0.57         | 10.4                                  | 1.31        | 8.90              | 1.12        | 1.33                             | 0.167        | 0.0008        | 0.00010        |
| 91.4                | 9    | 100             | 6.6             | 0.83         | 15.8                                  | 1.99        | 13.90             | 1.75        | 2.08                             | 0.261        | 0.0012        | 0.00015        |
|                     | 10   | 100             | 9.2             | 1.16         | 19.3                                  | 2.43        | 15.30             | 1.93        | 2.28                             | 0.288        | 0.0013        | 0.00017        |
|                     | 11   | 100             | 7.3             | 0.92         | 16.5                                  | 2.08        | 15.50             | 1.95        | 2.31                             | 0.292        | 0.0013        | 0.00017        |
|                     | 12   | 100             | 9.9             | 1.25         | 21.0                                  | 2.65        | 16.90             | 2.13        | 2.52                             | 0.318        | 0.0014        | 0.00018        |
|                     | 13   | 75              | 5.6             | 0.71         | 12.8                                  | 1.61        | 11.00             | 1.39        | 1.64                             | 0.207        | 0.0009        | 0.00012        |
|                     | 14   | 50              | 4.4             | 0.55         | 10.0                                  | 1.26        | 8.50              | 1.07        | 1.27                             | 0.160        | 0.0007        | 0.00009        |
|                     |      | <b>Maximums</b> | <b>10.5</b>     | <b>1.32</b>  | <b>22.2</b>                           | <b>2.80</b> | <b>17.70</b>      | <b>2.23</b> | <b>2.64</b>                      | <b>0.333</b> | <b>0.0015</b> | <b>0.00019</b> |
|                     |      |                 |                 |              |                                       |             |                   |             |                                  |              |               |                |
|                     |      |                 | NO <sub>x</sub> |              | CO                                    |             | VOC‡              |             |                                  |              |               |                |
|                     |      |                 | ppmvd           | lb/hr        | g/sec                                 | ppmvd       | lb/hr             | g/sec       | ppmvd                            | lb/hr        | g/sec         |                |
| 17.2                | 1    | 100             | 15.0            | 157.5        | 19.84                                 | 4.0         | 25.6              | 3.22        | 0.8                              | 2.9          | 0.37          |                |
|                     | 2    | 100             | 15.0            | 175.3        | 22.09                                 | 7.0         | 49.8              | 6.28        | 1.2                              | 4.9          | 0.61          |                |
|                     | 3    | 75              | 15.0            | 123.7        | 15.59                                 | 10.0        | 50.2              | 6.33        | 0.9                              | 2.6          | 0.33          |                |
|                     | 4    | 50              | 15.0            | 94.8         | 11.95                                 | 10.0        | 38.5              | 4.85        | 0.9                              | 2.0          | 0.25          |                |
| 68.6                | 5    | 100             | 15.0            | 142.9        | 18.01                                 | 4.0         | 23.2              | 2.92        | 0.8                              | 2.7          | 0.33          |                |
|                     | 6    | 100             | 15.0            | 163.9        | 20.66                                 | 7.0         | 46.6              | 5.87        | 1.2                              | 4.6          | 0.57          |                |
|                     | 7    | 75              | 15.0            | 111.3        | 14.02                                 | 10.0        | 45.1              | 5.69        | 0.9                              | 2.3          | 0.29          |                |
|                     | 8    | 50              | 15.0            | 86.2         | 10.86                                 | 10.0        | 35.0              | 4.41        | 0.9                              | 1.8          | 0.23          |                |
| 91.4                | 9    | 100             | 15.0            | 134.3        | 16.92                                 | 4.0         | 21.8              | 2.75        | 0.8                              | 2.5          | 0.31          |                |
|                     | 10   | 100             | 15.0            | 156.1        | 19.66                                 | 7.0         | 44.3              | 5.59        | 1.3                              | 4.7          | 0.59          |                |
|                     | 11   | 100             | 15.0            | 146.0        | 18.39                                 | 4.0         | 23.7              | 2.99        | 0.8                              | 2.7          | 0.34          |                |
|                     | 12   | 100             | 15.0            | 169.3        | 21.34                                 | 7.0         | 48.1              | 6.06        | 1.2                              | 4.7          | 0.59          |                |
|                     | 13   | 75              | 15.0            | 106.0        | 13.36                                 | 10.0        | 43.0              | 5.42        | 0.9                              | 2.2          | 0.28          |                |
|                     | 14   | 50              | 15.0            | 82.3         | 10.37                                 | 10.0        | 33.4              | 4.21        | 0.9                              | 1.7          | 0.22          |                |
|                     |      | <b>Maximums</b> | <b>15.0</b>     | <b>175.3</b> | <b>22.09</b>                          | <b>10.0</b> | <b>50.2</b>       | <b>6.33</b> | <b>1.3</b>                       | <b>4.9</b>   | <b>0.61</b>   |                |

\*Filterable and condensable PM assumes all SO<sub>3</sub> converts to (NH<sub>4</sub>)<sub>2</sub>SO<sub>3</sub> generated in the SCR.†Based on a short-term natural gas sulfur content of 2.0 gr/100 scf; assumes all sulfur in the natural gas converts to SO<sub>2</sub>.‡Based on 5-percent conversion of fuel sulfur to SO<sub>3</sub> and 5-percent conversion of SO<sub>2</sub> to SO<sub>3</sub> in the SCR.

§Natural Gas Combustion, Table 1.4-2, AP-42, March 1998.

||NO<sub>x</sub> concentration at 15-percent oxygen.

‡Nonmethane hydrocarbons (NMHC) expressed as methane.

Sources: Burns and McDonnell, 2014. ECT, 2014.

Table B-13. CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 1 Criteria Air Pollutants and Sulfuric Acid Mist

| Source  | Case          | Annual<br>Operations<br>(hr/yr) | NO <sub>x</sub>                     |                | CO                |              | VOC                               |             | PM         |              |
|---------|---------------|---------------------------------|-------------------------------------|----------------|-------------------|--------------|-----------------------------------|-------------|------------|--------------|
|         |               |                                 | lb/hr                               | tpy            | lb/hr             | tpy          | lb/hr                             | tpy         | lb/hr      | tpy          |
| CT/HRSG | 5             | 4,760                           | 571.7                               | 1360.6         | 92.8              | 220.8        | 10.6                              | 25.2        | 28.0       | 66.6         |
| CT/HRSG | 6             | 4,000                           | 655.7                               | 1311.5         | 186.3             | 372.5        | 18.2                              | 36.5        | 38.4       | 76.8         |
|         | <b>Totals</b> | <b>8,760</b>                    | <b>N/A</b>                          | <b>2,672.0</b> | <b>N/A</b>        | <b>593.4</b> | <b>N/A</b>                        | <b>61.7</b> | <b>N/A</b> | <b>143.4</b> |
|         |               |                                 | PM <sub>10</sub> /PM <sub>2.5</sub> |                | SO <sub>2</sub> * |              | H <sub>2</sub> SO <sub>4</sub> *† |             | Lead       |              |
|         |               |                                 | lb/hr                               | tpy            | lb/hr             | tpy          | lb/hr                             | tpy         | lb/hr      | tpy          |
| CT/HRSG | 5             | 4,760                           | 67.2                                | 159.9          | 59.2              | 140.9        | 8.84                              | 21.0        | 0.005      | 0.012        |
| CT/HRSG | 6             | 4,000                           | 81.2                                | 162.4          | 64.8              | 129.6        | 9.67                              | 19.3        | 0.006      | 0.011        |
|         | <b>Totals</b> | <b>8,760</b>                    | <b>N/A</b>                          | <b>322.3</b>   | <b>N/A</b>        | <b>270.5</b> | <b>N/A</b>                        | <b>40.4</b> | <b>N/A</b> | <b>0.023</b> |

\*Hourly/annual SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions rates based on annual natural gas sulfur content limit of 2.0 grains/100 scf.

†Based on 5-percent conversion of fuel sulfur to SO<sub>3</sub> and 5-percent conversion of SO<sub>2</sub> to SO<sub>3</sub> in the SCR.

Sources: DEF, 2014.  
ECT, 2014.

Table B-14. CT/HRSG (Combined Cycle Mode) Emissions Rates for Four CT/HRSG Units Operating in CC Mode - Annual Profile 2 Criteria Air Pollutants and Sulfuric Acid Mist

| Source  | Case          | Annual<br>Operations<br>(hr/yr) | NO <sub>x</sub>                     |                | CO                |              | VOC                               |             | PM         |              |
|---------|---------------|---------------------------------|-------------------------------------|----------------|-------------------|--------------|-----------------------------------|-------------|------------|--------------|
|         |               |                                 | lb/hr                               | tpy            | lb/hr             | tpy          | lb/hr                             | tpy         | lb/hr      | tpy          |
| CT/HRSG | 1             | 1,000                           | 630.0                               | 315.0          | 102.3             | 51.1         | 11.7                              | 5.8         | 31.6       | 15.8         |
| CT/HRSG | 5             | 3,760                           | 571.7                               | 1074.7         | 92.8              | 174.5        | 10.6                              | 19.9        | 28.0       | 52.6         |
| CT/HRSG | 6             | 2,000                           | 655.7                               | 655.7          | 186.3             | 186.3        | 18.2                              | 18.2        | 38.4       | 38.4         |
| CT/HRSG | 10            | 2,000                           | 624.3                               | 624.3          | 177.3             | 177.3        | 18.8                              | 18.8        | 36.8       | 36.8         |
|         | <b>Totals</b> | <b>8,760</b>                    | <b>N/A</b>                          | <b>2,669.8</b> | <b>N/A</b>        | <b>589.2</b> | <b>N/A</b>                        | <b>62.8</b> | <b>N/A</b> | <b>143.6</b> |
|         |               |                                 | PM <sub>10</sub> /PM <sub>2.5</sub> |                | SO <sub>2</sub> * |              | H <sub>2</sub> SO <sub>4</sub> *† |             | Lead       |              |
|         |               |                                 | lb/hr                               | tpy            | lb/hr             | tpy          | lb/hr                             | tpy         | lb/hr      | tpy          |
| CT/HRSG | 1             | 1,000                           | 74.8                                | 37.4           | 65.2              | 32.6         | 9.73                              | 4.9         | 0.006      | 0.003        |
| CT/HRSG | 5             | 3,760                           | 67.2                                | 126.3          | 59.2              | 111.3        | 8.84                              | 16.6        | 0.005      | 0.010        |
| CT/HRSG | 6             | 2,000                           | 81.2                                | 81.2           | 64.8              | 64.8         | 9.67                              | 9.7         | 0.006      | 0.006        |
| CT/HRSG | 10            | 2,000                           | 77.2                                | 77.2           | 61.2              | 61.2         | 9.14                              | 9.1         | 0.005      | 0.005        |
|         | <b>Totals</b> | <b>8,760</b>                    | <b>N/A</b>                          | <b>322.1</b>   | <b>N/A</b>        | <b>269.9</b> | <b>N/A</b>                        | <b>40.3</b> | <b>N/A</b> | <b>0.023</b> |

\*Hourly/annual SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emissions rates based on annual natural gas sulfur content limit of 2.0 grains/100 scf.

†Based on 5-percent conversion of fuel sulfur to SO<sub>3</sub> and 5-percent conversion of SO<sub>2</sub> to SO<sub>3</sub> in the SCR.

Sources: DEF, 2014.  
ECT, 2014.

Table B-15. CT/HRSG Emissions Rates For Four CT/HRSG Units Operating in CC Mode - Annual Profile 3: Criteria Air Pollutants and Sulfuric Acid Mist

| Source                        | Case | Annual Operations |           |       | Emissions Rates |                                     |        |                   |       |                                  |       |          |     |
|-------------------------------|------|-------------------|-----------|-------|-----------------|-------------------------------------|--------|-------------------|-------|----------------------------------|-------|----------|-----|
|                               |      |                   |           |       | NO <sub>x</sub> |                                     | CO     |                   | VOC   |                                  | PM    |          |     |
|                               |      | events/yr         | min/event | hr/yr | lb/hr           | tpy                                 | lb/hr  | tpy               | lb/hr | tpy                              | lb/hr | tpy      |     |
| CT/HRSG                       | 1    |                   |           | 1,000 | 630.0           | 315.0                               | 102.3  | 51.1              | 11.7  | 5.8                              | 31.6  | 15.8     |     |
| CT/HRSG                       | 5    |                   |           | 2,807 | 571.7           | 802.3                               | 92.8   | 130.2             | 10.6  | 14.9                             | 28.0  | 39.3     |     |
| CT/HRSG                       | 6    |                   |           | 2,000 | 655.7           | 655.7                               | 186.3  | 186.3             | 18.2  | 18.2                             | 38.4  | 38.4     |     |
| CT/HRSG                       | 10   |                   |           | 2,000 | 624.3           | 624.3                               | 133.6  | 133.6             | 6.9   | 6.9                              | 36.8  | 36.8     |     |
| Subtotal - Normal Operations  |      |                   |           |       |                 | 2397.3                              |        | 501.2             |       | 45.8                             |       | 130.3    |     |
|                               |      |                   |           |       |                 | lb/event                            | tpy    | lb/event          | tpy   | lb/event                         | tpy   | lb/event | tpy |
| Startups*†                    | Cold | 6                 | 333       | 33    | 385             | 4.6                                 | 12,645 | 151.7             | 2,395 | 28.7                             |       |          |     |
|                               | Warm | 15                | 151       | 38    | 205             | 6.2                                 | 6,810  | 204.3             | 1,150 | 34.5                             |       |          |     |
|                               | Hot  | 174               | 78        | 226   | 50              | 17.4                                | 1,195  | 415.9             | 260   | 90.5                             |       |          |     |
| Shutdowns                     |      | 195               | 32        | 104   | 55              | 21.5                                | 791    | 308.5             | 155   | 60.5                             |       |          |     |
| Downtime                      |      |                   |           | 552   | 0               |                                     |        |                   |       |                                  |       |          |     |
| Subtotal - Startups/Shutdowns |      |                   |           |       |                 | 49.6                                |        | 1,080.4           |       | 214.2                            |       |          |     |
| Totals                        |      |                   |           | 8,760 | N/A             | 2,446.9                             | N/A    | 1,581.6           | N/A   | 260.0                            | N/A   | 130.3    |     |
|                               |      |                   |           |       |                 | PM <sub>10</sub> /PM <sub>2.5</sub> |        | SO <sub>2</sub> ‡ |       | H <sub>2</sub> SO <sub>4</sub> ‡ |       | Lead     |     |
|                               |      |                   |           |       |                 | lb/hr                               | tpy    | lb/hr             | tpy   | lb/hr                            | tpy   | lb/hr    | tpy |
| CT/HRSG                       | 1    |                   |           | 1,000 | 74.8            | 37.4                                | 65.2   | 32.6              | 9.73  | 4.9                              | 0.006 | 0.003    |     |
| CT/HRSG                       | 5    |                   |           | 2,807 | 67.2            | 94.3                                | 59.2   | 83.1              | 8.84  | 12.4                             | 0.005 | 0.007    |     |
| CT/HRSG                       | 6    |                   |           | 2,000 | 81.2            | 81.2                                | 35.6   | 35.6              | 5.31  | 5.3                              | 0.003 | 0.003    |     |
| CT/HRSG                       | 10   |                   |           | 2,000 | 77.2            | 77.2                                | 34.0   | 34.0              | 5.08  | 5.1                              | 0.003 | 0.003    |     |
| Subtotal - Normal Operations  |      |                   |           |       |                 | 290.1                               |        | 185.3             |       | 27.7                             |       | 0.016    |     |
|                               |      |                   |           |       |                 | lb/event                            | tpy    | lb/event          | tpy   | lb/event                         | tpy   | lb/event | tpy |
| Startups*†                    | Cold | 6                 | 333       | 33    | 58              | 0.7                                 | 21     | 0.3               |       |                                  |       |          |     |
|                               | Warm | 15                | 151       | 38    | 30              | 0.9                                 | 10     | 0.3               |       |                                  |       |          |     |
|                               | Hot  | 174               | 78        | 226   | 9               | 3.0                                 | 5      | 1.7               |       |                                  |       |          |     |
| Shutdowns                     |      | 195               | 32        | 104   | 9               | 3.5                                 | 3      | 1.2               |       |                                  |       |          |     |
| Downtime                      |      |                   |           | 552   |                 |                                     |        |                   |       |                                  |       |          |     |
| Subtotal - Startups/Shutdowns |      |                   |           |       |                 | 8.0                                 |        | 3.5               |       |                                  |       |          |     |
| Totals                        |      |                   |           | 8,760 | N/A             | 298.1                               | N/A    | 188.7             | N/A   | 27.7                             | N/A   | 0.016    |     |

\*Startup hours based on the following:

6 cold starts at 333 minutes per startup.

174 number of hot starts at 78 minutes per startup.

15 number of warm starts at 151 minutes per startup.

195 number of shutdowns at 30 minutes per shutdown.

†Average number of start-ups for two combustion turbines.

‡Hourly and annual SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> emission rates based on annual natural gas sulfur content limit of 2.0 grains/100 scf.

Sources: Burns and McDonnell, 2014.

DEF, 2014.

ECT, 2014.

Table B-16. Maximum CT and Duct Burner HAP Emissions: Four CT/HRSG Units in Combined Cycle Mode Firing Natural Gas

|                                  |                                       | CT                                     |                          |                          |                                 |                                  |
|----------------------------------|---------------------------------------|----------------------------------------|--------------------------|--------------------------|---------------------------------|----------------------------------|
|                                  |                                       | 100%, 17.2 °F                          | 100%, 68.6°F             |                          |                                 |                                  |
| Maximum heat input (HHV):        | MMBtu/hr                              | 2,887                                  | 2,620                    |                          | DB                              |                                  |
| Maximum annual hours:            | hr/yr                                 | 8,760                                  | 8,760                    |                          | 100%                            |                                  |
|                                  |                                       |                                        |                          |                          | 256                             |                                  |
|                                  |                                       |                                        |                          |                          | 4,000                           |                                  |
| Pollutant                        | CT Emissions<br>Factor*<br>(lb/MMBtu) | DB Emissions<br>Factor‡§<br>(lb/MMBtu) | Maximum<br>CT<br>(lb/hr) | Maximum<br>DB<br>(lb/hr) | CT and DB<br>Total ¶<br>(lb/hr) | 4 CTs and DBs<br>Total¥<br>(tpy) |
| 1,3-Butadiene                    | 4.3E-07                               | N/A                                    | 1.24E-03                 | N/A                      | 1.24E-03                        | 1.97E-02                         |
| Acetaldehyde                     | 4.0E-05                               | N/A                                    | 1.15E-01                 | N/A                      | 1.15E-01                        | 1.84E+00                         |
| Acrolein                         | 6.4E-06                               | N/A                                    | 1.85E-02                 | N/A                      | 1.85E-02                        | 2.94E-01                         |
| Benzene                          | 1.2E-05                               | 2.1E-06                                | 3.46E-02                 | 5.27E-04                 | 3.52E-02                        | 5.55E-01                         |
| Ethylbenzene                     | 3.2E-05                               | N/A                                    | 9.24E-02                 | N/A                      | 9.24E-02                        | 1.47E+00                         |
| Formaldehyde†                    | 3.0E-04                               | 7.4E-05                                | 8.66E-01                 | 1.88E-02                 | 8.85E-01                        | 1.39E+01                         |
| Naphthalene                      | 1.3E-06                               | 6.0E-07                                | 3.75E-03                 | 1.53E-04                 | 3.91E-03                        | 6.09E-02                         |
| Polycyclic aromatic hydrocarbons | 2.2E-06                               | N/A                                    | 6.35E-03                 | N/A                      | 6.35E-03                        | 1.01E-01                         |
| Propylene oxide                  | 2.9E-05                               | N/A                                    | 8.37E-02                 | N/A                      | 8.37E-02                        | 1.33E+00                         |
| Toluene                          | 1.3E-04                               | 3.3E-06                                | 3.75E-01                 | 8.53E-04                 | 3.76E-01                        | 5.97E+00                         |
| Xylene                           | 6.4E-05                               | N/A                                    | 1.85E-01                 | N/A                      | 1.85E-01                        | 2.94E+00                         |
| Maximum individual HAP           |                                       |                                        |                          |                          |                                 | 13.9                             |
| Total HAPs                       |                                       |                                        |                          |                          |                                 | 28.5                             |

\*EPA AP-42, Table 3.1-3, April 2000.

†CT factor based on average of EPA AP-42 test data for large, heavy duty CTs.

‡EPA AP-42, Table 1.4-3, March 1998.

§EPA AP-42, Table 1.4-4, March 1998.

¶Based on baseload and 17.2°F temperature.

¥Based on baseload and 68.6°F temperature.

Source: ECT, 2014.



Table B-17. Summary of Facility Annual Pollutant Emissions Rates for PSD Netting Analysis

| Criteria Pollutant                  | Annual Emissions Rates (tpy)            |                   |                               |                                      |                                           |                                   |                           | Facility Totals |
|-------------------------------------|-----------------------------------------|-------------------|-------------------------------|--------------------------------------|-------------------------------------------|-----------------------------------|---------------------------|-----------------|
|                                     | CT/HRS <sup>G</sup> Units* <sup>†</sup> | Cooling Tower (2) | Auxiliary Boiler <sup>‡</sup> | Generator IC Engine (2) <sup>§</sup> | Firewater Pump IC Engine (1) <sup>§</sup> | Fuel Gas Heater (2) <sup>  </sup> | Chiller Cooling Tower (2) |                 |
| NO <sub>x</sub>                     | 2,672.0                                 | N/A               | 21.2                          | 8.17                                 | 0.67                                      | 9.49                              | N/A                       | 2,711.6         |
| CO                                  | 593.4                                   | N/A               | 17.8                          | 6.39                                 | 0.82                                      | 7.97                              | N/A                       | 626.4           |
| VOC                                 | 62.8                                    | N/A               | 1.2                           | 3.50                                 | 0.29                                      | 0.52                              | N/A                       | 68.3            |
| SO <sub>2</sub>                     | 270.5                                   | N/A               | 0.1                           | 0.00                                 | 0.14                                      | 0.06                              | N/A                       | 270.8           |
| PM                                  | 143.6                                   | 131.8             | 1.6                           | 0.37                                 | 0.05                                      | 0.72                              | 0.39                      | 278.6           |
| PM <sub>10</sub>                    | 322.3                                   | 0.9               | 1.6                           | 0.37                                 | 0.05                                      | 0.72                              | 0.20                      | 326.2           |
| PM <sub>2.5</sub>                   | 322.3                                   | 0.9               | 1.6                           | 0.37                                 | 0.05                                      | 0.72                              | 0.20                      | 326.2           |
| Lead                                | 2.32E-02                                | N/A               | 1.04E-07                      | Negligible                           | Negligible                                | 0.0                               | N/A                       | 2.32E-02        |
| H <sub>2</sub> SO <sub>4</sub> mist | 40.4                                    | N/A               | Negligible                    | Negligible                           | Negligible                                | Negligible                        | N/A                       | 40.4            |
| GHG (as CO <sub>2</sub> e)          | 5,600,070                               | N/A               | 25,302                        | 2,242                                | 78                                        | 11,482                            | N/A                       | 5,639,174       |

Note: N/A = not applicable.

\*CT/HRS<sup>G</sup> annual emissions based on 15 ppmvd @15-percent NO<sub>x</sub>.

<sup>†</sup>CT/HRS<sup>G</sup> annual emissions based on 4,000-hr/yr duct burner firing.

NO<sub>x</sub> and SO<sub>2</sub> only include startup/shutdown emissions for comparison to NO<sub>x</sub> and SO<sub>2</sub> baseline actual emissions from CEMS data, which also includes statup/shutdown emissions.

<sup>‡</sup>Auxiliary boiler annual emissions based on 2,000 hr/yr.

<sup>§</sup>Generator and firewater pump engine annual emissions based on 500 hr/yr.

<sup>||</sup>Fuel gas heater annual emissions based on 8,760 hr/yr.

Source: ECT, 2014.

Table B-18. Summary of Facility Annual Pollutant Emissions Rates (Including Startup and Shutdown Emissions for All Pollutants)

| Criteria Pollutant                  | Annual Emissions Rates (tpy) |                   |                   |                          |                               |                     |                           | Facility Totals |
|-------------------------------------|------------------------------|-------------------|-------------------|--------------------------|-------------------------------|---------------------|---------------------------|-----------------|
|                                     | CT/HRSG Units*†              | Cooling Tower (2) | Auxiliary Boiler‡ | Generator IC Engine (2)§ | Firewater Pump IC Engine (1)§ | Fuel Gas Heater (2) | Chiller Cooling Tower (2) |                 |
| NO <sub>x</sub>                     | 2,672.0                      | N/A               | 21.2              | 8.17                     | 0.67                          | 9.49                | N/A                       | 2,711.6         |
| CO                                  | 1,581.6                      | N/A               | 17.8              | 6.39                     | 0.82                          | 7.97                | N/A                       | 1,614.6         |
| VOC                                 | 260.0                        | N/A               | 1.2               | 3.50                     | 0.29                          | 0.52                | N/A                       | 265.5           |
| SO <sub>2</sub>                     | 270.5                        | N/A               | 0.1               | 0.00                     | 0.14                          | 0.06                | N/A                       | 270.8           |
| PM                                  | 143.6                        | 131.8             | 1.6               | 0.37                     | 0.05                          | 0.72                | 0.39                      | 278.6           |
| PM <sub>10</sub>                    | 322.3                        | 0.9               | 1.6               | 0.37                     | 0.05                          | 0.72                | 0.20                      | 326.2           |
| PM <sub>2.5</sub>                   | 322.3                        | 0.9               | 1.6               | 0.37                     | 0.05                          | 0.72                | 0.20                      | 326.2           |
| Lead                                | 2.32E-02                     | N/A               | 1.04E-07          | Negligible               | Negligible                    | 0.0                 | N/A                       | 2.32E-02        |
| H <sub>2</sub> SO <sub>4</sub> mist | 40.4                         | N/A               | Negligible        | Negligible               | Negligible                    | Negligible          | N/A                       | 40.4            |
| GHG (as CO <sub>2</sub> e)          | 5,600,070                    | N/A               | 25,302            | 2,242                    | 78                            | 11,482              | N/A                       | 5,639,174       |

Note: N/A = not applicable.

\*CT/HRSG annual emissions based on 15 ppmvd @15-percent NO<sub>x</sub>.

†CT/HRSG annual emissions based on 4,000-hr/yr duct burner firing.

Startup/shutdown emissions have been included for all pollutants.

‡Auxiliary boiler annual emissions based on 2,000 hr/yr.

§Generator and firewater pump engine annual emissions based on 500 hr/yr.

||Fuel gas heater annual emissions based on 8,760 hr/yr.

Source: ECT, 2014.

Table B-19. Natural Gas Fuel Flow Rates (Combined Cycle Mode)

| Percent Load:<br>Case:             | 17.2°F               |         |         |         | 68.6°F  |         |         |         | 91.4°F  |         |         |         |         |        |
|------------------------------------|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
|                                    | 100                  | 100     | 75      | 50      | 100     | 100     | 75      | 50      | 100     | 100     | 100     | 100     | 75      | 50     |
|                                    | 1                    | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11      | 12      | 13      | 14     |
| <b>A. Per CT/HRSG Unit</b>         |                      |         |         |         |         |         |         |         |         |         |         |         |         |        |
| Heat input - HHV (MMBtu/hr)        | 2,887.0              | 3,143.4 | 2,268.0 | 1,733.0 | 2,620.0 | 2,876.4 | 2,042.0 | 1,581.0 | 2,461.0 | 2717.4  | 2,731.0 | 2,987.4 | 1,945.0 | 1510.0 |
| Fuel rate* (lb/hr)                 | 126,606              | 137,850 | 99,461  | 75,999  | 114,897 | 126,141 | 89,550  | 69,333  | 107,924 | 119,169 | 119,765 | 131,009 | 85,296  | 66,219 |
| Fuel rate (lb/sec)                 | 35.168               | 38.292  | 27.628  | 21.111  | 31.916  | 35.039  | 24.875  | 19.259  | 29.979  | 33.102  | 33.268  | 36.391  | 23.693  | 18.394 |
| Fuel rate† (MMft <sup>3</sup> /hr) | 2.793                | 3.042   | 2.195   | 1.677   | 2.535   | 2.783   | 1.976   | 1.530   | 2.381   | 2.629   | 2.643   | 2.891   | 1.882   | 1.461  |
| <b>B. Per Duct Burner</b>          |                      |         |         |         |         |         |         |         |         |         |         |         |         |        |
|                                    | Rated Heat Input (%) |         |         |         |         |         |         |         |         |         |         |         |         |        |
|                                    | 100                  | 70      | 50      |         |         |         |         |         |         |         |         |         |         |        |
| Heat input - HHV (MMBtu/hr)        | 250.0                | 175.0   | 125.0   |         |         |         |         |         |         |         |         |         |         |        |
| Fuel rate* (lb/hr)                 | 10,963               | 7,674   | 5,481.7 |         |         |         |         |         |         |         |         |         |         |        |
| Fuel rate (lb/sec)                 | 3.045                | 2.1     | 1.523   |         |         |         |         |         |         |         |         |         |         |        |
| Fuel rate† (MMft <sup>3</sup> /hr) | 0.242                | 0.2     | 0.121   |         |         |         |         |         |         |         |         |         |         |        |

\*Based on natural gas heat content of 22,803 Btu/lb (HHV).

†Based on natural gas density of 0.0453222 lb/ft<sup>3</sup>.

Sources: Burns and McDonnell, 2014.  
DEF, 2014.  
ECT, 2014.

Table B-20. CTG/HRSG (Combined Cycle Mode) Exhaust Flow Rates (per CTG/HRSG)

| Exhaust Gas Composition - Volume % |           |           |           |           |           |           |           |         |           |           |           |           |           |         |       |
|------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|-----------|-----------|-----------|-----------|-----------|---------|-------|
| 17.2° F                            |           |           |           |           | 68.6° F   |           |           |         |           | 91.4° F   |           |           |           |         |       |
| Percent load:                      | 100       | 100       | 75        | 50        | 100       | 100       | 75        | 50      | 100       | 100       | 100       | 100       | 75        | 50      |       |
| Case:                              | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8       | 9         | 10        | 11        | 12        | 13        | 14      |       |
| Inlet Chilling:                    | No        | No        | No        | No        | No        | No        | No        | No      | No        | No        | Yes       | Yes       | No        | No      |       |
| Duct Burners:                      | No        | No        | No        | Yes       | No        | No        | No        | Yes     | No        | Yes       | No        | Yes       | No        | No      |       |
| Molecular Weight (lb/mole)         |           |           |           |           |           |           |           |         |           |           |           |           |           |         |       |
| A. Exhaust Molecular Weight        |           |           |           |           |           |           |           |         |           |           |           |           |           |         |       |
| Ar                                 | 39.944    | 0.89      | 0.89      | 0.89      | 0.89      | 0.88      | 0.87      | 0.88    | 0.88      | 0.87      | 0.86      | 0.89      | 0.88      | 0.87    | 0.87  |
| N <sub>2</sub>                     | 28.013    | 74.72     | 74.37     | 74.89     | 74.82     | 73.58     | 73.13     | 73.85   | 73.79     | 72.88     | 72.39     | 74.11     | 73.52     | 73.14   | 73.13 |
| O <sub>2</sub>                     | 31.999    | 12.10     | 11.15     | 12.58     | 12.38     | 11.77     | 10.53     | 12.52   | 12.36     | 11.68     | 10.33     | 12.00     | 10.69     | 12.42   | 12.39 |
| CO <sub>2</sub>                    | 44.010    | 4.08      | 4.51      | 3.86      | 3.95      | 4.09      | 4.66      | 3.75    | 3.82      | 4.04      | 4.66      | 4.00      | 4.63      | 3.70    | 3.71  |
| H <sub>2</sub> O                   | 18.015    | 8.08      | 8.93      | 7.65      | 7.83      | 9.55      | 10.66     | 8.89    | 9.03      | 10.40     | 11.60     | 9.00      | 10.14     | 9.75    | 9.78  |
| SO <sub>2</sub>                    | 64.063    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00  |
| CO                                 | 28.010    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00  |
| HC (CH <sub>4</sub> )              | 16.043    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00  |
| NO                                 | 30.006    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00    | 0.00  |
| Totals                             | 99.87     | 99.85     | 99.87     | 99.87     | 99.87     | 99.85     | 99.89     | 99.88   | 99.87     | 99.84     | 100.00    | 99.86     | 99.88     | 99.88   | 99.88 |
| Exhaust MW (lb/mole)               | 28.41     | 28.35     | 28.44     | 28.43     | 28.25     | 28.17     | 28.30     | 28.29   | 28.15     | 28.07     | 28.34     | 28.23     | 28.20     | 28.19   |       |
| Exhaust flow (lb/sec)              | 1,494.7   | 1,497.8   | 1,243.6   | 930.3     | 1,344.4   | 1,347.6   | 1,146.7   | 870.6   | 1,274.4   | 1,277.6   | 1,400.0   | 1,403.7   | 1,102.5   | 852.2   |       |
| Exhaust temperature (°F)           | 187.0     | 179.0     | 175.0     | 175.0     | 185.0     | 176.0     | 170.0     | 175.0   | 186.0     | 177.0     | 185.0     | 176.0     | 174.0     | 175.0   |       |
| Exhaust temperature (K)            | 359       | 355       | 353       | 353       | 358       | 353       | 350       | 353     | 359       | 354       | 358       | 353       | 352       | 353     |       |
| Exhaust oxygen (vol %, dry)        | 13.16     | 12.24     | 13.62     | 13.43     | 13.01     | 11.79     | 13.74     | 13.59   | 13.04     | 11.69     | 13.19     | 11.90     | 13.76     | 13.73   |       |
| B. Exhaust Flow Rates              |           |           |           |           |           |           |           |         |           |           |           |           |           |         |       |
| Flow Rates (ft <sup>3</sup> /min)  |           |           |           |           |           |           |           |         |           |           |           |           |           |         |       |
| 17.2° F                            |           |           |           |           | 68.6° F   |           |           |         |           | 91.4° F   |           |           |           |         |       |
| Percent Load:                      | 100       | 100       | 75        | 50        | 100       | 100       | 75        | 50      | 100       | 100       | 100       | 100       | 75        | 50      |       |
| Case:                              | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8       | 9         | 10        | 11        | 12        | 13        | 14      |       |
| ACFM*                              | 1,501,794 | 1,489,447 | 1,225,159 | 916,848   | 1,354,243 | 1,342,055 | 1,126,285 | 862,233 | 1,290,188 | 1,279,152 | 1,405,856 | 1,395,142 | 1,093,720 | 846,847 |       |
| Velocity (fps)†                    | 62.4      | 61.9      | 50.9      | 38.1      | 56.3      | 55.8      | 46.8      | 35.8    | 53.6      | 53.1      | 58.4      | 58.0      | 45.4      | 35.2    |       |
| Velocity (m/s)‡                    | 19.0      | 18.9      | 15.5      | 11.6      | 17.1      | 17.0      | 14.3      | 10.9    | 16.3      | 16.2      | 17.8      | 17.7      | 13.9      | 10.7    |       |
| SCFM, dry†                         | 1,118,012 | 1,112,320 | 933,654   | 697,338   | 995,121   | 987,846   | 853,501   | 647,261 | 937,689   | 930,176   | 1,039,328 | 1,032,899 | 815,820   | 630,470 |       |
| ACFM (15% oxygen, dry)             | 1,810,115 | 1,990,212 | 1,395,674 | 1,069,686 | 1,637,498 | 1,852,049 | 1,245,021 | 972,238 | 1,540,878 | 1,766,010 | 1,672,492 | 1,913,174 | 1,194,240 | 928,084 |       |
| SCFM (15% oxygen, dry)             | 1,465,994 | 1,632,032 | 1,151,703 | 882,700   | 1,330,305 | 1,525,899 | 1,035,538 | 802,286 | 1,249,873 | 1,452,727 | 1,358,734 | 1,576,259 | 987,035   | 765,850 |       |

\*Based on an site elevation of 195 ft amsl.

†Based on a stack diameter of 22.6 ft.

‡At 68°F.

Sources: Burns and McDonnell, 2014.  
ECT, 2014.

Table B-21. Potential Greenhouse Gas (GHG) Emissions

| Emissions Source         | Maximum Annual Potential Heat Input (MMBtu/yr) | CO <sub>2</sub>              |                                 |                                                    | Methane                      |                                 |                                                    | N <sub>2</sub> O             |                                 |                                                    | CO <sub>2</sub> e               |
|--------------------------|------------------------------------------------|------------------------------|---------------------------------|----------------------------------------------------|------------------------------|---------------------------------|----------------------------------------------------|------------------------------|---------------------------------|----------------------------------------------------|---------------------------------|
|                          |                                                | Emissions Factor* (kg/MMBtu) | Potential Emissions (short tpy) | Potential CO <sub>2</sub> e Emissions‡ (short tpy) | Emissions Factor† (kg/MMBtu) | Potential Emissions (short tpy) | Potential CO <sub>2</sub> e Emissions‡ (short tpy) | Emissions Factor† (kg/MMBtu) | Potential Emissions (short tpy) | Potential CO <sub>2</sub> e Emissions‡ (short tpy) | Potential Emissions (short tpy) |
| CT/HRS (per CT)          | 23,925,800                                     |                              |                                 |                                                    |                              |                                 |                                                    |                              |                                 |                                                    |                                 |
| CT/HRS (4 CTs)           | 95,703,200                                     | 53.02                        | 5,594,287                       | 5,594,287                                          | 1.0E-03                      | 106                             | 2638                                               | 1.0E-04                      | 11                              | 3144                                               | 5,600,070                       |
| Auxiliary boiler         | 432,400                                        | 53.02                        | 25,276                          | 25,276                                             | 1.0E-03                      | 0                               | 12                                                 | 1.0E-04                      | 0                               | 14                                                 | 25,302                          |
| Fuel gas heater          | 196,224                                        | 53.02                        | 11,470                          | 11,470                                             | 1.0E-03                      | 0                               | 5                                                  | 1.0E-04                      | 0                               | 6                                                  | 11,482                          |
| Emergency generator      | 27,400                                         | 73.96                        | 2,234                           | 2,234                                              | 3.0E-03                      | 0                               | 2                                                  | 6.0E-04                      | 0                               | 5                                                  | 2,242                           |
| Emergency firewater pump | 959                                            | 73.96                        | 78                              | 78                                                 | 3.0E-03                      | 0                               | 0                                                  | 6.0E-04                      | 0                               | 0                                                  | 78                              |
| <b>Total annual</b>      |                                                |                              |                                 |                                                    |                              |                                 |                                                    |                              |                                 |                                                    | <b>5,639,174</b>                |

\*Mandatory Reporting of Greenhouse Gases, Final Rule; Federal Register Vol. 74, No. 209, October 30, 2009, Table C-1 To Subpart C of Part 98.

†Mandatory Reporting of Greenhouse Gases, Final Rule; Federal Register Vol. 74, No. 209, October 30, 2009, Table C-2 To Subpart C of Part 98.

‡Based on global warming potential of 1 for CO<sub>2</sub>, 25 for methane, and 298 for N<sub>2</sub>O.

Source: ECT, 2014.

Table B-22.

| POTENTIAL EMISSION INVENTORY WORKSHEET                                               |                            |                                          |                |                               |                                          |                          |                |
|--------------------------------------------------------------------------------------|----------------------------|------------------------------------------|----------------|-------------------------------|------------------------------------------|--------------------------|----------------|
| DEF - Citrus Combined Cycle                                                          |                            |                                          |                |                               |                                          |                          | AUX1           |
| <b>EMISSION SOURCE TYPE</b>                                                          |                            |                                          |                |                               |                                          |                          |                |
| EXTERNAL COMBUSTION SOURCES > 100 MMBtu/hr                                           |                            |                                          |                |                               |                                          |                          |                |
| <b>FACILITY AND SOURCE DESCRIPTION</b>                                               |                            |                                          |                |                               |                                          |                          |                |
| Emission Source Description:                                                         |                            | Natural Gas-Fired Auxiliary Boiler       |                |                               |                                          |                          |                |
| Emission Control Method(s)/ID No.(s):                                                |                            | None                                     |                |                               |                                          |                          |                |
| Emission Point Description:                                                          |                            | 216.2 MMBtu/hr Rated Capacity (HHV)      |                |                               |                                          |                          |                |
| <b>EMISSION ESTIMATION EQUATIONS</b>                                                 |                            |                                          |                |                               |                                          |                          |                |
| Emission (lb/hr) = Emission Factor (lb/MMBtu) x Rated Capacity (MMBtu/hr)            |                            |                                          |                |                               |                                          |                          |                |
| Emission (ton/yr) = Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb) |                            |                                          |                |                               |                                          |                          |                |
| <b>INPUT DATA AND EMISSIONS CALCULATIONS</b>                                         |                            |                                          |                |                               |                                          |                          |                |
| Operating Hours:                                                                     |                            | 2,000 hrs/yr                             |                |                               |                                          |                          |                |
| Natural Gas Heat Content:                                                            |                            | 1,033 Btu/scf (HHV)                      |                |                               |                                          |                          |                |
| No. of Aux. Boilers                                                                  |                            | 1                                        |                |                               |                                          |                          |                |
| Maximum Heat Input:                                                                  |                            | 216.2 MMBtu/hr (HHV)                     |                |                               |                                          |                          |                |
| Pollutant                                                                            | Emission Factor (lb/MMBtu) | Potential Emission Rates                 |                | Hazardous Air Pollutant (HAP) | Emission Factor (lb/10 <sup>6</sup> scf) | Potential Emission Rates |                |
|                                                                                      |                            | Per Unit (lb/hr)                         | Per Unit (tpy) |                               |                                          | Per Unit (lb/hr)         | Per Unit (tpy) |
| NO <sub>x</sub>                                                                      | 0.0980                     | 21.20                                    | 21.2           | 2-Methylnapthalene            | 2.4E-05                                  | 5.02E-06                 | 5.02E-06       |
| CO                                                                                   | 0.0824                     | 17.81                                    | 17.8           | Arsenic                       | 2.0E-04                                  | 4.18E-05                 | 4.18E-05       |
| VOC                                                                                  | 0.0054                     | 1.17                                     | 1.17           | Benzene                       | 2.1E-03                                  | 4.39E-04                 | 4.39E-04       |
| SO <sub>2</sub>                                                                      | 0.0006                     | 0.13                                     | 0.13           | Cadmium                       | 1.1E-03                                  | 2.30E-04                 | 2.30E-04       |
| PM                                                                                   | 0.0075                     | 1.61                                     | 1.61           | Chromium                      | 1.4E-03                                  | 2.93E-04                 | 2.93E-04       |
| PM <sub>10</sub>                                                                     | 0.0075                     | 1.62                                     | 1.62           | Cobalt                        | 8.4E-05                                  | 1.76E-05                 | 1.76E-05       |
| Lead                                                                                 | 4.90E-07                   | 1.04E-07                                 | 1.04E-07       | Dichlorobenzene               | 1.2E-03                                  | 2.51E-04                 | 2.51E-04       |
| Highest HAP                                                                          |                            | 3.77E-01                                 | 3.77E-01       | Fl r n.h n                    | 3.0E-06                                  | 6.28E-07                 | 6.28E-07       |
| Total HAPs                                                                           |                            | 3.95E-01                                 | 3.95E-01       | Fluorene                      | 2.8E-06                                  | 5.86E-07                 | 5.86E-07       |
|                                                                                      |                            |                                          |                | Formaldehyde                  | 7.5E-02                                  | 1.57E-02                 | 1.57E-02       |
|                                                                                      |                            |                                          |                | Hexane                        | 1.8E+00                                  | 3.77E-01                 | 3.77E-01       |
|                                                                                      |                            |                                          |                | Manganese                     | 3.8E-04                                  | 7.95E-05                 | 7.95E-05       |
|                                                                                      |                            |                                          |                | Mercury                       | 2.6E-04                                  | 5.44E-05                 | 5.44E-05       |
|                                                                                      |                            |                                          |                | Naphthanlene                  | 6.1E-04                                  | 1.28E-04                 | 1.28E-04       |
|                                                                                      |                            |                                          |                | Nickel                        | 2.1E-03                                  | 4.39E-04                 | 4.39E-04       |
|                                                                                      |                            |                                          |                | Phenanathrene                 | 1.7E-05                                  | 3.56E-06                 | 3.56E-06       |
|                                                                                      |                            |                                          |                | Pyrene                        | 5.0E-06                                  | 1.05E-06                 | 1.05E-06       |
|                                                                                      |                            |                                          |                | Toluene                       | 3.4E-03                                  | 7.11E-04                 | 7.11E-04       |
|                                                                                      |                            |                                          |                |                               |                                          |                          |                |
| <b>SOURCES OF INPUT DATA</b>                                                         |                            |                                          |                |                               |                                          |                          |                |
| Parameter                                                                            |                            | Data Source                              |                |                               |                                          |                          |                |
| Operating Hours (annual)                                                             |                            | DEF, 2014.                               |                |                               |                                          |                          |                |
| Natural Gas Heat Content (Btu/scf, HHV)                                              |                            | DEF, 2014.                               |                |                               |                                          |                          |                |
| Maximum Heat Input (MMBtu/hr, HHV)                                                   |                            | DEF, 2014.                               |                |                               |                                          |                          |                |
| Emission Factors (NO <sub>x</sub> , CO)                                              |                            | AP-42, Table 1.4-1, July 1998            |                |                               |                                          |                          |                |
| Emission Factors (VOC, SO <sub>2</sub> , PM/PM <sub>10</sub> )                       |                            | AP-42, Table 1.4-2, July 1998            |                |                               |                                          |                          |                |
| Emission Factors (Lead)                                                              |                            | AP-42, Table 1.4-2, July 1998            |                |                               |                                          |                          |                |
| Emission Factors (HAPs)                                                              |                            | AP-42, Tables 1.4-3 and 1.4-4, July 1998 |                |                               |                                          |                          |                |
|                                                                                      |                            |                                          |                |                               |                                          |                          |                |
| <b>NOTES AND OBSERVATIONS</b>                                                        |                            |                                          |                |                               |                                          |                          |                |
| Only detected HAP compounds listed.                                                  |                            |                                          |                |                               |                                          |                          |                |
| <b>DATA CONTROL</b>                                                                  |                            |                                          |                |                               |                                          |                          |                |
| Data Collected by:                                                                   |                            | C. Foster                                |                |                               |                                          | Date: Jul-14             |                |
| Calculated by:                                                                       |                            | C. Foster                                |                |                               |                                          | Date: Jul-14             |                |
| Reviewed by:                                                                         |                            | W. Karl                                  |                |                               |                                          | Date: Jul-14             |                |

Table B-23.

| POTENTIAL EMISSION INVENTORY WORKSHEET                                                      |                            |                                                       |                   |                        |                               |                          |                   |
|---------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------|-------------------|------------------------|-------------------------------|--------------------------|-------------------|
| DEF - Citrus Combined Cycle                                                                 |                            |                                                       |                   |                        |                               | EG1                      |                   |
| <b>EMISSION SOURCE TYPE</b>                                                                 |                            |                                                       |                   |                        |                               |                          |                   |
| INTERNAL COMBUSTION ENGINES > 600 HP                                                        |                            |                                                       |                   |                        |                               |                          |                   |
| <b>FACILITY AND SOURCE DESCRIPTION</b>                                                      |                            |                                                       |                   |                        |                               |                          |                   |
| Emission Source Description:                                                                |                            | Emergency Generator                                   |                   |                        |                               |                          |                   |
| Emission Control Method(s)/ID No.(s):                                                       |                            | None                                                  |                   |                        |                               |                          |                   |
| Emission Point Description:                                                                 |                            | 1,500 -kW Diesel Generator                            |                   |                        |                               | 2,220 BHP                |                   |
| <b>EMISSION ESTIMATION EQUATIONS</b>                                                        |                            |                                                       |                   |                        |                               |                          |                   |
| Emission (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)                       |                            |                                                       |                   |                        |                               |                          |                   |
| Emission (ton/yr) = Emission Factor (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb) |                            |                                                       |                   |                        |                               |                          |                   |
| <b>INPUT DATA AND EMISSIONS CALCULATIONS</b>                                                |                            |                                                       |                   |                        |                               |                          |                   |
| Operating Hours:                                                                            |                            | 500                                                   | hrs/yr            | Fuel Flow:             |                               | 200.0                    | gal/hr            |
| No. of Generators                                                                           |                            | 2                                                     |                   | Diesel Sulfur Content: |                               | 0.0015                   | weight %          |
| Heat Input:                                                                                 |                            | 27.40                                                 | MMBtu/hr (HHV)    | Diesel Heat Content:   |                               | 137,000                  | Btu/gal (HHV)     |
| Pollutant                                                                                   | Emission Factor<br>g/hp-hr | Potential Emission Rates                              |                   | Pollutant              | Emission Factor<br>(lb/MMBtu) | Potential Emission Rates |                   |
|                                                                                             |                            | Per Unit<br>(lb/hr)                                   | Per Unit<br>(tpy) |                        |                               | Per Unit<br>(lb/hr)      | Per Unit<br>(tpy) |
| NO <sub>x</sub>                                                                             | 3.34                       | 16.35                                                 | 8.17              | Acetaldehyde           | 2.52E-05                      | 6.90E-04                 | 3.45E-04          |
| CO                                                                                          | 2.61                       | 12.77                                                 | 6.39              | Acrolein               | 7.88E-06                      | 2.16E-04                 | 1.08E-04          |
| VOC                                                                                         | 1.43                       | 7.00                                                  | 3.50              | Benzene                | 7.76E-04                      | 2.13E-02                 | 1.06E-02          |
| SO <sub>2</sub>                                                                             | 1.21E-05                   | 0.00                                                  | 0.00              | Formaldehyde           | 7.89E-05                      | 2.16E-03                 | 1.08E-03          |
| PM                                                                                          | 0.15                       | 0.73                                                  | 0.37              | Naphthalene            | 1.30E-04                      | 3.56E-03                 | 1.78E-03          |
| PM <sub>10</sub>                                                                            | 0.15                       | 0.73                                                  | 0.37              | POM                    | 2.12E-04                      | 5.81E-03                 | 2.90E-03          |
| Highest HAP                                                                                 |                            | 2.13E-02                                              | 1.06E-02          | Toluene                | 2.81E-04                      | 7.70E-03                 | 3.85E-03          |
| Total HAPs                                                                                  |                            | 4.67E-02                                              | 2.33E-02          | Xylenes                | 1.93E-04                      | 5.29E-03                 | 2.64E-03          |
|                                                                                             |                            |                                                       |                   |                        |                               |                          |                   |
| <b>SOURCES OF INPUT DATA</b>                                                                |                            |                                                       |                   |                        |                               |                          |                   |
| Parameter                                                                                   |                            | Data Source                                           |                   |                        |                               |                          |                   |
| Operating Hours (annual)                                                                    |                            | DEF, 2014                                             |                   |                        |                               |                          |                   |
| Fuel Flow Rate (gal/hr)                                                                     |                            | Cummins, DEF, ECT, 2014.                              |                   |                        |                               |                          |                   |
| Emission Factors (Criteria Pollutants)                                                      |                            | 40 CFR Part 60 Subpart IIII except SO2 based on AP-42 |                   |                        |                               |                          |                   |
| Emission Factors (HAPs)                                                                     |                            | AP-42, Table 3.4-3 and 3.4-4, EPA, October 1996       |                   |                        |                               |                          |                   |
|                                                                                             |                            |                                                       |                   |                        |                               |                          |                   |
| <b>NOTES AND OBSERVATIONS</b>                                                               |                            |                                                       |                   |                        |                               |                          |                   |
| NO <sub>x</sub> EF is based on 70% of NMHC+NO <sub>x</sub> EF.                              |                            |                                                       |                   |                        |                               |                          |                   |
| VOC EF is based on 30% of NMHC+NO <sub>x</sub> EF.                                          |                            |                                                       |                   |                        |                               |                          |                   |
| POM = Polycyclic Organic Matter                                                             |                            |                                                       |                   |                        |                               |                          |                   |
| <b>DATA CONTROL</b>                                                                         |                            |                                                       |                   |                        |                               |                          |                   |
| Data Collected by: C. Foster                                                                |                            |                                                       |                   | Date: May-14           |                               |                          |                   |
| Calculated by: C. Foster                                                                    |                            |                                                       |                   | Date: May-14           |                               |                          |                   |
| Reviewed by: W. Karl                                                                        |                            |                                                       |                   | Date: May-14           |                               |                          |                   |

Table B-24.

| POTENTIAL EMISSION INVENTORY WORKSHEET                                                      |                            |                                                       |                   |                      |                               |                          |                   |
|---------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------|-------------------|----------------------|-------------------------------|--------------------------|-------------------|
| DEF - Citrus Combined Cycle                                                                 |                            |                                                       |                   |                      |                               | FWP1                     |                   |
| <b>EMISSION SOURCE TYPE</b>                                                                 |                            |                                                       |                   |                      |                               |                          |                   |
| INTERNAL COMBUSTION ENGINES < 600 HP                                                        |                            |                                                       |                   |                      |                               |                          |                   |
| <b>FACILITY AND SOURCE DESCRIPTION</b>                                                      |                            |                                                       |                   |                      |                               |                          |                   |
| Emission Source Description:                                                                |                            | Firewater Pump                                        |                   |                      |                               |                          |                   |
| Emission Control Method(s)/ID No.(s):                                                       |                            | None                                                  |                   |                      |                               |                          |                   |
| Emission Point Description:                                                                 |                            | 575 -HP Diesel Engine                                 |                   |                      |                               |                          |                   |
| <b>EMISSION ESTIMATION EQUATIONS</b>                                                        |                            |                                                       |                   |                      |                               |                          |                   |
| Emission (lb/hr) = Emission Factor (lb/MMBtu) x Heat Input (MMBtu/hr)                       |                            |                                                       |                   |                      |                               |                          |                   |
| Emission (ton/yr) = Emission Factor (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb) |                            |                                                       |                   |                      |                               |                          |                   |
| <b>INPUT DATA AND EMISSIONS CALCULATIONS</b>                                                |                            |                                                       |                   |                      |                               |                          |                   |
| Operating Hours:                                                                            |                            | 500                                                   | hrs/yr            | Fuel Flow:           |                               | 14.0                     | gal/hr            |
| No. of Engines:                                                                             |                            | 1                                                     |                   | Diesel Sulfur Conten |                               | 0.05                     | weight %          |
| Heat Input:                                                                                 |                            | 1.92                                                  | MMBtu/hr (HHV)    | Diesel Heat Content: |                               | 137,000                  | Btu/gal (HHV)     |
| Pollutant                                                                                   | Emission Factor<br>g/hp-hr | Potential Emission Rates                              |                   | Pollutant            | Emission Factor<br>(lb/MMBtu) | Potential Emission Rates |                   |
|                                                                                             |                            | Per Unit<br>(lb/hr)                                   | Per Unit<br>(tpy) |                      |                               | Per Unit<br>(lb/hr)      | Per Unit<br>(tpy) |
| NO <sub>x</sub>                                                                             | 2.10                       | 2.66                                                  | 0.67              | 1,3-Butadiene        | 3.91E-05                      | 7.50E-05                 | 1.87E-05          |
| CO                                                                                          | 2.60                       | 3.30                                                  | 0.82              | Acetaldehyde         | 7.67E-04                      | 1.47E-03                 | 3.68E-04          |
| VOC                                                                                         | 0.90                       | 1.14                                                  | 0.29              | Acrolein             | 9.25E-05                      | 1.77E-04                 | 4.44E-05          |
| SO <sub>2</sub>                                                                             | 0.45                       | 0.57                                                  | 0.14              | Benzene              | 9.33E-04                      | 1.79E-03                 | 4.47E-04          |
| PM                                                                                          | 0.15                       | 0.19                                                  | 0.05              | Formaldehyde         | 1.18E-03                      | 2.26E-03                 | 5.66E-04          |
| PM <sub>10</sub>                                                                            | 0.15                       | 0.19                                                  | 0.05              | Naphthalene          | 1.30E-04                      | 2.49E-04                 | 6.23E-05          |
| Highest HAP                                                                                 |                            | 4.95E-03                                              | 1.24E-03          | POM                  | 1.68E-04                      | 3.22E-04                 | 8.06E-05          |
| Total HAPs                                                                                  |                            | 1.26E-02                                              | 3.16E-03          | Propylene            | 2.58E-03                      | 4.95E-03                 | 1.24E-03          |
|                                                                                             |                            |                                                       |                   | Toluene              | 4.09E-04                      | 7.84E-04                 | 1.96E-04          |
|                                                                                             |                            |                                                       |                   | Xylenes              | 2.85E-04                      | 5.47E-04                 | 1.37E-04          |
| <b>SOURCES OF INPUT DATA</b>                                                                |                            |                                                       |                   |                      |                               |                          |                   |
| Parameter                                                                                   |                            | Data Source                                           |                   |                      |                               |                          |                   |
| Operating Hours (annual)                                                                    |                            | DEF, 2014                                             |                   |                      |                               |                          |                   |
| Fuel Flow Rate (gal/hr)                                                                     |                            | Cummins, DEF, 2014.                                   |                   |                      |                               |                          |                   |
| Emission Factors (Criteria Pollutants)                                                      |                            | 40 CFR Part 60 Subpart IIII except SO2 based on AP-42 |                   |                      |                               |                          |                   |
| Emission Factors (HAPs)                                                                     |                            | AP-42, Tables 3.3-1, EPA, October 1996                |                   |                      |                               |                          |                   |
| Emission Factors (HAPs)                                                                     |                            | AP-42, Tables 3.3-2, EPA, October 1996                |                   |                      |                               |                          |                   |
| <b>NOTES AND OBSERVATIONS</b>                                                               |                            |                                                       |                   |                      |                               |                          |                   |
| NO <sub>x</sub> EF is based on 70% of NMHC+NO <sub>x</sub> EF.                              |                            |                                                       |                   |                      |                               |                          |                   |
| VOC EF is based on 30% of NMHC+NO <sub>x</sub> EF.                                          |                            |                                                       |                   |                      |                               |                          |                   |
| POM = Polycyclic Organic Matter                                                             |                            |                                                       |                   |                      |                               |                          |                   |
| <b>DATA CONTROL</b>                                                                         |                            |                                                       |                   |                      |                               |                          |                   |
| Data Collected by: C. Foster                                                                |                            |                                                       |                   | Date: May-14         |                               |                          |                   |
| Calculated by: C. Foster                                                                    |                            |                                                       |                   | Date: May-14         |                               |                          |                   |
| Reviewed by: W. Karl                                                                        |                            |                                                       |                   | Date: May-14         |                               |                          |                   |



Table B-25.

| POTENTIAL EMISSION INVENTORY WORKSHEET                                               |                           |                                             |                |                               |                                          |                          |                |
|--------------------------------------------------------------------------------------|---------------------------|---------------------------------------------|----------------|-------------------------------|------------------------------------------|--------------------------|----------------|
| DEF - Citrus Combined Cycle                                                          |                           |                                             |                |                               |                                          | FGH                      |                |
| <b>EMISSION SOURCE TYPE</b>                                                          |                           |                                             |                |                               |                                          |                          |                |
| EXTERNAL COMBUSTION SOURCES < 100 MMBtu/hr                                           |                           |                                             |                |                               |                                          |                          |                |
| <b>FACILITY AND SOURCE DESCRIPTION</b>                                               |                           |                                             |                |                               |                                          |                          |                |
| Emission Source Description:                                                         |                           | Natural Gas-Fired Fuel Gas Dew Point Heater |                |                               |                                          |                          |                |
| Emission Control Method(s)/ID No.(s):                                                |                           | None                                        |                |                               |                                          |                          |                |
| Emission Point Description:                                                          |                           | 11.2 MMBtu/hr Rated Capacity (HHV)          |                |                               |                                          |                          |                |
| <b>EMISSION ESTIMATION EQUATIONS</b>                                                 |                           |                                             |                |                               |                                          |                          |                |
| Emission (lb/hr) = Emission Factor (lb/MMBtu) x Rated Capacity (MMBtu/hr)            |                           |                                             |                |                               |                                          |                          |                |
| Emission (ton/yr) = Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb) |                           |                                             |                |                               |                                          |                          |                |
| <b>INPUT DATA AND EMISSIONS CALCULATIONS</b>                                         |                           |                                             |                |                               |                                          |                          |                |
| Operating Hours:                                                                     |                           | 8,760 hrs/yr                                |                |                               |                                          |                          |                |
| Natural Gas Heat Content:                                                            |                           | 1,033 Btu/scf (HHV)                         |                |                               |                                          |                          |                |
| No. of Fuel Gas Heaters                                                              |                           | 2                                           |                |                               |                                          |                          |                |
| Maximum Heat Input:                                                                  |                           | 11.2 MMBtu/hr (HHV)                         |                |                               |                                          |                          |                |
| Pollutant                                                                            | Emission Factor (lb/MMcf) | Potential Emission Rates                    |                | Hazardous Air Pollutant (HAP) | Emission Factor (lb/10 <sup>6</sup> scf) | Potential Emission Rates |                |
|                                                                                      |                           | Per Unit (lb/hr)                            | Per Unit (tpy) |                               |                                          | Per Unit (lb/hr)         | Per Unit (tpy) |
| NO <sub>x</sub> *                                                                    | 100.0                     | 1.08                                        | 9.5            | 2-Methylnapthalene            | 2.4E-05                                  | 2.60E-07                 | 2.28E-06       |
| CO                                                                                   | 84.0                      | 0.91                                        | 8.0            | Arsenic                       | 2.0E-04                                  | 2.17E-06                 | 1.90E-05       |
| VOC                                                                                  | 5.5                       | 0.06                                        | 0.52           | Benzene                       | 2.1E-03                                  | 2.28E-05                 | 1.99E-04       |
| SO <sub>2</sub>                                                                      | 0.6                       | 0.01                                        | 0.06           | Cadmium                       | 1.1E-03                                  | 1.19E-05                 | 1.04E-04       |
| PM                                                                                   | 7.6                       | 0.08                                        | 0.72           | Chromium                      | 1.4E-03                                  | 1.52E-05                 | 1.33E-04       |
| PM <sub>10</sub>                                                                     | 7.6                       | 0.08                                        | 0.72           | Cobalt                        | 8.4E-05                                  | 9.10E-07                 | 7.97E-06       |
| Lead                                                                                 | 5.00E-04                  | 5.49E-06                                    | 4.81E-05       | Dichlorobenzene               | 1.2E-03                                  | 1.30E-05                 | 1.14E-04       |
| Highest HAP                                                                          |                           | 1.95E-02                                    | 1.71E-01       | Fl r n.h n                    | 3.0E-06                                  | 3.25E-08                 | 2.85E-07       |
| Total HAPs                                                                           |                           | 2.05E-02                                    | 1.79E-01       | Fluorene                      | 2.8E-06                                  | 3.03E-08                 | 2.66E-07       |
|                                                                                      |                           |                                             |                | Formaldehyde                  | 7.5E-02                                  | 8.13E-04                 | 7.12E-03       |
|                                                                                      |                           |                                             |                | Hexane                        | 1.8E+00                                  | 1.95E-02                 | 1.71E-01       |
|                                                                                      |                           |                                             |                | Manganese                     | 3.8E-04                                  | 4.12E-06                 | 3.61E-05       |
|                                                                                      |                           |                                             |                | Mercury                       | 2.6E-04                                  | 2.82E-06                 | 2.47E-05       |
|                                                                                      |                           |                                             |                | Naphthanlene                  | 6.1E-04                                  | 6.61E-06                 | 5.79E-05       |
|                                                                                      |                           |                                             |                | Nickel                        | 2.1E-03                                  | 2.28E-05                 | 1.99E-04       |
|                                                                                      |                           |                                             |                | Phenanathrene                 | 1.7E-05                                  | 1.84E-07                 | 1.61E-06       |
|                                                                                      |                           |                                             |                | Pyrene                        | 5.0E-06                                  | 5.42E-08                 | 4.75E-07       |
|                                                                                      |                           |                                             |                | Toluene                       | 3.4E-03                                  | 3.68E-05                 | 3.23E-04       |
|                                                                                      |                           |                                             |                |                               |                                          |                          |                |
| <b>SOURCES OF INPUT DATA</b>                                                         |                           |                                             |                |                               |                                          |                          |                |
| Parameter                                                                            |                           | Data Source                                 |                |                               |                                          |                          |                |
| Operating Hours (annual)                                                             |                           | DEF, 2014                                   |                |                               |                                          |                          |                |
| Natural Gas Heat Content (Btu/scf, HHV)                                              |                           | DEF, 2014                                   |                |                               |                                          |                          |                |
| Maximum Heat Input (MMBtu/hr, HHV)                                                   |                           | DEF, 2014                                   |                |                               |                                          |                          |                |
| Emission Factor (NO <sub>x</sub> , CO)                                               |                           | AP-42, Table 1.4-1, July 1998               |                |                               |                                          |                          |                |
| Emission Factors (VOC, SO <sub>2</sub> , PM/PM <sub>10</sub> )                       |                           | AP-42, Table 1.4-2, July 1998               |                |                               |                                          |                          |                |
| Emission Factors (Lead)                                                              |                           | AP-42, Table 1.4-2, July 1998               |                |                               |                                          |                          |                |
| Emission Factors (HAPs)                                                              |                           | AP-42, Tables 1.4-3 and 1.4-4, July 1998    |                |                               |                                          |                          |                |
|                                                                                      |                           |                                             |                |                               |                                          |                          |                |
| <b>NOTES AND OBSERVATIONS</b>                                                        |                           |                                             |                |                               |                                          |                          |                |
| Only detected HAP compounds listed.                                                  |                           |                                             |                |                               |                                          |                          |                |
| <b>DATA CONTROL</b>                                                                  |                           |                                             |                |                               |                                          |                          |                |
| Data Collected by:                                                                   |                           | C. Foster                                   |                |                               |                                          | Date: Jul-14             |                |
| Calculated by:                                                                       |                           | C. Foster                                   |                |                               |                                          | Date: Jul-14             |                |
| Reviewed by:                                                                         |                           | W. Karl                                     |                |                               |                                          | Date: Jul-14             |                |

Table B-26.

| POTENTIAL EMISSION INVENTORY WORKSHEET                                                                                                 |                                     |         |                                       |            |
|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------|---------------------------------------|------------|
| DEF- Citrus Combined Cycle                                                                                                             |                                     |         |                                       | CTWR1 - 32 |
| <b>EMISSION SOURCE TYPE</b>                                                                                                            |                                     |         |                                       |            |
| COOLING TOWERS - PM/PM <sub>10</sub>                                                                                                   |                                     |         |                                       |            |
| <b>FACILITY AND SOURCE DESCRIPTION</b>                                                                                                 |                                     |         |                                       |            |
| Emission Source Description:                                                                                                           | Mechanical Draft Cooling Towers     |         |                                       |            |
| Emission Control Method(s)/ID No.(s):                                                                                                  | Drift Mist Eliminators              |         |                                       |            |
| Emission Point Description:                                                                                                            | Sixteen-cell Cooling Tower          |         |                                       |            |
| <b>EMISSION ESTIMATION EQUATIONS</b>                                                                                                   |                                     |         |                                       |            |
| PM Emission (lb/hr) = Recirculating Water Flow Rate (gpm) x (Drift Loss Rate (%) / 100) x 8 345 lb/gal x (TDS (ppmw) / 10) x 60 min/hr |                                     |         |                                       |            |
| PM Emission (ton/yr) = PM Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)                                             |                                     |         |                                       |            |
| PM <sub>10</sub> Emission (lb/hr) = PM Emissions (lb/hr) x PM <sub>10</sub> /PM Fraction                                               |                                     |         |                                       |            |
| PM <sub>10</sub> Emission (ton/yr) = PM <sub>10</sub> Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)                 |                                     |         |                                       |            |
| Source: ECT, 2014                                                                                                                      |                                     |         |                                       |            |
| <b>INPUT DATA AND EMISSIONS CALCULATIONS</b>                                                                                           |                                     |         |                                       |            |
| Cooling Tower Data (Per Tower)                                                                                                         |                                     |         |                                       |            |
| Operating Hours:                                                                                                                       | 8,760                               | hrs/yr  |                                       |            |
| Number of Cells per Tower:                                                                                                             | 16                                  |         |                                       |            |
| Recirculating Water Flow Rate:                                                                                                         | 195,926                             | gal/min |                                       |            |
| Drift Loss Rate:                                                                                                                       | 0.00050                             | %       |                                       |            |
| Total Dissolved Solids (TDS):                                                                                                          | 30,680                              | ppmw    |                                       |            |
| PM <sub>10</sub> /PM Fraction:                                                                                                         | 0.007                               |         |                                       |            |
| Number of Towers:                                                                                                                      | 2                                   |         |                                       |            |
| Pollutant                                                                                                                              | Potential Emission Rates (Per Cell) |         | Potential Emission Rates (Two Towers) |            |
|                                                                                                                                        | (lb/hr)                             | (g/s)   | (lb/hr)                               | (tpy)      |
| PM                                                                                                                                     | 0.941                               | 0.1185  | 30.1                                  | 131.8      |
| PM <sub>10</sub>                                                                                                                       | 0.007                               | 0.0008  | 0.2                                   | 0.9        |
|                                                                                                                                        |                                     |         |                                       |            |
| <b>SOURCES OF INPUT DATA</b>                                                                                                           |                                     |         |                                       |            |
| Parameter                                                                                                                              | Data Source                         |         |                                       |            |
| Operating Hours (annual)                                                                                                               | DEF, 2014                           |         |                                       |            |
| Recirculating Water Flow Rate (gpm)                                                                                                    | DEF, 2014                           |         |                                       |            |
| Drift Loss Rate (%)                                                                                                                    | DEF, 2014                           |         |                                       |            |
| PM <sub>10</sub> /PM Fraction:                                                                                                         | ECT, 2014                           |         |                                       |            |
| TDS (ppmw)                                                                                                                             | DEF, 2014                           |         |                                       |            |
| <b>NOTES AND OBSERVATIONS</b>                                                                                                          |                                     |         |                                       |            |
|                                                                                                                                        |                                     |         |                                       |            |
|                                                                                                                                        |                                     |         |                                       |            |
| <b>DATA CONTROL</b>                                                                                                                    |                                     |         |                                       |            |
| Data Collected by:                                                                                                                     | C. Foster                           | May-14  |                                       |            |
| Data Entered by:                                                                                                                       | C. Foster                           | May-14  |                                       |            |
| Reviewed by:                                                                                                                           | W. Karl                             | May-14  |                                       |            |

Table B-27. Cooling Tower PM<sub>10</sub> Fraction—Cooling Towers

**Procedure Citation:** AWMA Abstract No. 216, Session No. AM-1b, Orlando, 2001. Calculating Realistic PM<sub>10</sub> Emissions from Cooling Towers

**Cooling Tower Design Data:** Recirculating Water Total Dissolved Solids: 30,680 ppmw  
PM<sub>10</sub> Density (assumed NaCl): 2.2 g/cm<sup>3</sup>

| Droplet Diameter (μm)             | Droplet Volume (m <sup>3</sup> ) | Droplet Mass (gram) | Particle Mass (gram) | Particle Volume (m <sup>3</sup> ) | Particle Diameter (μm) | Mass Fraction (%) |
|-----------------------------------|----------------------------------|---------------------|----------------------|-----------------------------------|------------------------|-------------------|
| <u>Particle Size Distribution</u> |                                  |                     |                      |                                   |                        |                   |
| 10                                | 5.24E-16                         | 5.24E-10            | 1.61E-11             | 7.30E-18                          | 2.407                  | 0.000             |
| 20                                | 4.19E-15                         | 4.19E-09            | 1.29E-10             | 5.84E-17                          | 4.814                  | 0.196             |
| 30                                | 1.41E-14                         | 1.41E-08            | 4.34E-10             | 1.97E-16                          | 7.221                  | 0.226             |
| 40                                | 3.35E-14                         | 3.35E-08            | 1.03E-09             | 4.67E-16                          | 9.628                  | 0.514             |
| 50                                | 6.54E-14                         | 6.54E-08            | 2.01E-09             | 9.13E-16                          | 12.035                 | 1.816             |
| 60                                | 1.13E-13                         | 1.13E-07            | 3.47E-09             | 1.58E-15                          | 14.442                 | 5.702             |
| 70                                | 1.80E-13                         | 1.80E-07            | 5.51E-09             | 2.50E-15                          | 16.849                 | 21.348            |
| 90                                | 3.82E-13                         | 3.82E-07            | 1.17E-08             | 5.32E-15                          | 21.663                 | 49.812            |
| 110                               | 6.97E-13                         | 6.97E-07            | 2.14E-08             | 9.72E-15                          | 26.477                 | 70.509            |
| 130                               | 1.15E-12                         | 1.15E-06            | 3.53E-08             | 1.60E-14                          | 31.291                 | 82.023            |
| 150                               | 1.77E-12                         | 1.77E-06            | 5.42E-08             | 2.46E-14                          | 36.105                 | 88.012            |
| 180                               | 3.05E-12                         | 3.05E-06            | 9.37E-08             | 4.26E-14                          | 43.326                 | 91.032            |
| 210                               | 4.85E-12                         | 4.85E-06            | 1.49E-07             | 6.76E-14                          | 50.547                 | 92.468            |
| 240                               | 7.24E-12                         | 7.24E-06            | 2.22E-07             | 1.01E-13                          | 57.768                 | 94.091            |
| 270                               | 1.03E-11                         | 1.03E-05            | 3.16E-07             | 1.44E-13                          | 64.989                 | 94.689            |
| 300                               | 1.41E-11                         | 1.41E-05            | 4.34E-07             | 1.97E-13                          | 72.210                 | 96.288            |
| 350                               | 2.24E-11                         | 2.24E-05            | 6.89E-07             | 3.13E-13                          | 84.245                 | 97.011            |
| 400                               | 3.35E-11                         | 3.35E-05            | 1.03E-06             | 4.67E-13                          | 96.280                 | 98.340            |
| 450                               | 4.77E-11                         | 4.77E-05            | 1.46E-06             | 6.65E-13                          | 108.315                | 99.071            |
| 500                               | 6.54E-11                         | 6.54E-05            | 2.01E-06             | 9.13E-13                          | 120.350                | 99.071            |
| 600                               | 1.13E-10                         | 1.13E-04            | 3.47E-06             | 1.58E-12                          | 144.420                | 100.000           |
| <u>Linear Interpolation</u>       |                                  |                     |                      |                                   |                        |                   |
| 40                                | 3.35E-14                         | 3.35E-08            | 1.03E-09             | 4.67E-16                          | 9.628                  | 0.514             |
| 50                                | 6.54E-14                         | 6.54E-08            | 2.01E-09             | 9.13E-16                          | 12.035                 | 1.816             |
|                                   |                                  |                     |                      |                                   | <b>10.000</b>          | <b>0.715</b>      |

Mass Fraction of Cooling Tower PM ≤ PM<sub>10</sub>: 0.007

Source: ECT, 2014.

Table B-28.

| POTENTIAL EMISSION INVENTORY WORKSHEET                                                                                                               |                                     |                                 |                                      |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------|--------------------------------------|----------------|
| DEF- Citrus Combined Cycle                                                                                                                           |                                     |                                 |                                      | CHLR CT 1 - 12 |
| <b>EMISSION SOURCE TYPE</b>                                                                                                                          |                                     |                                 |                                      |                |
| INLET CHILLER COOLING TOWERS - PM/PM <sub>10</sub>                                                                                                   |                                     |                                 |                                      |                |
| <b>FACILITY AND SOURCE DESCRIPTION</b>                                                                                                               |                                     |                                 |                                      |                |
| Emission Source Description:                                                                                                                         |                                     | Mechanical Draft Cooling Towers |                                      |                |
| Emission Control Method(s)/ID No.(s):                                                                                                                |                                     | Drift Mist Eliminators          |                                      |                |
| Emission Point Description:                                                                                                                          |                                     | Inlet Chiller Cooling Tower     |                                      |                |
| <b>EMISSION ESTIMATION EQUATIONS</b>                                                                                                                 |                                     |                                 |                                      |                |
| PM Emission (lb/hr) = Recirculating Water Flow Rate (gpm) x (Drift Loss Rate (%) / 100) x 8.345 lb/gal x (TDS (ppmw) / 10 <sup>6</sup> ) x 60 min/hr |                                     |                                 |                                      |                |
| PM Emission (ton/yr) = PM Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)                                                           |                                     |                                 |                                      |                |
| PM <sub>10</sub> Emission (lb/hr) = PM Emissions (lb/hr) x PM <sub>10</sub> /PM Fraction                                                             |                                     |                                 |                                      |                |
| PM <sub>10</sub> Emission (ton/yr) = PM <sub>10</sub> Emission (lb/hr) x Operating Period (hrs/yr) x (1 ton/ 2,000 lb)                               |                                     |                                 |                                      |                |
| Source: ECT, 2014                                                                                                                                    |                                     |                                 |                                      |                |
| <b>INPUT DATA AND EMISSIONS CALCULATIONS</b>                                                                                                         |                                     |                                 |                                      |                |
| Cooling Tower Data (Per Tower)                                                                                                                       |                                     |                                 |                                      |                |
| Operating Hours:                                                                                                                                     | 8,760                               | hrs/yr                          |                                      |                |
| Number of Cells per Tower:                                                                                                                           | 6                                   |                                 |                                      |                |
| Recirculating Water Flow Rate:                                                                                                                       | 6,000                               | gal/min                         |                                      |                |
| Drift Loss Rate:                                                                                                                                     | 0.00050                             | %                               |                                      |                |
| Total Dissolved Solids (TDS):                                                                                                                        | 3,000                               | ppmw                            |                                      |                |
| PM <sub>10</sub> /PM Fraction:                                                                                                                       | 0.500                               |                                 |                                      |                |
| Number of Towers:                                                                                                                                    | 2                                   |                                 |                                      |                |
| Pollutant                                                                                                                                            | Potential Emission Rates (Per Cell) |                                 | Potential Emission Rates (One Tower) |                |
|                                                                                                                                                      | (lb/hr)                             | (g/s)                           | (lb/hr)                              | (tpy)          |
| PM                                                                                                                                                   | 0.008                               | 0.0009                          | 0.1                                  | 0.4            |
| PM <sub>10</sub>                                                                                                                                     | 0.004                               | 0.0005                          | 0.0                                  | 0.2            |
|                                                                                                                                                      |                                     |                                 |                                      |                |
| <b>SOURCES OF INPUT DATA</b>                                                                                                                         |                                     |                                 |                                      |                |
| Parameter                                                                                                                                            | Data Source                         |                                 |                                      |                |
| Operating Hours (annual)                                                                                                                             | DEF, 2014                           |                                 |                                      |                |
| Recirculating Water Flow Rate (gpm)                                                                                                                  | DEF, 2014                           |                                 |                                      |                |
| Drift Loss Rate (%)                                                                                                                                  | DEF, 2014                           |                                 |                                      |                |
| PM <sub>10</sub> /PM Fraction:                                                                                                                       | ECT, 2014                           |                                 |                                      |                |
| TDS (ppmw)                                                                                                                                           | DEF, 2014                           |                                 |                                      |                |
| <b>NOTES AND OBSERVATIONS</b>                                                                                                                        |                                     |                                 |                                      |                |
|                                                                                                                                                      |                                     |                                 |                                      |                |
|                                                                                                                                                      |                                     |                                 |                                      |                |
| <b>DATA CONTROL</b>                                                                                                                                  |                                     |                                 |                                      |                |
| Data Collected by:                                                                                                                                   | C. Foster                           | May-14                          |                                      |                |
| Data Entered by:                                                                                                                                     | C. Foster                           | May-14                          |                                      |                |
| Reviewed by:                                                                                                                                         | W. Karl                             | May-14                          |                                      |                |

Table B-29. Cooling Tower PM<sub>10</sub> Fraction—Inlet Chiller Cooling Towers

**Procedure Citation:** AWMA Abstract No. 216, Session No. AM-1b, Orlando, 2001. Calculating Realistic PM<sub>10</sub> Emissions from Cooling Towers

**Cooling Tower Design Data:** Recirculating Water Total Dissolved Solids: 3,000 ppmw  
PM<sub>10</sub> Density (assumed NaCl): 2.2 g/cm<sup>3</sup>

| Droplet Diameter (μm)                                       | Droplet Volume (m <sup>3</sup> ) | Droplet Mass (gram) | Particle Mass (gram) | Particle Volume (m <sup>3</sup> ) | Particle Diameter (μm) | Mass Fraction (%) |
|-------------------------------------------------------------|----------------------------------|---------------------|----------------------|-----------------------------------|------------------------|-------------------|
| <u>Particle Size Distribution</u>                           |                                  |                     |                      |                                   |                        |                   |
| 10                                                          | 5.24E-16                         | 5.24E-10            | 1.57E-12             | 7.14E-19                          | 1.109                  | 0.000             |
| 20                                                          | 4.19E-15                         | 4.19E-09            | 1.26E-11             | 5.71E-18                          | 2.218                  | 0.196             |
| 30                                                          | 1.41E-14                         | 1.41E-08            | 4.24E-11             | 1.93E-17                          | 3.327                  | 0.226             |
| 40                                                          | 3.35E-14                         | 3.35E-08            | 1.01E-10             | 4.57E-17                          | 4.436                  | 0.514             |
| 50                                                          | 6.54E-14                         | 6.54E-08            | 1.96E-10             | 8.92E-17                          | 5.545                  | 1.816             |
| 60                                                          | 1.13E-13                         | 1.13E-07            | 3.39E-10             | 1.54E-16                          | 6.654                  | 5.702             |
| 70                                                          | 1.80E-13                         | 1.80E-07            | 5.39E-10             | 2.45E-16                          | 7.762                  | 21.348            |
| 90                                                          | 3.82E-13                         | 3.82E-07            | 1.15E-09             | 5.21E-16                          | 9.980                  | 49.812            |
| 110                                                         | 6.97E-13                         | 6.97E-07            | 2.09E-09             | 9.50E-16                          | 12.198                 | 70.509            |
| 130                                                         | 1.15E-12                         | 1.15E-06            | 3.45E-09             | 1.57E-15                          | 14.416                 | 82.023            |
| 150                                                         | 1.77E-12                         | 1.77E-06            | 5.30E-09             | 2.41E-15                          | 16.634                 | 88.012            |
| 180                                                         | 3.05E-12                         | 3.05E-06            | 9.16E-09             | 4.16E-15                          | 19.961                 | 91.032            |
| 210                                                         | 4.85E-12                         | 4.85E-06            | 1.45E-08             | 6.61E-15                          | 23.287                 | 92.468            |
| 240                                                         | 7.24E-12                         | 7.24E-06            | 2.17E-08             | 9.87E-15                          | 26.614                 | 94.091            |
| 270                                                         | 1.03E-11                         | 1.03E-05            | 3.09E-08             | 1.41E-14                          | 29.941                 | 94.689            |
| 300                                                         | 1.41E-11                         | 1.41E-05            | 4.24E-08             | 1.93E-14                          | 33.268                 | 96.288            |
| 350                                                         | 2.24E-11                         | 2.24E-05            | 6.73E-08             | 3.06E-14                          | 38.812                 | 97.011            |
| 400                                                         | 3.35E-11                         | 3.35E-05            | 1.01E-07             | 4.57E-14                          | 44.357                 | 98.340            |
| 450                                                         | 4.77E-11                         | 4.77E-05            | 1.43E-07             | 6.51E-14                          | 49.901                 | 99.071            |
| 500                                                         | 6.54E-11                         | 6.54E-05            | 1.96E-07             | 8.92E-14                          | 55.446                 | 99.071            |
| 600                                                         | 1.13E-10                         | 1.13E-04            | 3.39E-07             | 1.54E-13                          | 66.535                 | 100.000           |
| <u>Linear Interpolation</u>                                 |                                  |                     |                      |                                   |                        |                   |
| 90                                                          | 3.82E-13                         | 3.82E-07            | 1.15E-09             | 5.21E-16                          | 9.980                  | 49.812            |
| 110                                                         | 6.97E-13                         | 6.97E-07            | 2.09E-09             | 9.50E-16                          | 12.198                 | 70.509            |
|                                                             |                                  |                     |                      |                                   | <b>10.000</b>          | <b>49.996</b>     |
| <b>Mass Fraction of Cooling Tower PM ≤ PM<sub>10</sub>:</b> |                                  |                     | <b>0.500</b>         |                                   |                        |                   |

Source: ECT, 2014.

## **APPENDIX C**

### **PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER**

## **APPENDIX C**

### **PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER**

Unconfined PM emissions may result from operations including:

- Vehicular traffic on paved and unpaved roads and parking areas.
- Wind-blown dust from paved and unpaved roads and parking areas.

The following techniques will be used to prevent unconfined PM emissions on an as-needed basis:

- Chemical or water application to:
  - Unpaved roads and parking areas.
  - Unpaved yard areas.
- Flushing/sweeping paved roads and parking areas.
- Landscaping or planting of vegetation.
- Other techniques, as necessary.

**APPENDIX D**

**ACID RAIN PART FORMS**



# Acid Rain Part Application

For more information, see instructions and refer to 40 CFR 72.30, 72.31, and 74; and Chapter 62-214, F.A.C.

This submission is: ☐ New ☒ Revised ☐ Renewal

## STEP 1

Identify the source by plant name, state, and ORIS or plant code.

|                     |         |                 |
|---------------------|---------|-----------------|
| Crystal River Plant | Florida | 628             |
| Plant name          | State   | ORIS/Plant Code |

## STEP 2

Enter the unit ID# for every Acid Rain unit at the Acid Rain source in column "a."

If unit a SO<sub>2</sub> Opt-in unit, enter "yes" in column "b".

For new units or SO<sub>2</sub> Opt-in units, enter the requested information in columns "d" and "e."

| a        | b                                           | c                                                              | d                                                                  | e                                                                         |
|----------|---------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------|
| Unit ID# | SO <sub>2</sub> Opt-in Unit?<br>(Yes or No) | Unit will hold allowances in accordance with 40 CFR 72.9(c)(1) | New or SO <sub>2</sub> Opt-in Units<br><br>Commence Operation Date | New or SO <sub>2</sub> Opt-in Units<br><br>Monitor Certification Deadline |
| 1        | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| 2        | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| 4        | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| 5        | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| CCC-1A   | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| CCC-1B   | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| CCC-2A   | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
| CCC-2B   | No                                          | Yes                                                            | N/A                                                                | N/A                                                                       |
|          |                                             | Yes                                                            |                                                                    |                                                                           |
|          |                                             | Yes                                                            |                                                                    |                                                                           |
|          |                                             | Yes                                                            |                                                                    |                                                                           |
|          |                                             | Yes                                                            |                                                                    |                                                                           |

Plant Name (from STEP 1)  
Crystal River Plant

### STEP 3

#### Read the standard requirements.

#### Acid Rain Part Requirements.

- (1) The designated representative of each Acid Rain source and each Acid Rain unit at the source shall:
  - (i) Submit a complete Acid Rain Part application (including a compliance plan) under 40 CFR Part 72 and Rules 62-214.320 and 330, F.A.C., in accordance with the deadlines specified in Rule 62-214.320, F.A.C.; and
  - (ii) Submit in a timely manner any supplemental information that the DEP determines is necessary in order to review an Acid Rain Part application and issue or deny an Acid Rain Part;
- (2) The owners and operators of each Acid Rain source and each Acid Rain unit at the source shall:
  - (i) Operate the unit in compliance with a complete Acid Rain Part application or a superseding Acid Rain Part issued by the DEP; and
  - (ii) Have an Acid Rain Part.

#### Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each Acid Rain source and each Acid Rain unit at the source shall comply with the monitoring requirements as provided in 40 CFR Part 75, and Rule 62-214.420, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR Part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.
- (4) For applications including a SO<sub>2</sub> Opt-in unit, a monitoring plan for each SO<sub>2</sub> Opt-in unit must be submitted with this application pursuant to 40 CFR 74.14(a). For renewal applications for SO<sub>2</sub> Opt-in units include an updated monitoring plan if applicable under 40 CFR 75 53(b).

#### Sulfur Dioxide Requirements.

- (1) The owners and operators of each source and each Acid Rain unit at the source shall:
  - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)), or in the compliance subaccount of another Acid Rain unit at the same source to the extent provided in 40 CFR 73.35(b)(3), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
  - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An Acid Rain unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  - (i) Starting January 1, 2000, an Acid Rain unit under 40 CFR 72.6(a)(2); or
  - (ii) Starting on the later of January 1, 2000, or the deadline for monitor certification under 40 CFR Part 75, an Acid Rain unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain Part application, the Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements. The owners and operators of the source and each Acid Rain unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

#### Excess Emissions Requirements.

- (1) The designated representative of an Acid Rain unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR Part 77.
- (2) The owners and operators of an Acid Rain unit that has excess emissions in any calendar year shall:
  - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR Part 77; and
  - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR Part 77.

#### Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each Acid Rain unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the EPA or the DEP:
  - (i) The certificate of representation for the designated representative for the source and each Acid Rain unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with Rule 62-214.350, F.A.C.; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
  - (ii) All emissions monitoring information, in accordance with 40 CFR Part 75, provided that to the extent that 40 CFR Part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,

**STEP 3,  
Continued.**

Plant Name (from STEP 1)  
Crystal River Plant

**Recordkeeping and Reporting Requirements (cont)**

(iv) Copies of all documents used to complete an Acid Rain Part application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

(2) The designated representative of an Acid Rain source and each Acid Rain unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR Part 72, Subpart I, and 40 CFR Part 75.

**Liability.**

(1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.

(2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.

(3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.

(4) Each Acid Rain source and each Acid Rain unit shall meet the requirements of the Acid Rain Program.

(5) Any provision of the Acid Rain Program that applies to an Acid Rain source (including a provision applicable to the designated representative of an Acid Rain source) shall also apply to the owners and operators of such source and of the Acid Rain units at the source.

(6) Any provision of the Acid Rain Program that applies to an Acid Rain unit (including a provision applicable to the designated representative of an Acid Rain unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO<sub>x</sub> averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR Part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one Acid Rain unit shall not be liable for any violation by any other Acid Rain unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.

(7) Each violation of a provision of 40 CFR Parts 72, 73, 74, 75, 76, 77, and 78 by an Acid Rain source or Acid Rain unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

**Effect on Other Authorities.**

No provision of the Acid Rain Program, an Acid Rain Part application, an Acid Rain Part, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

(1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an Acid Rain source or Acid Rain unit from compliance with any other provision of the Act, including the provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a unit can hold; *provided*, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.

**STEP 4**

**For SO<sub>2</sub> Opt-in units only.**

**In column "f" enter the unit ID# for every SO<sub>2</sub> Opt-in unit identified in column "a" of STEP 2.**

**For column "g" describe the combustion unit and attach information and diagrams on the combustion unit's configuration.**

**In column "h" enter the hours.**

| f        | g                                  | h (not required for renewal application)                                      |
|----------|------------------------------------|-------------------------------------------------------------------------------|
| Unit ID# | Description of the combustion unit | Number of hours unit operated in the six months preceding initial application |
|          |                                    |                                                                               |
|          |                                    |                                                                               |
|          |                                    |                                                                               |
|          |                                    |                                                                               |
|          |                                    |                                                                               |
|          |                                    |                                                                               |
|          |                                    |                                                                               |

Plant Name (from STEP 1)  
Crystal River Plant

# STEP 5

For SO<sub>2</sub> Opt-in units only.  
(Not required for SO<sub>2</sub> Opt-in renewal applications.)

In column "i" enter the unit ID# for every SO<sub>2</sub> Opt-in unit identified in column "a" (and in column "f").

For columns "j" through "n," enter the information required under 40 CFR 74.20-74.25 and attach all supporting documentation required by 40 CFR 74.20-74.25.

| i        | j                                                              | k                                                                       | l                                                                               | m                                                                                  | n                                                                                    |
|----------|----------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Unit ID# | Baseline or Alternative Baseline under 40 CFR 74.20<br>(mmBtu) | Actual SO <sub>2</sub> Emissions Rate under 40 CFR 74.22<br>(lbs/mmBtu) | Allowable 1985 SO <sub>2</sub> Emissions Rate under 40 CFR 74.23<br>(lbs/mmBtu) | Current Allowable SO <sub>2</sub> Emissions Rate under 40 CFR 74.24<br>(lbs/mmBtu) | Current Promulgated SO <sub>2</sub> Emissions Rate under 40 CFR 74.25<br>(lbs/mmBtu) |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |
|          |                                                                |                                                                         |                                                                                 |                                                                                    |                                                                                      |

# STEP 6

For SO<sub>2</sub> Opt-in units only.

Attach additional requirements, certify and sign.

- If the combustion source seeks to qualify for a transfer of allowances from the replacement of thermal energy, a thermal energy plan as provided in 40 CFR 74.47 for combustion sources must be attached.
- A statement whether the combustion unit was previously an affected unit under 40 CFR 74.
- A statement that the combustion unit is not an affected unit under 40 CFR 72.6 and does not have an exemption under 40 CFR 72.7, 72.8, or 72.14.
- Attach a complete compliance plan for SO<sub>2</sub> under 40 CFR 72.40.
- The designated representative of the combustion unit shall submit a monitoring plan in accordance with 40 CFR 74.61. For renewal application, submit an updated monitoring plan if applicable under 40 CFR 75.53(b).
- The following statement must be signed by the designated representative or alternate designated representative of the combustion source: "I certify that the data submitted under 40 CFR Part 74, Subpart C, reflects actual operations of the combustion source and has not been adjusted in any way."

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |                           |                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------|------------------------------------------|
| Signature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   | Date                      |                                          |
| <b>Certification (for designated representative or alternate designated representative only)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |                           |                                          |
| I am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment. |                   |                           |                                          |
| Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Jeffrey R. Swartz | Title                     | Vice President, Power Generation Florida |
| Owner Company Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                   | Duke Energy Florida, Inc. |                                          |
| Phone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (727) 820 – 5188  | E-mail address            |                                          |
| Signature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   | Date                      |                                          |

# STEP 7

Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.

**APPENDIX E**

**CAIR FORMS**

# Clean Air Interstate Rule (CAIR) Part

For more information, see instructions and refer to 40 CFR 96.121, 96.122, 96.221, 96.222, 96.321 and 96.322; and Rule 62-296.470, F.A.C.

This submission is: ☐ New ☒ Revised ☐ Renewal

## STEP 1

Identify the source by plant name and ORIS or EIA plant code

|                                    |                   |                                |
|------------------------------------|-------------------|--------------------------------|
| Plant Name:<br>Crystal River Plant | State:<br>Florida | ORIS or EIA Plant Code:<br>628 |
|------------------------------------|-------------------|--------------------------------|

## STEP 2

In column "a" enter the unit ID# for every CAIR unit at the CAIR source.

In columns "b," "c," and "d," indicate to which CAIR program(s) each unit is subject by placing an "X" in the column(s).

For new units, enter the requested information in columns "e" and "f."

| a        | b                                                                                                   | c                                                                                                  | d                                                                                             | e                                                        | f                                                    |
|----------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------------|
| Unit ID# | Unit will hold nitrogen oxides (NO <sub>x</sub> ) allowances in accordance with 40 CFR 96.106(c)(1) | Unit will hold sulfur dioxide (SO <sub>2</sub> ) allowances in accordance with 40 CFR 96.206(c)(1) | Unit will hold NO <sub>x</sub> Ozone Season allowances in accordance with 40 CFR 96.306(c)(1) | New Units<br>Expected Commence Commercial Operation Date | New Units<br>Expected Monitor Certification Deadline |
| 1        | X                                                                                                   | X                                                                                                  | X                                                                                             |                                                          |                                                      |
| 2        | X                                                                                                   | X                                                                                                  | X                                                                                             |                                                          |                                                      |
| 4        | X                                                                                                   | X                                                                                                  | X                                                                                             |                                                          |                                                      |
| 5        | X                                                                                                   | X                                                                                                  | X                                                                                             |                                                          |                                                      |
| CCC-1A   | X                                                                                                   | X                                                                                                  | X                                                                                             | 05/2018                                                  | 08/2018                                              |
| CCC-1B   | X                                                                                                   | X                                                                                                  | X                                                                                             | 05/2018                                                  | 08/2018                                              |
| CCC-2A   | X                                                                                                   | X                                                                                                  | X                                                                                             | 12/2018                                                  | 03/2019                                              |
| CCC-2B   | X                                                                                                   | X                                                                                                  | X                                                                                             | 12/2018                                                  | 03/2019                                              |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |
|          |                                                                                                     |                                                                                                    |                                                                                               |                                                          |                                                      |

Plant Name (from STEP 1)  
Crystal River Plant

### STEP 3

#### Read the standard requirements.

### CAIR NO<sub>x</sub> ANNUAL TRADING PROGRAM

#### CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall:
  - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.122 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
  - (ii) [Reserved];
- (2) The owners and operators of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CC, and operate the source and the unit in compliance with such CAIR Part.

#### Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HH, shall be used to determine compliance by each CAIR NO<sub>x</sub> source with the following CAIR NO<sub>x</sub> Emissions Requirements.

#### NO<sub>x</sub> Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall hold, in the source's compliance account, CAIR NO<sub>x</sub> allowances available for compliance deductions for the control period under 40 CFR 96.154(a) in an amount not less than the tons of total NO<sub>x</sub> emissions for the control period from all CAIR NO<sub>x</sub> units at the source, as determined in accordance with 40 CFR Part 96, Subpart HH.
- (2) A CAIR NO<sub>x</sub> unit shall be subject to the requirements under paragraph (1) of the NO<sub>x</sub> Requirements starting on the later of January 1, 2009, or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.170(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR NO<sub>x</sub> allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO<sub>x</sub> Requirements, for a control period in a calendar year before the year for which the CAIR NO<sub>x</sub> allowance was allocated.
- (4) CAIR NO<sub>x</sub> allowances shall be held in, deducted from, or transferred into or among CAIR NO<sub>x</sub> Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FF and GG.
- (5) A CAIR NO<sub>x</sub> allowance is a limited authorization to emit one ton of NO<sub>x</sub> in accordance with the CAIR NO<sub>x</sub> Annual Trading Program. No provision of the CAIR NO<sub>x</sub> Annual Trading Program, the CAIR Part, or an exemption under 40 CFR 96.105 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR NO<sub>x</sub> allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EE, FF, or GG, every allocation, transfer, or deduction of a CAIR NO<sub>x</sub> allowance to or from a CAIR NO<sub>x</sub> unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO<sub>x</sub> unit.

#### Excess Emissions Requirements.

If a CAIR NO<sub>x</sub> source emits NO<sub>x</sub> during any control period in excess of the CAIR NO<sub>x</sub> emissions limitation, then:

- (1) The owners and operators of the source and each CAIR NO<sub>x</sub> unit at the source shall surrender the CAIR NO<sub>x</sub> allowances required for deduction under 40 CFR 96.154(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AA, the Clean Air Act, and applicable state law.

#### Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.
  - (i) The certificate of representation under 40 CFR 96.113 for the CAIR designated representative for the source and each CAIR NO<sub>x</sub> unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
  - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO<sub>x</sub> Annual Trading Program.
  - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO<sub>x</sub> Annual Trading Program or to demonstrate compliance with the requirements of the CAIR NO<sub>x</sub> Annual Trading Program.
- (2) The CAIR designated representative of a CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit at the source shall submit the reports required under the CAIR NO<sub>x</sub> Annual Trading Program, including those under 40 CFR Part 96, Subpart HH.

Plant Name (from STEP 1)  
Crystal River Plant

**STEP 3,  
Continued**

Liability.

- (1) Each CAIR NO<sub>x</sub> source and each CAIR NO<sub>x</sub> unit shall meet the requirements of the CAIR NO<sub>x</sub> Annual Trading Program.
- (2) Any provision of the CAIR NO<sub>x</sub> Annual Trading Program that applies to a CAIR NO<sub>x</sub> source or the CAIR designated representative of a CAIR NO<sub>x</sub> source shall also apply to the owners and operators of such source and of the CAIR NO<sub>x</sub> units at the source.
- (3) Any provision of the CAIR NO<sub>x</sub> Annual Trading Program that applies to a CAIR NO<sub>x</sub> unit or the CAIR designated representative of a CAIR NO<sub>x</sub> unit shall also apply to the owners and operators of such unit.

Effect on Other Authorities.

No provision of the CAIR NO<sub>x</sub> Annual Trading Program, a CAIR Part, or an exemption under 40 CFR 96.105 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO<sub>x</sub> source or CAIR NO<sub>x</sub> unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

**CAIR SO<sub>2</sub> TRADING PROGRAM**

CAIR Part Requirements.

- (1) The CAIR designated representative of each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall:
  - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.222 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
  - (ii) [Reserved];
- (2) The owners and operators of each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall have a CAIR Part included in the Title V operating permit issued by the DEP under 40 CFR Part 96, Subpart CCC, for the source and operate the source and each CAIR unit in compliance with such CAIR Part.

Monitoring, Reporting, and Recordkeeping Requirements.

- (1) The owners and operators, and the CAIR designated representative, of each CAIR SO<sub>2</sub> source and each SO<sub>2</sub> CAIR unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHH, shall be used to determine compliance by each CAIR SO<sub>2</sub> source with the following CAIR SO<sub>2</sub> Emission Requirements.

SO<sub>2</sub> Emission Requirements.

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall hold, in the source's compliance account, a tonnage equivalent in CAIR SO<sub>2</sub> allowances available for compliance deductions for the control period, as determined in accordance with 40 CFR 96.254(a) and (b), not less than the tons of total sulfur dioxide emissions for the control period from all CAIR SO<sub>2</sub> units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHH.
- (2) A CAIR SO<sub>2</sub> unit shall be subject to the requirements under paragraph (1) of the Sulfur Dioxide Emission Requirements starting on the later of January 1, 2010 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.270(b)(1) or (2) and for each control period thereafter.
- (3) A CAIR SO<sub>2</sub> allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the SO<sub>2</sub> Emission Requirements, for a control period in a calendar year before the year for which the CAIR SO<sub>2</sub> allowance was allocated.
- (4) CAIR SO<sub>2</sub> allowances shall be held in, deducted from, or transferred into or among CAIR SO<sub>2</sub> Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFF and GGG.
- (5) A CAIR SO<sub>2</sub> allowance is a limited authorization to emit sulfur dioxide in accordance with the CAIR SO<sub>2</sub> Trading Program. No provision of the CAIR SO<sub>2</sub> Trading Program, the CAIR Part, or an exemption under 40 CFR 96.205 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR SO<sub>2</sub> allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart FFF or GGG, every allocation, transfer, or deduction of a CAIR SO<sub>2</sub> allowance to or from a CAIR SO<sub>2</sub> unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR SO<sub>2</sub> unit.

Excess Emissions Requirements.

If a CAIR SO<sub>2</sub> source emits SO<sub>2</sub> during any control period in excess of the CAIR SO<sub>2</sub> emissions limitation, then:

- (1) The owners and operators of the source and each CAIR SO<sub>2</sub> unit at the source shall surrender the CAIR SO<sub>2</sub> allowances required for deduction under 40 CFR 96.254(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAA, the Clean Air Act, and applicable state law.



**STEP 3,  
Continued**

Plant Name (from STEP 1)  
Crystal River Plant

**Recordkeeping and Reporting Requirements.**

- (1) Unless otherwise provided, the owners and operators of the CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the Department or the Administrator.
  - (i) The certificate of representation under 40 CFR 96.213 for the CAIR designated representative for the source and each CAIR SO<sub>2</sub> unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.213 changing the CAIR designated representative.
  - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR SO<sub>2</sub> Trading Program.
  - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR SO<sub>2</sub> Trading Program or to demonstrate compliance with the requirements of the CAIR SO<sub>2</sub> Trading Program.
- (2) The CAIR designated representative of a CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit at the source shall submit the reports required under the CAIR SO<sub>2</sub> Trading Program, including those under 40 CFR Part 96, Subpart HHH.

**Liability.**

- (1) Each CAIR SO<sub>2</sub> source and each CAIR SO<sub>2</sub> unit shall meet the requirements of the CAIR SO<sub>2</sub> Trading Program.
- (2) Any provision of the CAIR SO<sub>2</sub> Trading Program that applies to a CAIR SO<sub>2</sub> source or the CAIR designated representative of a CAIR SO<sub>2</sub> source shall also apply to the owners and operators of such source and of the CAIR SO<sub>2</sub> units at the source.
- (3) Any provision of the CAIR SO<sub>2</sub> Trading Program that applies to a CAIR SO<sub>2</sub> unit or the CAIR designated representative of a CAIR SO<sub>2</sub> unit shall also apply to the owners and operators of such unit.

**Effect on Other Authorities.**

No provision of the CAIR SO<sub>2</sub> Trading Program, a CAIR Part, or an exemption under 40 CFR 96.205 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR SO<sub>2</sub> source or CAIR SO<sub>2</sub> unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

**CAIR NO<sub>x</sub> OZONE SEASON TRADING PROGRAM**

**CAIR Part Requirements.**

- (1) The CAIR designated representative of each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall:
  - (i) Submit to the DEP a complete and certified CAIR Part form under 40 CFR 96.322 and Rule 62-296.470, F.A.C., in accordance with the deadlines specified in Rule 62-213.420, F.A.C.; and
  - (ii) [Reserved];
- (2) The owners and operators of each CAIR NO<sub>x</sub> Ozone Season source required to have a Title V operating permit or air construction permit, and each CAIR NO<sub>x</sub> Ozone Season unit required to have a Title V operating permit or air construction permit at the source shall have a CAIR Part included in the Title V operating permit or air construction permit issued by the DEP under 40 CFR Part 96, Subpart CCCC, for the source and operate the source and the unit in compliance with such CAIR Part.

**Monitoring, Reporting, and Recordkeeping Requirements.**

- (1) The owners and operators, and the CAIR designated representative, of each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall comply with the monitoring, reporting, and recordkeeping requirements of 40 CFR Part 96, Subpart HHHH, and Rule 62-296.470, F.A.C.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR Part 96, Subpart HHHH, shall be used to determine compliance by each CAIR NO<sub>x</sub> Ozone Season source with the following CAIR NO<sub>x</sub> Ozone Season Emissions Requirements.

**NO<sub>x</sub> Ozone Season Emission Requirements.**

- (1) As of the allowance transfer deadline for a control period, the owners and operators of each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall hold, in the source's compliance account, CAIR NO<sub>x</sub> Ozone Season allowances available for compliance deductions for the control period under 40 CFR 96.354(a) in an amount not less than the tons of total NO<sub>x</sub> emissions for the control period from all CAIR NO<sub>x</sub> Ozone Season units at the source, as determined in accordance with 40 CFR Part 96, Subpart HHHH.
- (2) A CAIR NO<sub>x</sub> Ozone Season unit shall be subject to the requirements under paragraph (1) of the NO<sub>x</sub> Ozone Season Emission Requirements starting on the later of May 1, 2009 or the deadline for meeting the unit's monitor certification requirements under 40 CFR 96.370(b)(1), (2), or (3) and for each control period thereafter.
- (3) A CAIR NO<sub>x</sub> Ozone Season allowance shall not be deducted, for compliance with the requirements under paragraph (1) of the NO<sub>x</sub> Ozone Season Emission Requirements, for a control period in a calendar year before the year for which the CAIR NO<sub>x</sub> Ozone Season allowance was allocated.
- (4) CAIR NO<sub>x</sub> Ozone Season allowances shall be held in, deducted from, or transferred into or among CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System accounts in accordance with 40 CFR Part 96, Subparts FFFF and GGGG.
- (5) A CAIR NO<sub>x</sub> Ozone Season allowance is a limited authorization to emit one ton of NO<sub>x</sub> in accordance with the CAIR NO<sub>x</sub> Ozone Season Trading Program. No provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program, the CAIR Part, or an exemption under 40 CFR 96.305 and no provision of law shall be construed to limit the authority of the state or the United States to terminate or limit such authorization.
- (6) A CAIR NO<sub>x</sub> Ozone Season allowance does not constitute a property right.
- (7) Upon recordation by the Administrator under 40 CFR Part 96, Subpart EEEE, FFFF or GGGG, every allocation, transfer, or deduction of a CAIR NO<sub>x</sub> Ozone Season allowance to or from a CAIR NO<sub>x</sub> Ozone Season unit's compliance account is incorporated automatically in any CAIR Part of the source that includes the CAIR NO<sub>x</sub> Ozone Season unit.

Plant Name (from STEP 1)  
Crystal River Plant

**STEP 3,  
Continued**

**Excess Emissions Requirements.**

If a CAIR NO<sub>x</sub> Ozone Season source emits NO<sub>x</sub> during any control period in excess of the CAIR NO<sub>x</sub> Ozone Season emissions limitation, then:

- (1) The owners and operators of the source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall surrender the CAIR NO<sub>x</sub> Ozone Season allowances required for deduction under 40 CFR 96.354(d)(1) and pay any fine, penalty, or assessment or comply with any other remedy imposed, for the same violations, under the Clean Air Act or applicable state law; and
- (2) Each ton of such excess emissions and each day of such control period shall constitute a separate violation of 40 CFR Part 96, Subpart AAAAA, the Clean Air Act, and applicable state law.

**Recordkeeping and Reporting Requirements.**

- (1) Unless otherwise provided, the owners and operators of the CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time before the end of 5 years, in writing by the DEP or the Administrator.
  - (i) The certificate of representation under 40 CFR 96.313 for the CAIR designated representative for the source and each CAIR NO<sub>x</sub> Ozone Season unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation under 40 CFR 96.113 changing the CAIR designated representative.
  - (ii) All emissions monitoring information, in accordance with 40 CFR Part 96, Subpart HHHH, of this part, provided that to the extent that 40 CFR Part 96, Subpart HHHH, provides for a 3-year period for recordkeeping, the 3-year period shall apply.
  - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the CAIR NO<sub>x</sub> Ozone Season Trading Program.
  - (iv) Copies of all documents used to complete a CAIR Part form and any other submission under the CAIR NO<sub>x</sub> Ozone Season Trading Program or to demonstrate compliance with the requirements of the CAIR NO<sub>x</sub> Ozone Season Trading Program.
- (2) The CAIR designated representative of a CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit at the source shall submit the reports required under the CAIR NO<sub>x</sub> Ozone Season Trading Program, including those under 40 CFR Part 96, Subpart HHHH.

**Liability.**

- (1) Each CAIR NO<sub>x</sub> Ozone Season source and each CAIR NO<sub>x</sub> Ozone Season unit shall meet the requirements of the CAIR NO<sub>x</sub> Ozone Season Trading Program.
- (2) Any provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program that applies to a CAIR NO<sub>x</sub> Ozone Season source or the CAIR designated representative of a CAIR NO<sub>x</sub> Ozone Season source shall also apply to the owners and operators of such source and of the CAIR NO<sub>x</sub> Ozone Season units at the source.
- (3) Any provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program that applies to a CAIR NO<sub>x</sub> Ozone Season unit or the CAIR designated representative of a CAIR NO<sub>x</sub> Ozone Season unit shall also apply to the owners and operators of such unit.

**Effect on Other Authorities.**

No provision of the CAIR NO<sub>x</sub> Ozone Season Trading Program, a CAIR Part, or an exemption under 40 CFR 96.305 shall be construed as exempting or excluding the owners and operators, and the CAIR designated representative, of a CAIR NO<sub>x</sub> Ozone Season source or CAIR NO<sub>x</sub> Ozone Season unit from compliance with any other provision of the applicable, approved State Implementation Plan, a federally enforceable permit, or the Clean Air Act.

**STEP 4**

**Certification (for designated representative or alternate designated representative only)**

**Read the certification statement; provide name, title, owner company name, phone, and e-mail address; sign, and date.**

I am authorized to make this submission on behalf of the owners and operators of the CAIR source or CAIR units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

|                    |                           |                |                                          |
|--------------------|---------------------------|----------------|------------------------------------------|
| Name               | Jeffrey R. Swartz         | Title          | Vice President, Power Generation Florida |
| Company Owner Name | Duke Energy Florida, Inc. |                |                                          |
| Phone              | (727) 820 – 5188          | E-mail Address |                                          |
| Signature          | Date                      |                |                                          |

**APPENDIX 10.2.6**  
**AIR OPERATION PERMIT**

### **10.2.6     Air Operation Permit**

As required under Section 62-213.420, F.A.C., the application for revision of the existing Title V air operation permit for the Crystal River Energy Complex (CREC) to include the Citrus Combined Cycle (CCC) Project will be submitted to the Florida Department of Environmental Protection (FDEP) within 180 days after the Project commences operation.

Appendix 10.6.2 of this site certification application (SCA) provides a copy of the existing CREC Title V Air Operation Permit No. 017004-042-AV.

## **APPENDIX 10.2.7**

### **COASTAL ZONE MANAGEMENT CERTIFICATIONS**

### **10.2.7 Coastal Zone Management Certifications**

Duke Energy Florida, Inc. (DEF), certifies that the Citrus Combined Cycle (CCC) Project will be consistent with the Florida Coastal Management Program. The CCC Site Certification Application (SCA) constitutes the sole application for state-issued permits and approvals under the state's several regulatory programs that comprise the Florida Coastal Zone Management Program. The Florida Coastal Management Act (Sections 380.205 through 380.27, Florida Statutes) requires that the Coastal Zone Management Section of the Florida Department of Environmental Protection (FDEP) be responsible for certification of consistency with the Florida Coastal Management Program for all federal licenses, permits, activities, and projects listed in Section 380.23(3)(c), Florida Statutes, when such activities are subject to federal consistency review and affect land or water use, are seaward of the jurisdiction of the state, or there is no state agency with sole jurisdiction for such consistency review. Issuance of the final Site Certification will demonstrate consistency with the Federal Coastal Zone Management Act.