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September 22, 2010

Mr. Michael Halpin, P.E.
Florida Department of Environmental Protection
Siting Coordination Office
Mail Station 48
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Re: **Response to Determination that Application is Incomplete;
Solid Waste Authority of Palm Beach County;
Palm Beach Renewable Energy Facility No. 2 (PA84-20A2)**

Dear Mr. Halpin,

The Solid Waste Authority of Palm Beach County (Authority or SWA) received the Florida Department of Environmental Protection ("Department" or "DEP") determination of incompleteness and request for additional information ("RAI") dated August 23, 2010, concerning the Authority's plan to construct a new renewable energy facility (the "Proposed Facility"). The Proposed Facility will be named the Palm Beach Renewable Energy Facility ("PBREF") No. 2 and located adjacent to the Authority's existing renewable energy facility ("PBREF No. 1"). This letter contains the Authority's responses to each of the comments and questions in the RAI, including those that were provided by the South Florida Water Management District ("SFWMD"), Palm Beach County Health Department, City of West Palm Beach, and Florida Department of Environmental Protection (FDEP).

A. South Florida Water Management District

1. The Site Water Budget provided as Figure 3-3 appears to depict the conceptual water balance for the proposed new facility. Please provide a revised overall water balance for the entire SWA facility that depicts the water budget for the proposed facilities as well as the existing facilities, similar to that provided as Figure D-7 of the October 2003 submittal for the Biosolids Pelletization Facility. In addition, please provide a revised narrative describing the existing and proposed operations and their corresponding demands. The narrative should include a discussion of the evaluation used to determine the frequency for the use of the potable water backup contingency for times when harvested rainfall would not be available for use by the facility.

Authority Response: The Overall Water Balance Diagram for the Authority's entire West Palm Beach Energy Park Site has been updated and is attached as Figure A to this RAI Response Letter. It provides the estimated annual average daily capacity and maximum daily flow rates for all facilities on the Authority's Site, including the Proposed Facility. It does not include the industrial supply wells at the Dyer Landfill Site that were shown on previous submissions as this site is not covered by the Power Plant Certification that is proposed to be modified. More details on the status of the Dyer Landfill wells can be found in response to FDEP Question Number 6 below. The following narrative describes the sources and uses of water for the Authority's existing and proposed facilities, as requested.

EXISTING FACILITIES

The Authority's existing facilities use water resources for sanitary, industrial processes, irrigation and fire protection. Figure A, Overall Water Balance Diagram, shows the sources, sanitary and industrial uses, and ultimate disposal facility for water used by the Authority's facilities, as well as Landfill Leachate collection and disposal totals. In addition, the Authority has five 10" and two 8" connections with West Palm Beach Utilities for fire protection.

Over the years, the Authority has implemented many water conservation measures at its facilities. For example, the manual vehicle wash rack has recently been replaced with a recirculating water automatic truck wash system. On an average day, the Authority currently uses 1,711,180 gallons of water for sanitary, industrial processes and irrigation uses. Water sources in descending order based on average daily usages (gallons per day shown in parenthesis) are: 1) Authority's industrial supply wells (1,319,030 gpd); 2) potable water from the City of West Palm Beach (284,900 gpd); 3) Compost Facility Industrial Supply Wells (97,300 gpd); and 4) Irrigation Wells (10,000 gpd). Also on an average day, 195,550 gallons of landfill leachate is collected which requires disposal. The average water used and leachate managed totals 1,906,730 gpd. There is 1,089,700 gpd lost to evaporation in the various industrial processes, 734,540 gpd is disposed by the Authority using deep well injection, 63,790 gpd is discharged to the City of West Palm Beach sanitary sewer system for disposal at the East Central Regional Wastewater Treatment Facility (ECRWTF), and 18,700 is used for irrigation. Table 1, Summary of Existing Facilities Water Sources, Uses and Disposal, summarizes the Authority's overall site water picture.

Table 1
Summary of Existing Facilities Water Sources, Uses and Disposal
(Daily Average)

SOURCES		USES		DISPOSAL	
SOURCE (Allocation)	GPD	USE TYPE	GPD	LOCATION	GPD
Authority ISPs (1,579,000)	1,319,030	Landfill Dust PBREF #1-Cooling	15,000 1,304,030	None Injection Wells	0 247,600
Potable Water (461,300)	284,900	PBREF #1-Sanitary PBREF #1-Process Biosolids Facility Recycling Facility Authority Buildings	7,430 168,600 79,920 9,320* 19,630	ECRWTF Injection Wells ECRWTF ECRWTF ECRWTF	7,430 168,600 42,850 630 12,880
Compost ISPs (141,000)	97,250	Compost Process	4,460	Injection Wells	92,790
Irrigation Wells (15,000)	10,000	Irrigation	10,000	None	0
Leachate	195,550	Pollution Prevention	195,550	Injection Wells	195,550

*8,700 gpd used for irrigation.

Palm Beach Renewable Energy Facility No.1 (Existing Facility or PBREF #1) is the largest existing water user at 1,480,070 gpd. Major uses of water at PBREF #1 are for condensing steam from its turbine generator so boiler water can be reused (1,304,030 gpd), air pollution control systems (136,930 gpd), boiler makeup (21,600 gpd), seal water (10,080 gpd), and sanitary (7,430 gpd). About 194,400 gpd of cooling tower blowdown is reused for various process needs including ash quench, ash conditioning, and wash down. 446,200 gpd is disposed of by deep well injection. 7,430 gpd of sanitary wastewater is sent to the ECRWTF for treatment and disposal. The remainder, 1,026,440 gpd, is lost to evaporation.

The next largest user is the Biosolids Pelletizer Facility which takes wastewater treatment plant sludge from a number of regional facilities in Palm Beach County, including a portion of the ECRWTF, dries and pelletizes the sludge for use as a fertilizer bulking agent. The facility uses an average of 79,590 gpd of potable water for process water. An additional 330 gpd is used for sanitary purposes. Wastewater, 42,850 gpd, is discharged to the West Palm Beach system for disposal at the ECRWTF. Evaporative losses account for the remaining 37,070 gpd.

The Recovered Materials Processing Facility takes recyclable materials separated at the source of generation in homes, businesses and institutions in Palm Beach County and processes them for

reuse. This facility uses 9,320 gpd of potable water for sanitary and irrigation uses. It discharges 630 gpd to the sanitary sewer.

The remaining Authority facilities and operations use 19,630 gpd of potable water and 19,460 gpd of industrial supply well water for sanitary and maintenance operations. These facilities discharge 12,880 gpd to the sanitary sewer and 12,900 gpd is lost to evaporation. An additional 10,000 gpd of irrigation well water is used for site irrigation.

PROPOSED FACILITY

The Proposed Facility is being planned to minimize the use of water. The major water conservation feature will be use of an air cooled condenser. The Proposed Facility will also make use of 210,000 gpd of cooling tower blowdown from PBREF #1, currently being disposed of by deep injection well, as well as much of its own wastewater for industrial processes. For those industrial processes requiring cleaner water such as boiler make-up, these needs will be supplied by harvested rainwater, existing industrial supply wells, and potable water supply. These needs can be met without increasing the currently authorized withdrawal limit of the industrial supply wells or the potable water capacity commitment of the City of West Palm Beach. Additional potable water connections will be required for fire protection and for sanitary water usage.

As shown on Table 2A, when rainwater is available it will be used before other clean process water sources. When rainwater is unavailable, clean process water will be supplied from existing industrial supply wells as shown on Table 2B. When neither rainwater nor industrial supply well water are available in adequate supply, then clean process water will be supplied by the Authority's existing dechlorination plant using potable water from the City of West Palm Beach as shown on Table 2C. In such a situation, the Existing Facility would most likely not be operating or operating at reduced capacity. The Authority believes that such a situation will be very rare. The Proposed Facility's relatively small process water needs, requirement for a two million gallon storage tank equal to more than a four day supply, and the reliability of its industrial supply well system, demonstrated over more than 20 years of continuous service, are the reasons for this confidence.

Table 2A
Summary of Proposed Facility Water Sources, Uses and Disposal
RAINWATER AVAILABLE

SOURCES	GPD	USES	GPD	DISPOSAL	GPD
Rainwater	220,000	PBREF #2-Process	220,000	Reused	38,880
PBREF #1	210,000	PBREF #2-Process	210,000	Injection Wells	7,200
Authority ISPs	0	PBREF #2-Process	0	Reused	0
Potable Water	1,870	PBREF #1-Sanitary	1,870	ECRWTF	1,870

Table 2B
Summary of Proposed Facility Water Sources, Uses and Disposal
RAINWATER UNAVAILABLE

SOURCES	GPD	USES	GPD	DISPOSAL	GPD
Rainwater	0	PBREF #2-Process	0	Reused	0
PBREF #1	210,000	PBREF #2-Process	210,000	Injection Wells	7,200
Authority ISPs	220,000	PBREF #2-Process	220,000	Reused	38,880
Potable Water	1,870	PBREF #1-Sanitary	1,870	ECRWTF	1,870

Table 2C
Summary of Proposed Facility Water Sources, Uses and Disposal
RAINWATER AND AUTHORITY ISW UNAVAILABLE

SOURCES	GPD	USES	GPD	DISPOSAL	GPD
Rainwater	0	PBREF #2-Process	0	Reused	0
PBREF #1	0	PBREF #2-Process	0	Injection Wells	0
Authority ISPs	0	PBREF #2-Process	0	Reused	0
Potable Water	431,870	PBREF #1-Sanitary	1,870	ECRWTF	1,870
		PBREF #2-Process	430,000	Reused	38,880
				Injection Well	7,200

The Proposed Facility will minimize the use of water and will maximize the reuse of wastewater. It will reduce the need to dispose of wastewater from the Existing Facility by using cooling tower blowdown from that facility for much of its process water needs. Only sanitary wastewater will be discharged to the City of West Palm Beach's sewer system for disposal at the ECRWTF. Industrial wastewater will be discharged to the Authority's deep injection wells.

2. *The application indicates that, if necessary, the harvested rainfall storage facility will be supplemented by potable water from the City of West Palm Beach. Please provide a letter from the City's water utility stating that the utility will have the capacity to provide the backup process water supply from the potable system throughout the life of the proposed plant facilities. The letter should also state that the utility will have the capacity to provide the potable water for the additional 75 employees associated with the new facility.*

Authority Response: The Authority believes this item would be more suitably handled through a post-certification submittal. The final design of the facility will determine the size, capacity and nature of the final potable water demands for sanitary, fire protection and process needs.

The Authority does not believe any backup process water needs will require an additional utility connection or capacity commitment. The Authority offers the following proposed conditions of certification language for consideration: **“The Authority shall submit to the Department and SFWMD at least 90 days prior to the start of building construction a letter from the City of West Palm Beach’s water utility stating that the utility will have the capacity to provide water supply from its potable system throughout the life of the proposed plant facilities.”**

3. The District will be incorporating the existing landscape irrigation permit (Water Use Permit No. 50-02315-W) into the revised recommended Conditions of Certification.

Authority Response: Comment noted. The Authority has no objection to this proposal but believes it is not necessary and would increase the reporting work of the Authority and review work of the SFWMD without providing additional benefit to either.

4. An updated Water Conservation Plan will be required for the proposed new facility. This requirement will be addressed in our revised recommended Conditions of Certification.

Authority Response: Comment noted. The Authority has no objection to this proposal. However, it is requested that any updated plan be a post-certification submittal, so that it can be based on the final engineering plans and design for the Proposed Facility.

B. Palm Beach County Health Department

1.a. Regarding Volume II, Section 10.7.1 V - As an approved environmental control program, the Palm Beach County Health Department should also be designated with right of entry.

Authority Response: Comment noted. The Authority has no objection to this proposal. The Authority will provide the Palm Beach County Health Department with access to the Proposed Facility.

1.b. Regarding Volume II, Section 10.7.1 XIII. Construction, A. Control Measures, 2. Burning. The open burning must also be in compliance with Palm Beach County Open Burning Ordinance No. 05-20.

Authority Response: Comment noted. The Authority does not anticipate any open burning associated with the construction or operation of the Proposed Facility. However, if any open burning occurs, it will be conducted in accordance with the Palm Beach County Open Burning Ordinance.

1.c. Regarding Volume II, Section 10.7.1 XIII. Construction. Odors are not addressed in this section while dust and noise are.

Authority Response: The Authority does not anticipate any construction activities associated with this Proposed Facility which would generate odors.

2.a *Volume III, PSD Permit Application*
PBCHD will support the BACT determination by the Department of Environmental Protection.

Authority Response: Comment noted.

2.b. *Volume III, PSD Permit Application, Testing and Monitoring Requirements. PBCHD encourages the use of CEMS for particulate matter and mercury.*

Authority Response: Comment noted. The Authority is working with the Department to identify the appropriate methods for monitoring the emissions from the Proposed Facility. The Authority will comply with the monitoring requirements established by the Department.

C. City of West Palm Beach Planning and Zoning Department

1. *The conceptual plans included with the application show the main building at up to 154 feet tall and the smoke stack at 310 feet tall. The City's Community Service zoning designation limit structures to 60 feet tall. There is a provision in the zoning description that states the following:*

Section 94-202(b) State standards. Mandatory standards or regulations affecting any use permitted in the community service (CS) district, enacted or adopted by the state legislature or a state regulatory agency, shall prevail if there exists a conflict with the provisions of this section. (City's Zoning and Land Development Regulations)

No information was presented if there are mandatory standards or regulations enacted or adopted by the state legislature or a state regulatory agency that require the building or stacks to exceed the height of the zoning district. In the absence of this information, then the text provided with the application that no variance from the City's Zoning and Land Development Regulations is incorrect.

Authority Response: The Proposed Facility will be subject to many mandatory standards and regulations that were established by the U.S. Environmental Protection Agency ("EPA") and then adopted by reference in the Department's rules. Among other things, the Proposed Facility will be subject to the EPA regulations in Title 40, Code of Federal Regulations, Part 60, Subpart Eb, as amended, which apply to "Large Municipal Waste Combustors for Which Construction is Commenced After September 20, 1994." These EPA regulations have been adopted by DEP in Rule 62-204.800(8)(b)7, F.A.C. The Proposed Facility also must comply with EPA's "National Primary and Secondary Ambient Air Quality Standards," which are codified in 40 CFR, Part 50. These ambient air quality standards and regulations have been adopted by DEP in Rule 62-204.800(1), F.A.C. Further, the Proposed Facility must satisfy the mandatory EPA standards and regulations that govern the "Review of New Sources and Modifications," as set forth in 40 CFR, Part 51, Subpart I. These EPA regulations have been adopted by DEP in Rule 62-204.800(2)(a)2, F.A.C. The EPA has established numerous mandatory requirements concerning the implementation of these EPA programs, which DEP is obligated to follow.

The Authority must obtain an air construction permit for the Proposed Facility pursuant to the mandatory requirements of the Department's program for the prevention of significant deterioration ("PSD") of air quality. Pursuant to the PSD requirements in Rule 62-212.400, F.A.C., the Authority must demonstrate that the Facility will use Best Available Control Technology ("BACT") and will not violate any ambient air quality standard. The EPA and DEP air pollution control regulations also require that Good Combustion Practices ("GCP") and Good Engineering Practices ("GEP") be incorporated into the operation and design of the Proposed Facility to maximize the removal of air pollutants and minimize potential impacts on human health and the environment.

To comply with these EPA and DEP regulations, several components of the existing North County Resource Recovery Facility had to exceed 60 feet in height. Similarly, several components of the Proposed Facility will have to exceed 60 feet in height, because of the need to comply with state and federal laws. A comparison of the heights of the existing and proposed facilities is provided below in response to City of West Palm Beach Comment 2.

For example, the boiler building will exceed 60 feet in height. This building must be tall enough to enclose the boiler and refuse combustion equipment. In turn, the boiler must be tall enough to provide for the thorough mixing of the combustion gases above the furnace, and thus ensure the complete combustion and minimization of regulated pollutants, including Carbon Monoxide (CO). Similarly, the air pollution control systems, including the acid gas scrubbers, the fabric filter baghouse, and the selective catalytic reduction system must exceed 60 feet in height if they are to perform effectively and comply with the DEP requirements. The stack also must exceed 60 feet to ensure that the emissions from the Proposed Facility are well dispersed and thus comply with the National Ambient Air Quality Standards. The height of the stack is subject to the EPA requirements (40 CFR 51) for Good Engineering Practices (GEP).

The Authority has been working closely with residents of the Ironhorse County Club to reduce the visual impact of the stack. GEP would allow the stack to be up to 385 feet tall. The Authority has agreed to restrict the height of the stack to 310 feet, while still complying with the air pollution requirements referenced above. The Authority also has agreed that the stack will be oval, rather than round. The oval design will be more expensive, but it will have less visual impact when viewed from Ironhorse. When viewed from this location, the existing stack is 50 feet wide, but the new oval stack will only be 26 feet wide. Figures B-4 and B-5 in the Petition illustrate the difference in the visual impact of the two stack designs.

The Proposed Facility has been carefully designed to comply with the mandatory standards and regulations adopted by EPA and DEP. For this reason, the Authority believes the design of the Proposed Facility is consistent with the purpose and intent of the City's Community Service (CS) zoning designation and the Class A special use permit, which authorize the construction of resource recovery facilities on the Authority's site. The height of the Proposed Facility should be approved in this case pursuant to Section 94-202(b) of the City's Zoning and Land Development Regulations.

2. *Please provide the heights of the existing renewable energy facility for comparison with what is proposed. Please note the existing facility was not constructed under the City's current zoning district regulations should it exceed 60 feet in height.*

Authority Response: The following table provides the height of major buildings at the Existing and Proposed Facilities:

BUILDING	EXISTING	PROPOSED
Receiving Building	48 feet	80 feet
Boiler Building	128 feet	154 feet
Air Pollution Controls	125 feet	122 feet
Stack	250 feet	310 feet
Ash Silo/Building	78 feet	52 feet
Turbine Generator Building	75 feet	69 feet

3. *The application mentions the materials lay down area and construction worker parking. Where will these be located?*

Authority Response: The northern end of the construction site between the existing scale house entrance and exit roads is currently being filled under Department of the Army Permit No. SAJ-1985-01054 (IP-LCK), dated June 24, 2010, which is provided as Attachment 1 to this RAI Response Letter. This area, as shown on Figure B to this RAI Response Letter, will be used for a materials lay down area and construction worker parking.

4. *The application mentions that there will be two 10 hour construction shifts. What time of day does this occur? And what are the proposed hours for the delivery of equipment and materials?*

Authority Response: The time of day for construction shifts will vary based on the phase of construction and discipline. It is anticipated that the first shift will generally begin between 6 and 7AM and the second shift will generally begin between 6 and 7PM. Deliveries will be scheduled during daylight hours. Approval of any shifts outside of these hours will be requested in advance from the City of West Palm Beach's Construction Services Department.

5. *While not directly related to the construction of the new renewable energy facility, staff would like clarification as to why the exotic trees (Brazilian pepper and Australian pines) within the Rookery are not being removed. The City's Zoning and Land Development Regulations require the removal of exotics.*

Authority Response: In accordance with the City's Zoning and Land Development Regulations requiring the removal of exotic vegetation from properties within the City's jurisdiction, the Authority has implemented an aggressive exotic vegetation removal program at the Renewable Energy Park. The Authority has not, however, removed the exotic vegetation from the Rookery as Biologists from the United States Department of the Interior Fish and Wildlife Service (USDI) as well as Florida Fish and Wildlife Conservation Commission (Commission) have surveyed the Rookery site and recommended that the Authority not remove the exotic vegetation within the Rookery area as the potential risks outweigh the benefits. The area of the Rookery is shown on

Figure 2-2 of the original July 2010 Petition to Modify Conditions of Certification. The USDI and Commission stated their position on the exotic vegetation removal within the Rookery in separate letters dated August 16, 2000 and April 26, 2000, respectively, which are provided as Attachment 2 to this RAI Response Letter as reference.

As the City is aware, the Rookery provides prime nesting habitat for thousands of federally protected migratory birds, which are protected by the Migratory Bird Treaty Act 16 U.S.C. 703-712 as well as federally endangered species, such as the wood stork (*Mycteria americana*) and Snail Kite (*Rostrhamus sociabilis plumbeus*) which are protected by the Endangered Species Act 16 U.S.C. 1531 et seq. USDI and Commission Biologists state in their letters that the human disturbance associated with removing the exotic Brazilian pepper (*Shinus terebinthifolius*) and Australian pine (*Casuarina equisetifolia*), land modification disturbance, and the required time needed for indigenous trees and shrubs to become established to provide nesting habitat would likely result in the colony not returning to the Rookery site and could be defined as “harassment,” as that term is used in the Endangered Species Act’s definition of a “taking.” Section 3, 16 U.S.C. 1532 (19). Therefore, based on the recommendation of the USDI and Commission, and review of the Endangered Species Act, the Authority has concluded that it should not move forward with the removal of exotic vegetation in the Rookery area.

The Authority will continue to actively remove exotic vegetation throughout the Renewable Energy Park, except the Rookery area, so as to remove and control the seed source from Brazilian pepper, Australian pine and other exotic vegetation in order to prevent this vegetation from inadvertently spreading to other areas.

D. Department of Environmental Protection (FDEP) Water Facilities/Drinking Water Program

1. The Proposed Palm Beach Renewable Energy Facility No. 2 will have no direct impacts on surface waters, and no groundwater contamination is anticipated from the operation of the facility. There are no potable water wells within one mile of the Proposed Facility. There will be no increase in surficial aquifer withdrawal or potable water supply use from the City of West Palm Beach. The Department requires that the Solid Waste Authority update its Cross Connection Control Plan and submit it to the Department for review and approval.

Authority Response: The Authority believes this item would be more suitably handled through a post-certification submittal. The Authority will prepare a Cross Connection Control Plan and submit it to the Department after certification is granted for the Proposed Facility. The Authority will obtain the Department’s approval prior to connection of the Proposed Facility to the City of West Palm Beach water and sewer systems. The Authority offers the following proposed conditions of certification language for the Department’s consideration: **“The potable water system will be constructed and operated in conformance with the applicable Department regulations. Accordingly, a Cross Connection Control Plan will be submitted to the Department Southeast District Office for review and approval 90 days prior to construction of the potable water system connection.”**

Waste Cleanup Program

2. *Volume 1, Section 2-49: The potable well survey depicted on Figure 2-15 and Figure 2-16 should be supplemented with a map and by means of a well survey to determine whether the site is located within a regulated wellhead protection zone of a public water or well field and whether any private water supply wells (including potable, irrigation and industrial wells) are present.*

Authority Response: A report from Environmental Data Resources, Inc., dated August 30, 2010, is provided as Attachment 3 to this RAI Response Letter. The attached report confirms the information provided in the Petition, which stated that there are no potable water wells within one mile of the Proposed Facility construction site. The Palm Beach County wellhead protection Zone 4 covers a portion of the Authority's Certified Site, however, the Proposed Facility's construction site is not located within the County's regulated wellhead protection zone. See attached Figure C to this RAI Response Letter.

3. *Volume 1, Section 2. The section should include details of any preliminary assessment or interim source removal activities performed at the site such as free product recovery, groundwater recovery, contaminated soil removal and contaminated sediment removal (summarized in graphical and tabular form).*

Authority Response: No preliminary assessment or interim source removal activities has been performed at the Proposed Facility's construction site as no part of the proposed construction site has been impacted by a potential pollution source.

4. *Volume 1, Section 4.3.1. Dewatering has been adequately addressed.*

Authority Response: Comment noted.

5. *Please describe any existing or planned provisions to protect the integrity of any groundwater monitoring or surface water monitoring point that may be affected from construction activities. In the event any monitoring point is damaged, provisions would need to be made to notify the Department and repair/replace the damaged point.*

Authority Response: No groundwater or surface water monitoring points are located on the Proposed Facility's construction site.

6. *Volume 2, Section 10.13.5. The document "Proposed Plan for the Recovery and Use of Mineralized Groundwater by Pumping at the Dyer Boulevard Sanitary Landfill", dated March 1985 (prepared by Geraghty & Miller, Inc.) is included in the submittal. This document should be reviewed by the applicant and updated and/or revised.*

Authority Response: The Authority included this document for information only because it was a part of the original Site Certification Application in 1985. The Dyer Road Landfill Site is not a part of the Certified Power Plant Site. The Authority has, however, reviewed the document and offers the following updated information. More than twenty years of ground water monitoring has demonstrated that the need to pump and treat groundwater to prevent the

migration of contaminated water off of the Dyer Landfill site, as anticipated by the document, is not necessary. The Authority will prepare a summary analysis of groundwater monitoring results and submit it to the Department and SFWMD before December 31, 2010. The Authority will also file a request with the SFWMD for a separate General Permit allocation for irrigation well withdrawal of less than three (3) million gallons per month. This water will be used to irrigate the County Park which now occupies most of the closed landfill site. As the Dyer Landfill Site is not a part of the Site Certified for a Power Plant, the Authority believes that no further action on this matter need be taken under the currently pending modification petition. The Industrial supply wells at the Dyer Landfill Site have been removed from the Overall Water Balance Diagram, Figure A, as referenced in Response A.1. of this RAI Response, as these wells were never connected to the Existing Facility as anticipated in the 1985 Application.

7. *Volume 2, Section 10.14.2 - Monitoring Plans.* *For completeness, the entire document entitled "Solid Waste Authority of Palm Beach County, Proposed Monitoring Plan for the North County Regional Resource Recovery Facility, dated August 1994, prepared by Camp, Dresser & McKee, should be included in the submittal.*

Authority Response: The entire document is provided in electronic form as Attachment 4 to this RAI Response Letter (see attached CD-ROM with Adobe PDF file). Hard copies will be provided upon request. The Authority requests that Conditions of Certification PA84-20 be updated to reflect the monitoring requirements established by this approved plan.

8. *Volume 1 Section B, page B-2:* *The application states that "The Proposed Facility will not cause any increases in the emissions from the Existing Facility or other existing operations at the Energy Park." Page B-4 lists the pollutants that will be airborne. Please clarify.*

Authority Response: There will be no increases in air emissions from the Authority's Existing Facility or any other existing operations at the Energy Park associated with the construction and operation of the Proposed Facility. However, the Proposed Facility itself will emit a number of airborne pollutants. The table provided on Page B-4 of the Petition provides a summary listing of regulated air pollutants, proposed emission rates, and proposed control technology for the Proposed Facility.

9. *Volume 1 Section B page B-5:* *It is stated that "no impacts to surface water bodies are proposed as part of the construction of the proposed facility." Page B-5 states that "Most of the south borrow lake will be filled". It is stated again in Section 4.2 that the south borrow lake will be filled. Please clarify.*

Authority Response: The South Borrow Lake is currently being filled pursuant to Department of the Army Permit No. SAJ-1985-01054 (IP-LCK), dated June 24, 2010, which is provided as Attachment 1 to this RAI Response Letter. The South Borrow Lake is currently being filled in part to provide suitable land for the development of the Proposed Facility and other facilities in the future. This work has been approved and will be completed before construction begins on the Proposed Facility. The construction and operation of the Proposed Facility will have no impact on any surface water bodies.

10. Volume 1 Section 3, page 3-23. *It is stated that chemicals will be added to the process water including corrosion inhibitors, oxygen scavengers, and demineralization agents. Are any of these chemicals classified as hazardous? An Operating Protocol and Safety Plan should be included.*

Authority Response: The Authority believes this item would be more suitably handled through post-certification requirements. The specific chemicals that will be utilized for process treatment additives have not been selected at this time. If any of the materials selected are classified as “hazardous” and will be used above their designated “threshold quantity”, the Authority will comply with the applicable provisions of SARA Title 3 “Emergency Planning and Community Right To Know Act” (EPCRA) which includes requirements for the emergency planning, emergency release notification, and public’s right to know notices. Employees will be trained in safe handling and use of the specific chemicals and safety programs will be implemented in accordance with the applicable portions of 29 CFR 1910 Occupational Safety and Health Standards. The Authority offers the following proposed conditions of certification language for the Department’s consideration: **“The Authority shall comply with the applicable provisions of SARA Title 3 “Emergency Planning and Community Right To Know Act” (EPCRA) which includes requirements for the emergency planning, emergency release notification, and public’s right to know notices.”**

11. Volume 1 Section 4-3-2. *It is stated that if significant dewatering is to occur, required permits will be secured. If dewatering occurs, the groundwater monitor sampling events should include parameters from known contaminants in the subsurface area affected by the drawdown.*

Authority Response: Comment noted.

12. Volume II Section 10.12.1. *Table C1 lists the proposed stack height at 310 feet above the base. The existing facility has a stack height listed at 250 feet. Airport traffic and flight paths should be analyzed.*

Authority Response: In accordance with CFR 77.13 and 77.17, the Authority will notify the FAA Administrator of the construction of the Proposed Facility stack, as the stack will be greater than 200-feet above ground. The Authority will submit FAA Form 7460-1 Notice of Proposed Construction or Alteration, to the Orlando Airports District Office 30-days before the initial construction activities are to begin. It should be noted that an airport traffic and flight path analysis is not required at this time and it is unlikely that the proposed stack will interfere with air traffic. However, the Authority will continue to utilize its best management practices by installing white flashing warning lights on the proposed stack during daylight hours and red flashing warning lights during the nighttime hours. A copy of FAA Form 7460-1 is provided as Attachment 5 to this RAI Response Letter.

13. Volume II Section 10.14. *The Monitoring Plan section and contains no information. Please provide a copy of the groundwater monitoring plan. Will any of the existing monitoring wells be abandoned with the construction of the new facility?*

Authority Response: A copy of the Site Groundwater Monitoring Plan is being provided in response to FDEP Comment 7 above as Attachment 4 to this RAI Response Letter. No changes to the Plan are proposed. No monitoring wells will be abandoned with construction of the Proposed Facility.

Southeast District Environmental Air Program

14.a. Solid waste stored in the incoming refuse storage pits have been a source of odor complaints at mass burn waste-to-energy facilities. The wetter and the longer the waste is in the pit, the more likely there will be odor problems. Odors are strongest on Sunday evenings when no waste is being put into the pit and the inventory of waste accumulated during the previous week is being exposed. Stagnant waste in the corners of the pit is also exposed at this time. Odors can be minimized by assuring that the waste is processed on a first in, first out basis and that waste does not remain in the pit beyond the point where it becomes very odiferous. What management practices will the Palm Beach County Solid Waste Authority have in place to minimize odors coming from the Tipping/Refuse Storage Building?

Authority Response: Odor will be controlled through good refuse storage pit management practices and use of air from the pit area to support the waste combustion process. The pit will be managed by using a computer-based logging/mapping system, which will be integrated with the cranes used to move waste and stoke the boiler hoppers. Sorting, stacking and stoking activities will be handled through a bunker profile program, which will track the history of crane activity and use sensors over the pit to keep track of the waste inventory. This system will allow good mixing of the waste, as well as the timely rotation and replacement of the waste inventory. These measures will, in turn, minimize the generation of odors. The pit will be effectively ventilated by drawing all the air needed for waste combustion from the area above the rear pit wall. Odors will not escape from the tipping floor building because the inside of the building will be maintained under negative air pressure. Automatic quick opening and closing fabric doors will be installed at both the truck entrance and exit to the tipping floor to keep odors from escaping during periods of waste delivery. Metal rollup doors will be used to close these doors during non-delivery periods. These measures have been successful in eliminating off-site odors at other waste-to-energy facilities.

14.b. The submittal states that the waste haul vehicles will discharge their loads directly into the waste pit. This is different from other facilities where the waste is discharged on to a tipping floor before being pushed into the refuse pit. The waste can be inspected for, and any unacceptable materials removed from the waste stream prior to combustion. What is the process for identifying and removing any unacceptable materials that may come in with the solid waste?

Authority Response: Most facilities with refuse storage pits allow the waste hauling vehicles to discharge directly into the pit. It is anticipated that approximately 80% or more of the waste received will be from transfer station facilities. Consequently, most of the waste will have been inspected at the transfer stations, prior to delivery at the Proposed Facility. In addition, appropriate procedures will be used pursuant to Chapter 62-701, F.A.C., to inspect random loads of waste that are delivered to the Proposed Facility. Spotters on the floor and crane operators

will be trained to look for and remove unacceptable materials from all loads. If such materials are found, they will be segregated and containerized for proper handling and disposal.

15. *A design higher heating value (HHV) of 5,000 Btu/lb with 21 percent moisture content by weight is used throughout the report. Our experience with other mass burn waste-to-energy facilities has shown that the HHV and moisture content can vary over the period of a year. It appears that there will be no dewatering provisions available for the waste and any excess water will be absorbed into the waste entering the combustion unit. In periods following heavy rain events, the moisture content of the waste is high enough that the output steam flow of the facility may be limited. Additionally, the wet waste can cause combustion problems resulting in carbon monoxide excursions. How was the HHV and moisture content determined? What is the range of HHV and moisture content over the period of a year? Is any consideration being given to the impact of high moisture containing waste on the combustion process?*

Authority Response: The HHV of the waste was estimated based upon the municipal solid waste stream being processed by renewable energy facilities in Broward and Palm Beach Counties. The annual average HHV of waste is expected to be 4,600 Btu/lb with a range from 3,800 to 6,000 Btu/lb, based in large part on moisture content of the waste in the Southeast Florida area. The Proposed Facility is being designed to process waste with HHV in this range. We expect the annual average HHV of waste to increase over time, so the design point for the Proposed Facility was established as 5,000 Btu/lb.

Siting Coordination Office

16. *What is the expected parasitic load of the dry cooling system? What is the estimated cost difference between dry cooling and water cooling systems for the proposed facility?*

Authority Response: The Air Cooled Condenser (ACC) will have an estimated three (3) percent energy penalty. The Authority evaluated the feasibility of obtaining and treating the amount of cooling water that would be required for the project, as well as disposing of resulting wastewater from treatment processes and cooling tower blowdown. Based on the results of the evaluation, and in consideration of the Authority's commitment to minimize water use and maximize water reuse for this project, the Authority elected to use an ACC, rather than a water cooling system. The installed cost of the ACC system was estimated at approximately \$19.5 million. A water cooling system was not estimated because of the large number of possible alternatives that might have been used in this case. The installed cost of Floridan Aquifer water wells and low pressure reverse osmosis treatment system alone were estimated to be approximately \$25 million, plus \$2 million in annual operating costs.

17. *When does the Authority plan to file for a determination of need with the Public Service Commission?*

Authority Response: The Need Determination Petition was filed with the Public Service Commission (PSC) on August 26, 2010. The Public Service Commission (PSC) issued Docket Number 100385-EU on September 2, 2010, which states that the final hearing has been scheduled for November 8, 2010. Subsequent to the filing in August, on September 10, 2010, the

Authority elected to withdraw their Petition with the PSC and anticipate re-filing near the end of the year. The Petition will be provided to the Department upon filing.

18. It is stated in the application that the Energy Park's on-site injection wells will be used for disposal of non-sanitary process wastewater from the Proposed Facility. Does this project trigger any amendments/modifications to the current Class I Industrial Injection Well Permit?

Authority Response: An amendment/modification to the current Class 1 Industrial Injection Well Permit will not be required. The wastewater from the Proposed Facility will be characterized as required by the Permit and the wells have sufficient permitted capacity to meet the disposal requirements of the Proposed Facility.

19. Appendix 10.2.1 includes the statement that the PPSA exempts the Palm Beach County Renewable Energy Park from local permitting. It should be noted that pursuant to 403.511(4), F.S., the act shall not "in any way affect the right of any local government to charge appropriate fees or require that construction be in compliance with applicable building construction codes."

Authority Response: Comment noted.

20. Appendix 10.2.1, e) includes a statement that the South Florida Water Management District (SFWMD) regulates the surface water management system at the Palm Beach Renewable Energy Park. Under the Operating Agreement Concerning Regulation Under Part IV, Chapter 373, F.S., between SFWMD and the Department of Environmental Protection effective July 1, 2007, the DEP shall review and take final action on all applications for permits for certain project types including power plants. As part of this certification, appropriate changes will be made to the Conditions of Certification to reflect regulation of the surface water management system.

Authority Response: Comment noted.

21. On page 7-3, it is stated in the application that when comparing waste-to-energy to fossil fuel power plants, the EPA stated that waste-to-energy produces 63% less CO₂ than a traditional coal fired power plant. Describe the potential CO₂ emissions specifically from REF No. 2 and compare them to a comparably sized natural gas fired combined cycle plant.

Authority Response: Waste-to-Energy facilities produce only slightly more CO₂ than natural gas fired facilities. Based upon 2007 EPA eGRID data, natural gas fueled power plants produce 1,176 pounds of CO₂ while waste-to-energy facilities produce 1,294 pounds of CO₂ emissions per MWh of electricity generated.

22. On page B-7 of the application, it is stated that the Proposed Facility will generate clean renewable electricity, thereby displacing the use of about 985,000 barrels of oil per year and reducing greenhouse gas emissions from fossil fuels. Please explain how this number was derived.

Authority Response: We were speaking in general terms. The combustion of a ton of municipal solid waste generates approximately the same amount of electricity as a barrel of oil and the figure 985,000 represents the approximate number of tons to be processed annually by the Proposed Facility. A ton of municipal solid waste will generate approximately 732 kWh of electricity. Combustion of a barrel of oil will generate approximately 680 kWh of electricity.

The parasitic load of a Waste-to-Energy Facility is, however, greater than that of an oil burning facility. The net amount of electricity will be approximately the same.

23. *According to Section 1.2 of the application, one of the benefits of the Proposed Facility to Palm Beach County, South Florida, and the State of Florida is the reduction of the amount of greenhouse gas associated with the disposal of MSW by landfilling. What is the estimated reduction in greenhouse gasses associated with landfilling?*

Authority Response: A waste-to-energy facility burns the MSW and eliminates the methane emissions associated with the MSW. By comparison, solid waste placed in a landfill will generate and release methane. According to the EPA, methane is approximately 21 times more potent than CO₂. EPA's National Risk Management Research Laboratory estimated in 2009 that landfills with gas collection and gas-to-energy facilities produces approximately 7,260 pounds of Carbon Dioxide equivalent (CO₂e) emissions per MWh. Estimates for landfills with only collection systems and flares produce about the same amount of CO₂e emissions. If uncontrolled, the CO₂e emissions are estimated by EPA to be almost two and a half times higher.

We trust that the information presented herein provides sufficient information to fully address each of your comments and questions. Should you have any questions or need additional information, please do not hesitate to contact us. We look forward to working with you and the Department.

Sincerely,

Solid Waste Authority of Palm Beach County



Mark Hammond
Executive Director

Cc: C. Mulkey, FDEP Office of Siting Coordination
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L. Richter, Malcolm Pirnie, Inc.
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J. Golden, SFWMD
C. Wu, City of WPB
E. Schneider, City of WPB
J. O'Malley, PBCHD
L. Anderson, FDEP-SED

ATTACHMENTS:

Attachment 1: Department of the Army Permit No. SAJ-1985-01054 (IP-LCK)

Attachment 2: US Department of the Interior Fish and Wildlife Service and Florida Fish and Wildlife Conservation Commission Exotic Vegetation Removal in Rookery Letters

Attachment 3: EDR Report dated August 30, 2010

Attachment 4: Proposed Monitoring Plan for the NCRRF, August 1994 (Provided on a CD-ROM)

Attachment 5: FAA Form 7460-1

FIGURES:

Figure A: Overall Water Balance Diagram

Figure B: Project Laydown Area

Figure C: Wellhead Protection Zone Four