

ATTACHMENT D

GROUNDWATER CONSTRUCTION, OPERATION AND MONITORING REQUIREMENTS

WAFR ID: FLA187348

Duke Energy Florida, LLC.
Hines Energy Complex: Power Blocks 1, 2, 3, and 4
7700 County Road 555
Bartow, FL 33830
Polk County

Latitude: 27° 47' 21.12" N Longitude: 81° 58' 11.57" W

These Groundwater Construction, Operation and Monitoring Requirements (GWCOMR) are developed by the Licensee, Duke Energy Florida, LLC., in conjunction with the Florida Department of Environmental Protection (Department) Southwest District's Industrial Wastewater (IWW) Section for the monitoring of the following sites (as defined in Rule 62-520.600, F.A.C.): the Cooling Pond (N-16), Wetlands Treatment System (SA-8), the Brine Pond (SA-9) Triangle Lakes Water Cropping Area (WCA) and Lake Phosphoria WCA.

The Department's Southwest District IWW Section is responsible for reviewing and approving all revisions to this document in accordance with Section A, General Condition XXI. [Procedures for Post-Certification Submittals] and Section B, DEP Specific Condition I.A. [Groundwater Monitoring] of the Conditions of Certification, unless the Department determines that a modification or an amendment to the Conditions is necessary.

New sources or deletion of existing sources of wastewater with changes to water quality standards; improvements made at a treatment facility to provide for a new or expanded land application system with increase in the permitted capacity; projects that cause or may cause changes to the quantity and/or quality of discharges to groundwater as a result of solid waste disposal or industrial wastewater treatment; pollutants not addressed in this Attachment; and, applications for a new Water Quality Criteria exemption pursuant to Rule 62-520.500, F.A.C., shall be submitted by the Licensee and reviewed by the Department for determination of modification or amendment to the existing license. If a determination is made that a modification to the Conditions is warranted, the licensee shall submit a petition for modification to the Conditions of Certification to the Department for review and approval in accordance with Section 403.516, F.S. and Rule 62-17.211, F.A.C.

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I. FACILITY DESCRIPTION

Wastewater Treatment:

Wastewater discharges are directed to either the Cooling Pond or the Brine Pond. The cooling pond receives wastewater from cooling systems; treated domestic wastewater; non-hazardous chemical cleaning and biocide wastes; and other non-hazardous, low volume waste streams, pursuant to the federal definition found in 40 CFR Part 423.11, which include, but are not limited to, water pretreatment filter backwash, water treatment system cleaning wastes, boiler blowdown, laboratory and sampling streams, floor drains, treated water (service water), incidental leaks and spills from the power blocks and associated ancillary structures, discharges from power block sumps, and discharge from oil/water separators. In addition, cooling pond water may be directed to SA-8 Water Crop/Wetlands Treatment System; Contact stormwater (stormwater associated with industrial activity) is collected via the Plant Island Ditch (PID) stormwater system and directed to the zero-discharge Cooling Pond. The Brine Pond receives only reverse osmosis (R.O.) reject. In addition, inlet chiller cooling tower blowdown may flow to the Brine Pond as an emergency back-up. All other wastewater streams discharge to the Cooling Pond.

The additional alternative water supplies consist of reclaimed/IWW used to augment the cooling pond, including those supplies associated with receipt of City of Bartow reclaimed water and IWW from the Duke Energy Florida Tiger Bay Cogen. facility, Mosaic Fertilizer, LLC, and Estech, Inc. Water will be transferred from Mosaic's systems upstream from their final NPDES Outfalls, via pumping stations, to existing water crop areas P-3 and/or Lake Phosphoria located on Duke Energy property. From this point, water will follow the existing flow paths from and or through P-3 and Lake Phosphoria to the Triangle Lakes area, all of which may be used to store excess water. From the existing Triangle Lakes pump station, water can be pumped directly to the Hines Cooling Pond or other water crop storage areas. Water from the Estech, Inc. Agricola site will be pumped directly to the Tiger Bay Cogen. IWW transfer line, which discharges directly into the Cooling Pond.

Figure 1 shows location of the monitoring wells.

II. MONITORING AND REPORTING REQUIREMENTS

1. The sample collection, analytical test methods, and method detection limits (MDLs) applicable to this attachment shall be conducted using a sufficiently sensitive method to ensure compliance with applicable water quality standards and effluent limitations and shall be in accordance with Rule 62-4.246, Chapters 62-160 and 62-601, F.A.C., and 40 CFR 136, as appropriate. The list of Department established analytical methods, and corresponding MDLs (method detection limits) and PQLs (practical quantitation limits), which is titled "FAC 62-4 MDL/PQL Table (November 10, 2020)" is available at <http://www.dep.state.fl.us/labs/library/index.htm>. The MDLs and PQLs as described in this list shall constitute the minimum acceptable MDL/PQL values and the Department shall not accept results for which the laboratory's MDLs or PQLs are greater than those described above unless alternate MDLs and/or PQLs have been specifically approved by the Department for this attachment. Any method included in the list may be used for reporting as long as it meets the following requirements:
 - a. The laboratory's reported MDL and PQL values for the particular method must be equal or less than the corresponding method values specified in the Department's approved MDL and PQL list;

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- b. The laboratory reported MDL for the specific parameter is less than or equal to the compliance limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Parameters that are listed as "report only" in the attachment shall use methods that provide an MDL, which is equal to or less than the applicable water quality criteria stated in 62-302, F.A.C.; and

If the MDLs for all methods available in the approved list are above the stated compliance limit or applicable water quality criteria for that parameter, then the method with the lowest stated MDL shall be used. When the analytical results are below method detection or practical quantitation limits, the licensee shall report the actual laboratory MDL and/or PQL values for the analyses that were performed following the instructions on the applicable discharge monitoring report.

Where necessary, the licensee may request approval of alternate methods or for alternative MDLs or PQLs for any approved analytical method. Approval of alternate laboratory MDLs or PQLs are not necessary if the laboratory reported MDLs and PQLs are less than or equal to the compliance limit or the applicable water quality criteria, if any, stated in Chapter 62-302, F.A.C. Approval of an analytical method not included in the above-referenced list is not necessary if the analytical method is approved in accordance with 40 CFR 136 or deemed acceptable by the Department. *[62-4.246, 62-160]*

2. The licensee shall provide safe access points for obtaining representative influent and effluent samples which are required by this attachment. *[62-620.320(6)]*
3. The licensee shall complete and submit to the Department Discharge Monitoring Reports (DMRs) in accordance with the frequencies specified by the REPORT type (i.e. monthly, quarterly, semiannual, annual, etc.) indicated on the DMR forms attached to this attachment. Unless specified otherwise in this attachment, monitoring results for each monitoring period shall be submitted in accordance with the associated DMR quarterly dates below. DMRs shall be submitted for each required monitoring period.

The licensee may submit either paper or electronic DMR forms. If submitting paper DMR forms, the licensee shall make copies of the attached DMR forms, without altering the original format or content unless approved by the Department and shall mail the completed DMR forms to the Department's Southwest District Office at the address specified in Condition I.B.4. by the twenty-eighth (28th) of the month following the month of operation.

If submitting electronic DMR forms, the licensee shall use the electronic DMR system(s) approved in writing by the Department and shall electronically submit the completed DMR forms to the Department by the twenty-eighth (28th) of the month following the month of operation. Data submitted in electronic format is equivalent to data submitted on signed and certified paper DMR forms. *[62-620.610(18)]*

4. Unless specified otherwise in this attachment, all reports and other information required by this attachment, including 24-hour notifications, shall be submitted to or reported to, as appropriate, the Department's Southwest District Office at the address specified below:

Florida Department of Environmental Protection, Southwest
District Compliance Assurance Program, Attention: Industrial
Wastewater 13051 N. Telecom Pkwy, Suite 101

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Temple Terrace, Florida 33637-0926

Phone Number - (813) 470-5700

FAX Number - (813) 470-5995

email: swd_iw@floridadep.gov

[62-620.305]

5. All reports and other information shall be signed in accordance with the requirements of Rule 62-620.305, F.A.C. *[62-620.305]*
6. If there is no discharge from the facility on a day when the facility would normally sample, the sample shall be collected on the day of the next discharge. *[62-620.320(6)]*

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A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

REUSE OR DISPOSAL:

1. Discharge to G-001, HEC Cooling Pond and Brine Pond, shall be limited and monitored by the licensee as specified below and reported in accordance with Requirement I.A.3.:

Table 1.

			Effluent Limitations		Monitoring Requirements			
Parameter	Units	Max/Min	Limit	Statistical Basis	Frequency of Analysis	Sample Type	Monitoring Site Number	Notes
Specific Conductance	UMHOS/CM	Max	Report	Daily Maximum	Quarterly	In-situ	EFF-1, EFF-2	
pH	s.u.	Min Max	Report	Daily Minimum Daily Maximum	Quarterly	In-situ	EFF-1, EFF-2	
Temperature Water	Deg. C	Max	Report	Daily Maximum	Quarterly	In-situ	EFF-1, EFF-2	
Oxygen, Dissolved	mg/L	Max	Report	Daily Minimum	Quarterly	In-situ	EFF-1, EFF-2	
Arsenic, Total	ug/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Carbon, Total Organic (TOC)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Sodium, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Fecal Coliform	cts/100mL	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Dissolved Solids, Total (TDS)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Aluminum, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Iron, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Manganese, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Sulfate, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Color	CU	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Nitrogen, Nitrate, Total (as N)	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Gross Alpha	pCi/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	
Fluoride, Total	mg/L	Max	Report	Daily Maximum	Quarterly	Grab	EFF-1, EFF-2	

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2. Effluent samples shall be taken at the monitoring site locations listed in Requirement I.A.1. and as described below:

Table 2.

Monitoring Site Number	Description of Monitoring Site
EFF-1	Representative location from G-001 in the vicinity of the HEC Cooling Pond discharge structure.
EFF-2	Representative location from G-001 in the vicinity of the Brine Pond discharge structure.

III. SITE GROUNDWATER MONITORING

1. The permittee shall give at least 72-hours notice to the Department's Southwest District Office, prior to the installation of any monitoring wells. [62-520.600(6)(h)]
2. Before construction of new groundwater monitoring wells, a soil boring shall be made at each new monitoring well location to properly determine monitoring well specifications such as well depth, screen interval, screen slot, and filter pack. [62- 520.600(6)(g)]
3. Within 30 days after installation of a monitoring well, the permittee shall submit to the Department's Southwest District Office well completion reports and soil boring/lithologic logs on the attached DEP Form(s) 62-520.900(3), Monitoring Well Completion Report. [62-520.600(6)(j) and .900(3)]
4. Within sixty (60) days of completion of construction of new ground water monitoring wells and every 5 years thereafter, the licensee shall sample **MWB-6, MWC-5 and MWC-1F** ground water monitor wells for the Primary and Secondary Drinking Water parameters included in Chapter 62-550, F.A.C., "Drinking Water Standards, Monitoring, and Reporting", Fecal Coliform and EPA Methods 601 and 602 (for parameters not otherwise included in the Primary and Secondary Drinking Water parameters). The results from the initial sampling of a new well shall be used to determine the background concentrations of the parameters tested and shall be sent to the DEP's Industrial Wastewater Section, Southwest District Office. [62- 520.600(5)(a) and (b)]
5. Within 60 days after installation of any monitoring well, a properly scaled figure depicting all active monitoring well locations with identification numbers shall be submitted to the appropriate permitting program at the Department's District office that issued the permit. The figure also shall include the monitoring well, top of casing, and ground surface elevations referenced to the National Geodetic Vertical Datum (NGVD) of 1929 or to the North American Vertical Datum (NAVD 1988) and measured to the nearest 0.01 foot, along with monitoring well location latitude and longitude to the nearest 0.1 seconds. [62-520.600(6) (i)]
6. All piezometers and monitoring wells not part of this GWCOMR are to be plugged and abandoned in accordance with Rule 62-532.500(4), F.A.C., unless future use is intended. [62- 532.500(4)]
7. During the period of operation authorized by this Certification the Licensee shall continue to sample ground water at the monitoring wells identified in Section II.8 below, in accordance with the COC and GWCOMR prepared in accordance with Rule 62- 520.600,

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F.A.C.

8. The following monitoring wells shall be sampled for Groundwater Monitoring requirements:

Table 3.

Monitoring Well ID	Alternate Well Name and/or Description of Monitoring Location	Aquifer Monitored	New or Existing
MWC-1F	Compliance well	Lower Intermediate	Existing
MW-1	Water Level well (Formerly MWC-1)	Intermediate	Existing
MWC-2	Compliance well	Intermediate	Existing
MWC-3	Compliance well	Intermediate	Existing
MWC-4	Compliance well	Intermediate	Existing
MWC-5	Compliance well	Intermediate	Existing
MWB-6	Background well	Intermediate	Existing
MWC-7	Compliance well	Intermediate	Existing
MWC-8	Compliance	Intermediate	New
MWB-WCA	Background well	Surficial	Existing
MWC-TL	Compliance well	Surficial	Existing

MWB = Background; MWI = Intermediate; MWC = Compliance; MWP = Piezometer
[62-520.600]

9. The monitor wells specified in Condition II.8 above shall be sampled for the parameters listed below:

Table 4.

Parameter Name	Compliance Well Limit	Units	Sample Type	Monitoring Frequency
Water Level Relative to NGVD*	Report	FEET	In-situ	Quarterly
Specific Conductance	Report	UMHOS/CM	In-situ	Quarterly
pH	6.5-8.5	SU	In-situ	Quarterly
Temperature Water	NA	DEG.C	In-situ	Quarterly
Oxygen, Dissolved	Report	MG/L	In-situ	Quarterly
Arsenic, Total	10	ug/L	Grab	Quarterly
Carbon, Total Organic (TOC)	Report	mg/L	Grab	Quarterly
Sodium, Total	160	mg/L	Grab	Quarterly
Fecal Coliform	Report	cts/100mL	Grab	Quarterly
Dissolved Solids, Total (TDS)	840	mg/L	Grab	Quarterly

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Aluminum, Total	0.2	mg/L	Grab	Quarterly
Iron, Total	3.16	mg/L	Grab	Quarterly
Manganese, Total	0.72	mg/L	Grab	Quarterly
Sulfate, Total	250	mg/L	Grab	Quarterly
Color	Report	CU	Grab	Quarterly
Nitrogen, Nitrate, Total (as N)	10.0	mg/L	Grab	Quarterly
Gross Alpha	Report	pCi/L	Grab	Quarterly
Fluoride, Total	2.0	mg/L	Grab	Quarterly

[62-520.600(11)(b)]

10. Water levels shall be recorded prior to evacuating the well for sample collection. Elevation references shall include the top of the well casing and land surface at each well site (NGVD allowable) at a precision of plus or minus 0.01 feet. *[62- 520.600(11)(c)]*
11. Ground water monitoring wells shall be purged prior to sampling to obtain a representative sample. *[62-160.210]*
12. Analyses shall be conducted on un-filtered samples, unless filtered samples have been approved by the Department as being more representative of ground water conditions. *[62-520.310(5)]*
13. Ground water monitoring test results shall be submitted as required under Condition I.B.3 of this attachment. *[62-520.600(11)(b)]*
14. In the event of the addition of a new wastewater or water makeup source(s) to the cooling pond, a characterization will be required prior to discharge to the cooling pond.

Within six (6) months of startup for any new facilities, the licensee shall provide separate waste stream characterizations for the cooling pond and brine pond. The cooling pond samples will be collected in the plant discharge side and will be considered as representative of the combined waste streams discharged to this impoundment. The brine pond samples will be collected in SA-9 and shall be considered as representative of the reverse osmosis, demineralizer, and any other waste (if applicable) discharges to this impoundment. Thereafter, a waste streams characterization shall be performed from a surface water sample collected from the cooling pond discharge side within six months of the completion of coal gasification units but in no event with less frequency than every 5 years.

The samples for characterization shall be analyzed for the Primary and Secondary Drinking Water Standards (Chapter 62-550, F.A.C), Fecal Coliform and the EPA Priority Pollutants. The components identified in the waste stream characterizations, and the leachate characterization pursuant to Section B, DEP Specific Condition I.E. [Solid Waste Storage and Disposal] of the Conditions of Certification as well as ground water indicator parameters may be used to modify the Ground Water Monitoring Plan. The results shall be sent to-the Groundwater Regulatory Section, Southwest District office.

[62-4.070 (3)]

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15. Should the licensee wish to resample water quality analyses, taken pursuant to the GWCOMR, the licensee will do so within 15 days of the receipt of the first sampled water quality analyses. The Department will then consider the resample analyses to be acceptable; in any other event the original samples will be considered representative of formation waters by the Department and by the licensee.
[62- 4.070 (3)]
16. If any monitor well becomes damaged or inoperable, the licensee shall notify the Department's SWD office the next business day from discovery, and a detailed written report shall follow within seven (7) days. The written report shall detail what problem has occurred and remedial measures that have been taken to prevent the recurrence. All monitoring well design and replacement shall be approved by the Department prior to installation. *[62-520.600][62-620.320(6)]*

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DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

When Completed mail this report to: Department of Environmental Protection, Southwest District Office, Compliance Assurance Program, Industrial Wastewater, 13051 N. Telecom Parkway, Suite 101, Temple Terrace, Florida 33637-0926, Email: swd_iw@dep.state.fl.us

PERMITTEE NAME: Duke Energy Florida, LLC.
MAILING ADDRESS: 7700 County Road 555
Bartow, FL 33830

FACILITY NUMBER

PA 92-33 (FLA187348)

LIMIT:
CLASS SIZE:

Final
N/A

REPORT:
GROUP:

Quarterly
Industrial

FACILITY: Hines Energy Complex: Power Blocks 1, 2, 3, and 4

MONITORING GROUP
NUMBER:

G-001

LOCATION: 7700 County Road 555
Bartow, FL 33830

MONITORING GROUP DESC: HEC Cooling Pond and Brine Pond

COUNTY: Polk

NO DISCHARGE TO G-001: ☐

MONITORING PERIOD From: _____ To: _____

Parameter		Quantity or Loading	Units	Quality or Concentration	Units	No. Ex.	Frequency of Analysis	Sample Type
Specific Conductance	Sample Measurement							
PARM Code 00095 1 Mon. Site No. EFF-1	Permit Requirement			Report (Day.Max.)	umhos/cm		Quarterly	In-Situ
pH	Sample Measurement							
PARM Code 00400 1 Mon. Site No. EFF-1	Permit Requirement			Report (Day.Min.)	s.u.		Quarterly	In-Situ
Temperature (C), Water	Sample Measurement							
PARM Code 00010 1 Mon. Site No. EFF-1	Permit Requirement			Report (Day.Max.)	Deg C		Quarterly	In Situ
Oxygen, Dissolved (DO)	Sample Measurement							
PARM Code 00300 1 Mon. Site No. EFF-1	Permit Requirement			Report (Day.Min.)	mg/L		Quarterly	In Situ
Arsenic, Total Recoverable	Sample Measurement							
PARM Code 00978 1 Mon. Site No. EFF-1	Permit Requirement			Report (Day.Max.)	ug/L		Quarterly	Grab

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.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

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DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Hines Energy Complex: Power Blocks 1, 2, 3, and 4

MONITORING GROUP

G-001

FACILITY NUMBER: PA 92-33 (FLA187348)

Polk County

NUMBER:

MONITORING PERIOD

From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Carbon, Total Organic (TOC)	Sample Measurement										
PARM Code 00680 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Sodium, Total Recoverable	Sample Measurement										
PARM Code 00923 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	#/100mL		Quarterly	Grab
Dissolved Solids, Total (TDS)	Sample Measurement										
PARM Code 70295 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Aluminum, Total Recoverable	Sample Measurement										
PARM Code 01104 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Iron, Total Recoverable	Sample Measurement										
PARM Code 00980 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Manganese, Total Recoverable	Sample Measurement										
PARM Code 11123 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Sulfate, Total	Sample Measurement										
PARM Code 00945 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Color	Sample Measurement										
PARM Code 00080 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	PCU		Quarterly	Grab
Nitrogen, Nitrate Total (as N)	Sample Measurement										
PARM Code 11123 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab

DISCHARGE MONITORING REPORT - PART A (Continued)

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FACILITY: Hines Energy Complex: Power Blocks 1, 2, 3, and 4
Polk County

MONITORING GROUP
NUMBER:
MONITORING PERIOD

G-001

FACILITY NUMBER: PA 92-33 (FLA187348)

From: _____ To: _____

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Gross Alpha	Sample Measurement										
PARM Code 80045 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	pCi/L		Quarterly	Grab
Fluoride, Total	Sample Measurement										
PARM Code 00951 1 Mon. Site No. EFF-1	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab

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DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Hines Energy Complex: Power Blocks 1, 2, 3, and 4

MONITORING GROUP G-001

FACILITY NUMBER: PA 92-33

Polk County

NUMBER:

(FLA187348)

MONITORING PERIOD

From:

To

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Specific Conductance	Sample Measurement										
PARM Code 00095 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	umhos/cm		Quarterly	In-Situ
pH	Sample Measurement										
PARM Code 00400 1 Mon. Site No. EFF-2	Permit Requirement				Report (Day.Min.)		Report (Day.Max.)	s.u.		Quarterly	In-Situ
Temperature (C), Water	Sample Measurement										
PARM Code 00010 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	Deg C		Quarterly	In Situ
Oxygen, Dissolved (DO)	Sample Measurement										
PARM Code 00300 1 Mon. Site No. EFF-2	Permit Requirement				Report (Day.Min.)			mg/L		Quarterly	In Situ
Arsenic, Total Recoverable	Sample Measurement										
PARM Code 00978 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	ug/L		Quarterly	Grab

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DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Hines Energy Complex: Power Blocks 1, 2, 3, and 4

MONITORING GROUP G-001

FACILITY NUMBER: PA 92-33

Polk County

NUMBER:

(FLA187348)

MONITORING PERIOD

From:

To

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Carbon, Total Organic (TOC)	Sample Measurement										
PARM Code 00680 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Sodium, Total Recoverable	Sample Measurement										
PARM Code 00923 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Coliform, Fecal	Sample Measurement										
PARM Code 74055 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	#/100mL		Quarterly	Grab
Dissolved Solids, Total (TDS)	Sample Measurement										
PARM Code 70295 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Aluminum, Total Recoverable	Sample Measurement										
PARM Code 01104 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Iron, Total Recoverable	Sample Measurement										
PARM Code 00980 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Manganese, Total Recoverable	Sample Measurement										
PARM Code 11123 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Sulfate, Total	Sample Measurement										
PARM Code 00945 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab
Color	Sample Measurement										
PARM Code 00080 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	PCU		Quarterly	Grab
Nitrogen, Nitrate Total (as N)	Sample Measurement										
PARM Code 11123 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab

ATTACHMENT D

DISCHARGE MONITORING REPORT - PART A (Continued)

FACILITY: Hines Energy Complex: Power Blocks 1, 2, 3, and 4

MONITORING GROUP G-001

FACILITY NUMBER: PA 92-33

Polk County

NUMBER:

(FLA187348)

MONITORING PERIOD

From:

To

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
Gross Alpha	Sample Measurement										
PARM Code 80045 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	pCi/L		Quarterly	Grab
Fluoride, Total	Sample Measurement										
PARM Code 00951 1 Mon. Site No. EFF-2	Permit Requirement						Report (Day.Max.)	mg/L		Quarterly	Grab

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NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (YY/MM/DD)

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here):

GROUNDWATER MONITORING REPORT

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWB-6
 Well Type: Background
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____
 Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		Report	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		Report	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		Report	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWB-WCA
 Well Type: Background
 Description: HEC WCA
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____
 Time Sample Obtained: _____

Was the well purged before sampling? ___ Yes ___ No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		Report	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		Report	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		Report	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		Report	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		Report	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		Report	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		Report	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		Report	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		Report	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		Report	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT

Facility Name: Duke Energy - Hines Energy Complex
Permit Number: FLA187348
County: Polk
Office: Southwest District

Monitoring Well ID:	MW-1
Well Type:	
Description:	HEC Cooling Pond
Re-submitted DMR:	☐

Report Frequency: Quarterly
Program: Industrial

Monitoring Period From: _____ To: _____

Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ☐ Yes ☐ No

[illegible]

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-1F
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-2
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____
 Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-3
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____
 Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-4
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____
 Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-5
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____
 Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-7
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-8
 Well Type: Compliance
 Description: HEC Cooling Pond
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.72	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

GROUNDWATER MONITORING REPORT - PART D

Facility Name: Duke Energy - Hines Energy Complex
 Permit Number: FLA187348
 County: Polk
 Office: Southwest District

Monitoring Well ID: MWC-TL
 Well Type: Compliance
 Description: Triangle Lakes WCA
 Re-submitted DMR: ☐

Report Frequency: Quarterly
 Program: Industrial

Monitoring Period From: _____ To: _____ Date Sample Obtained: _____

Time Sample Obtained: _____

Was the well purged before sampling? ___Yes___No

Parameter	PARM Code	Sample Measurement	Permit Requirement	Units	Sample Type	Frequency of Analysis	Detection Limits	Analysis Method	Sampling Equipment Used	Samples Filtered (L/F/N)
Water Level Relative to NGVD	82545		Report	ft	In situ	Quarterly				
Specific Conductance	00095		Report	umho/cm	In situ	Quarterly				
Oxygen, Dissolved (DO)	00300		Report	Mg/L	In situ	Quarterly				
Coliform, Fecal	74055		Report	#100 mL	Calculation	Quarterly				
Sulfate, Total	00945		250	Mg/L	Grab	Quarterly				
Arsenic, Total Recoverable	00978		10	ug/L	Grab	Quarterly				
Sodium, Total Recoverable	00923		160	mg/L	Grab	Quarterly				
Solids, Total Dissolved (TDS)	70295		840	mg/L	Grab	Quarterly				
Color	00080		Report	PCU	Grab	Quarterly				
Iron, Total Recoverable	00980		3.16	mg/L	Grab	Quarterly				
Aluminum, Total Recoverable	01104		0.2	mg/L	Grab	Quarterly				
Manganese, Total Recoverable	11123		0.05	mg/L	Grab	Quarterly				
Temperature (C), Water	00010		Report	Deg C	In situ	Quarterly				
Carbon, Total Organic (TOC)	00680		Report	mg/L	Grab	Quarterly				
Nitrogen, Nitrate Total (as N)	00620		10	mg/L	Grab	Quarterly				
Alpha, Gross Particle Activity	80045		Report	pCi/L	Grab	Quarterly				
pH	00400		6.5 – 8.5	s.u.	In Situ	Quarterly				
Fluoride, Total (as F)	00951		2.0	mg/L	Grab	Quarterly				

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.

NAME/TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	TELEPHONE NO	DATE (mm/dd/yyyy)

COMMENTS AND EXPLANATION (Reference all attachments here):

INSTRUCTIONS FOR COMPLETING THE WASTEWATER DISCHARGE MONITORING REPORT

Read these instructions before completing the DMR. Hard copies and/or electronic copies of the required parts of the DMR were provided with the permit. All required information shall be completed in full and typed or printed in ink. A signed, original DMR shall be mailed to the address printed on the DMR by the 28th of the month following the monitoring period. Facilities who submit their DMR(s) electronically through eDMR do not need to submit a hardcopy DMR. The DMR shall not be submitted before the end of the monitoring period.

The DMR consists of three parts--A, B, and D--all of which may or may not be applicable to every facility. Facilities may have one or more Part A's for reporting effluent or reclaimed water data. All domestic wastewater facilities will have a Part B for reporting daily sample results. Part D is used for reporting ground water monitoring well data.

When results are not available, the following codes should be used on parts A and D of the DMR and an explanation provided where appropriate. Note: Codes used on Part B for raw data are different.

CODE	DESCRIPTION/INSTRUCTIONS
ANC	Analysis not conducted.
DRY	Dry Well
FLD	Flood disaster.
IFS	Insufficient flow for sampling.
LS	Lost sample.
MNR	Monitoring not required this period.

CODE	DESCRIPTION/INSTRUCTIONS
NOD	No discharge from/to site.
OPS	Operations were shutdown so no sample could be taken.
OTH	Other. Please enter an explanation of why monitoring data were not available.
SEF	Sampling equipment failure.

When reporting analytical results that fall below a laboratory's reported method detection limits or practical quantification limits, the following instructions should be used, unless indicated otherwise in the permit or on the DMR:

1. Results greater than or equal to the PQL shall be reported as the measured quantity.
2. Results less than the PQL and greater than or equal to the MDL shall be reported as the laboratory's MDL value. These values shall be deemed equal to the MDL when necessary to calculate an average for that parameter and when determining compliance with permit limits.
3. Results less than the MDL shall be reported by entering a less than sign ("<") followed by the laboratory's MDL value, e.g. < 0.001. A value of one-half the MDL or one-half the effluent limit, whichever is lower, shall be used for that sample when necessary to calculate an average for that parameter. Values less than the MDL are considered to demonstrate compliance with an effluent limitation.

PART A -DISCHARGE MONITORING REPORT (DMR)

Part A of the DMR is comprised of one or more sections, each having its own header information. Facility information is preprinted in the header as well as the monitoring group number, whether the limits and monitoring requirements are interim or final, and the required submittal frequency (e.g. monthly, annually, quarterly, etc.). Submit Part A based on the required reporting frequency in the header and the instructions shown in the permit. The following should be completed by the permittee or authorized representative:

Resubmitted DMR: Check this box if this DMR is being re-submitted because there was information missing from or information that needed correction on a previously submitted DMR. The information that is being revised should be clearly noted on the re-submitted DMR (e.g. highlight, circle, etc.)

No Discharge From Site: Check this box if no discharge occurs and, as a result, there are no data or codes to be entered for all of the parameters on the DMR for the entire monitoring group number; however, if the monitoring group includes other monitoring locations (e.g., influent sampling), the "NOD" code should be used to individually denote those parameters for which there was no discharge.

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.

Sample Measurement: Before filling in sample measurements in the table, check to see that the data collected correspond to the limit indicated on the DMR (i.e. interim or final) and that the data correspond to the monitoring group number in the header. Enter the data or calculated results for each parameter on this row in the non-shaded area above the limit. Be sure the result being entered corresponds to the appropriate statistical base code (e.g. annual average, monthly average, single sample maximum, etc.) and units. Data qualifier codes are not to be reported on Part A.

No. Ex.: Enter the number of sample measurements during the monitoring period that exceeded the permit limit for each parameter in the non-shaded area. If none, enter zero.

Frequency of Analysis: The shaded areas in this column contain the minimum number of times the measurement is required to be made according to the permit. Enter the actual number of times the measurement was made in the space above the shaded area.

Sample Type: The shaded areas in this column contain the type of sample (e.g. grab, composite, continuous) required by the permit. Enter the actual sample type that was taken in the space above the shaded area.

Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.

Comment and Explanation of Any Violations: Use this area to explain any exceedances, any upset or by-pass events, or other items which require explanation. If more space is needed, reference all attachments in this area.

PART B - DAILY SAMPLE RESULTS

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.

Daily Monitoring Results: Transfer all analytical data from your facility's laboratory or a contract laboratory's data sheets for all day(s) that samples were collected. Record the data in the units indicated. Table 1 in Chapter 62-160, F.A.C., contains a complete list of all the data qualifier codes that your laboratory may use when reporting analytical results. However, when transferring numerical results onto Part B of the DMR, only the following data qualifier codes should be used and an explanation provided where appropriate.

CODE	DESCRIPTION/INSTRUCTIONS
<	The compound was analyzed for but not detected.
A	Value reported is the mean (average) of two or more determinations.
J	Estimated value, value not accurate.
Q	Sample held beyond the actual holding time.
Y	Laboratory analysis was from an unpreserved or improperly preserved sample.

To calculate the monthly average, add each reported value to get a total. For flow, divide this total by the number of days in the month. For all other parameters, divide the total by the number of observations.

Plant Staffing: List the name, certificate number, and class of all state certified operators operating the facility during the monitoring period. Use additional sheets as necessary.

PART D - GROUND WATER MONITORING REPORT

Monitoring Period: Enter the month, day, and year for the first and last day of the monitoring period (i.e. the month, the quarter, the year, etc.) during which the data on this report were collected and analyzed.

Date Sample Obtained: Enter the date the sample was taken. Also, check whether or not the well was purged before sampling.

Time Sample Obtained: Enter the time the sample was taken.

Sample Measurement: Record the results of the analysis. If the result was below the minimum detection limit, indicate that. Data qualifier codes are not to be reported on Part D.

Detection Limits: Record the detection limits of the analytical methods used.

Analysis Method: Indicate the analytical method used. Record the method number from Chapter 62-160 or Chapter 62-601, F.A.C., or from other sources.

Sampling Equipment Used: Indicate the procedure used to collect the sample (e.g. airlift, bucket/bailer, centrifugal pump, etc.)

Samples Filtered: Indicate whether the sample obtained was filtered by laboratory (L), filtered in field (F), or unfiltered (N).

Signature: This report must be signed in accordance with Rule 62-620.305, F.A.C. Type or print the name and title of the signing official. Include the telephone number where the official may be reached in the event there are questions concerning this report. Enter the date when the report is signed.

Comments and Explanation: Use this space to make any comments on or explanations of results that are unexpected. If more space is needed, reference all attachments in this area.

SPECIAL INSTRUCTIONS FOR LIMITED WET WEATHER DISCHARGES

Flow (Limited Wet Weather Discharge): Enter the measured average flow rate during the period of discharge or divide gallons discharged by duration of discharge (converted into days). Record in million gallons per day (MGD).

Flow (Upstream): Enter the average flow rate in the receiving stream upstream from the point of discharge for the period of discharge. The average flow rate can be calculated based on two measurements; one made at the start and one made at the end of the discharge period. Measurements are to be made at the upstream gauging station described in the permit.

Actual Stream Dilution Ratio: To calculate the Actual Stream Dilution Ratio, divide the average upstream flow rate by the average discharge flow rate. Enter the Actual Stream Dilution Ratio accurate to the nearest 0.1.

No. of Days the SDF > Stream Dilution Ratio: For each day of discharge, compare the minimum Stream Dilution Factor (SDF) from the permit to the calculated Stream Dilution Ratio. On Part B of the DMR, enter an asterisk (*) if the SDF is greater than the Stream Dilution Ratio on any day of discharge. On Part A of the DMR, add up the days with an "*" and record the total number of days the Stream Dilution Factor was greater than the Stream Dilution Ratio.

CBOD₅: Enter the average CBOD₅ of the reclaimed water discharged during the period shown in duration of discharge.

TKN: Enter the average TKN of the reclaimed water discharged during the period shown in duration of discharge.

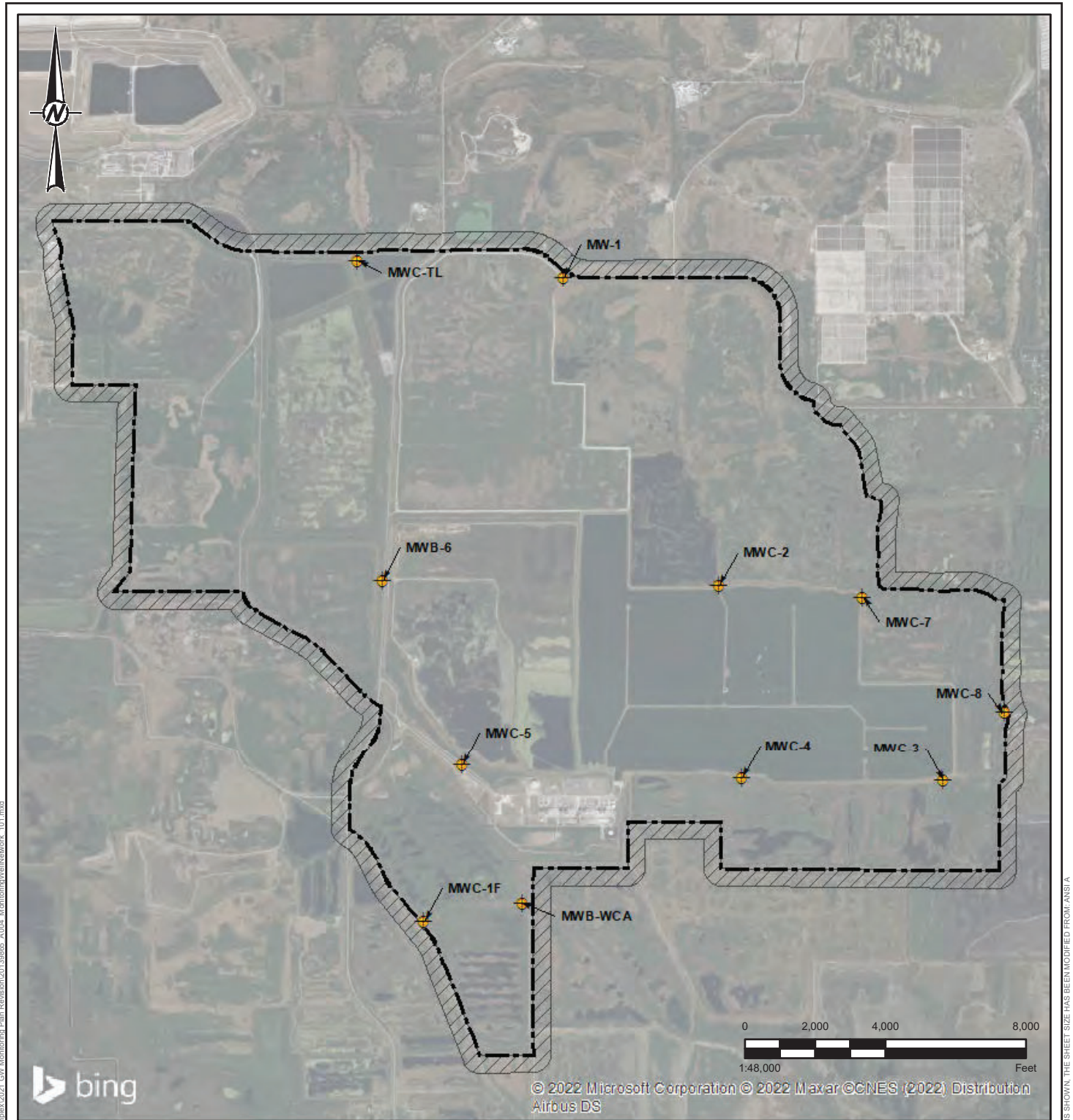
Actual Rainfall: Enter the actual rainfall for each day on Part B. Enter the actual cumulative rainfall to date for this calendar year and the actual total monthly rainfall on Part A. The cumulative rainfall to date for this calendar year is the total amount of rain, in inches, that has been recorded since January 1 of the current year through the month for which this DMR contains data.

Rainfall During Average Rainfall Year: On Part A, enter the total monthly rainfall during the average rainfall year and the cumulative rainfall for the average rainfall year. The cumulative rainfall for the average rainfall year is the amount of rain, in inches, which fell during the average rainfall year from January through the month for which this DMR contains data.

No. of Days LWWD Activated During Calendar Year: Enter the cumulative number of days that the limited wet weather discharge was activated since January 1 of the current year.

Reason for Discharge: Attach to the DMR a brief explanation of the factors contributing to the need to activate the limited wet weather discharge.

Figure 1: Well Location Map



LEGEND

- Duke Energy Hines Energy Complex
- Property Boundary 500ft Buffer
- Groundwater Monitoring Well

REFERENCE(S)

1. PROJECT BOUNDARY, GOLDBER ASSOCIATES INC., POLK COUNTY PROPERTY APPRAISER, 2012
2. WELL LOCATIONS, GOLDBER ASSOCIATES INC., 2012-2020

COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA WEST FIPS 0902 FEET
PROJECTION: TRANSVERSE MERCATOR
DATUM: NORTH AMERICAN 1983

CLIENT

DUKE ENERGY
HINES ENERGY COMPLEX

PROJECT

GROUNDWATER MONITORING PLAN - REVISION

TITLE

MONITORING WELL NETWORK

CONSULTANT

GOLDER

YYYY-MM-DD 2022-05-13

DESIGNED GJM

PREPARED JGW

REVIEWED GJM

APPROVED MM

PROJECT NO.
20139865

CONTROL
A004

REV.
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FIGURE
1