



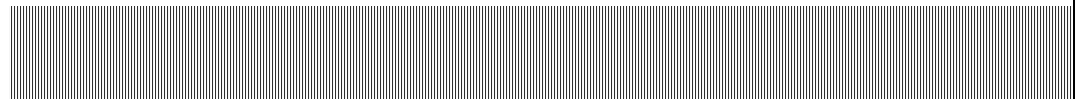
Solid Waste Authority of Palm Beach County

7501 North Jog Road • West Palm Beach, FL 33142

Appendix 10.4.1

Waste to Energy Facility Requirements Review

June 2009



Prepared By:

Malcolm Pirnie, Inc.

500 Australian Avenue South
Suite 638
West Palm Beach, FL 33401
561-820-4890

3582056

**MALCOLM
PIRNIÉ**

Contents

1. Introduction	1-1
1.1. Purpose.....	1-1
1.2. Background	1-1
2. Requirement A	2-1
2.1. Requirement.....	2-1
2.2. Response	2-1
3. Requirement B	3-1
3.1. Requirement.....	3-1
3.2. Response	3-1
4. Requirement C	4-1
4.1. Requirement.....	4-1
4.2. Response	4-1
5. Requirement D	5-1
5.1. Requirement.....	5-1
5.2. Response	5-1
6. Requirement E	6-1
6.1. Requirement.....	6-1
6.2. Response	6-1
6.2.1. Household Hazardous Waste Program.....	6-1
6.2.2. Conditionally Exempt Small Quantity Generator (CESQG) Program	6-2
6.2.3. Mercury Containing Devices/Mercury Oxide Batteries	6-2
6.2.4. Electronic Waste	6-3
7. Requirement F	7-1
7.1. Requirement.....	7-1
7.2. Response	7-1
8. Requirement G	8-1
8.1. Requirement.....	8-1
8.2. Response	8-1
9. Requirement H	9-1
9.1. Requirement.....	9-1

9.2. Response	9-1
10. Requirement I	10-1
10.1. Requirement.....	10-1
10.2. Response	10-1

List of Tables

Table 2-1. Processible Solid Waste Projections.....	2-4
Table 2-2. NCRRF Available Processing Capacity	2-5
Table 3-1. Palm Beach County WTE Capacity Feasibility Survey	3-2
Table 4-1. Palm Beach County Recycling Rates	4-2

1. Introduction

1.1. Purpose

The state of Florida is fully committed to achieving its recycling and waste reduction goals by ensuring that waste-to-energy (WTE) facilities are fully integrated into the state's waste management protocol. To that end, the Legislature has found that the Florida Department of Environmental Protection (FDEP) should evaluate applications for WTE facilities in accordance with the criteria in Florida Statutes (FS) Chapter 403.7061 (3). This statute confirms that WTE facilities are part of an integrated solid waste management plan. This appendix to the Application for Power Plant Site Certification is meant to demonstrate that the proposed 3,000 tons per day (tpd) WTE facility (Proposed Facility) meets the criteria in Florida Statutes Chapter 403.7061.

According to the Chapter 403.7061 (4) FS, the term "waste-to-energy facility" means a facility that uses an enclosed device using controlled combustion to thermally break down solid, liquid, or gaseous combustible solid waste to an ash residue that contains little or no combustible material and that produces electricity, steam, or other energy as a result. The term does not include facilities that primarily burn fuels other than solid waste even if such facilities also burn some solid waste as a fuel supplement. The term also does not include facilities that burn vegetative, agricultural, or silvicultural wastes, bagasse, clean dry wood, methane or other landfill gas, wood fuel derived from construction or demolition debris, or waste tires, alone or in combination with fossil fuels. The facility proposed by the Solid Waste Authority of Palm Beach County qualifies as a waste-to-energy facility.

The following sections address each requirement specified in Chapter 403.7061 (3) FS and provides documentation that the construction of a new waste-to-energy facility will comply with these requirements.

1.2. Background

The Solid Waste Authority of Palm Beach County (Authority) is the governmental agency responsible for providing an economical and environmentally conscious integrated solid waste management system for Palm Beach County (County), Florida. The Authority provides solid waste disposal and recycling services and programs to the County's 1.4 million residents and businesses. The Authority also provides solid waste and recycling collection services to the residents and businesses in unincorporated Palm Beach County through private haulers under exclusive franchise agreements. The

Authority is a Dependent Special District governed by the seven elected County Commissioners of Palm Beach County, Florida.

The Authority first developed a plan to address solid waste management issues on a County-wide basis in 1979 entitled “The Comprehensive Solid Waste Management and Resource Recovery Plan”. Through this plan, the Authority’s first WTE facility, the North County Resource Recovery Facility (NCRRF) was developed. The NCRRF has been operational since 1989 and although it has, a rated capacity of 624,000 tons per year (tpy), over the last 13 years has frequently surpassed 800,000 tpy of processible waste¹. In addition, nearly 500,000 tpy of unprocessed combustible waste that exceeds plant capacity is landfilled. Due to this growing need for additional capacity and recent and projected increases in population, the Authority is developing a second WTE facility, the Palm Beach Renewable Energy Facility No. 2 (i.e., the Proposed Facility).

This plan was most recently revised in August 2006 and was renamed the Integrated Solid Waste Management (ISWM) Plan. The Authority plans to construct the Proposed Facility to include three 1,000 tpd units for a facility capacity of 3,000 tons per day (tpd). The Proposed Facility is planned to be constructed adjacent to and immediately north of the Existing Facility (NCRRF) on the Authority’s Palm Beach Renewable Energy Park (Energy Park), which also includes a Class 1 landfill, Class 3 landfill, compost facility, household and conditionally exempt small quantity generator (CESQG) hazardous waste collection facility, recovery materials processing facility (RMPF), yard waste processing, ferrous processing facility, and biosolids pelletizing facility.

¹ Consulting Engineer’s Independent Opinion of the NCRRF Operating Year 19

2. Requirement A

2.1. Requirement

■ FS 403.7061 (3) (a)

The facility is a necessary part of the local government's integrated solid waste management program in the jurisdiction where the facility is located and cannot be avoided through feasible and practical efforts to use recycling or waste reduction.

2.2. Response

The ISWM Plan addresses every element in the waste management hierarchy: source reduction, recycling, composting, waste-to-energy, and landfill. The ISWM Plan is implemented through the establishment of policies and goals of the Authority.

The original plan called for a system of solid waste management facilities including the development of six transfer stations, two regional processing and disposal facilities, and ancillary facilities. The plan was developed in 1979 and implemented collection and processing program to meet and ultimately exceed the state-wide goal of 30 percent recycling with specific goals of 50 percent recycling of ferrous, aluminum, glass, and plastic containers, and newsprint consistent with state-wide goals. In addition to these five materials, the Authority's residential collection programs currently include aseptic packaging, magazines, corrugated cardboard gable-top containers (from milk, juice, etc.), and other aluminum products. The Commercial Recycling Programs include office paper and corrugated cardboard as well as the materials in the residential programs. Special Waste recycling is also a part of the system and includes materials such as yard waste, construction/demolition debris, tires, white goods, and used oil. Furthermore, as markets are developed that assure that materials recovered are recyclable; they may be added to the recycling programs. Beyond the state-wide recycling goal, the Authority has established a goal of reducing the quantity of waste being delivered for combustion or landfill by 50 percent¹. The Authority is also actively monitoring the development of the State's new recycling goal of 75%, which would include WTE as recycling.

The ISWM Plan encompasses a wide array of integrated mechanisms and components within the solid waste management system to accomplish its materials separation goals. Briefly, the solid waste management system includes the following facilities:

■ A Commercial Materials Recycling Facility

- A Compost Facility
- A Ferrous Processing Facility
- A Recovery Materials Processing Facility
- A Household Hazardous Waste Facility
- North County Resource Recovery Facility
- The North County Landfill
- Five Transfer Stations for Class I Waste (garbage)
- A Woody Waste Recycling Facility
- C&D debris and yard trash disposal facilities
- A Regional Wastewater Residuals (sludge) Pelletizing Facility
- Conditionally Exempt Small Quantity Generators (CESQG) Waste Collection

The facilities that make up the Authority's solid waste management system throughout Palm Beach County are shown in Figure 2-1.

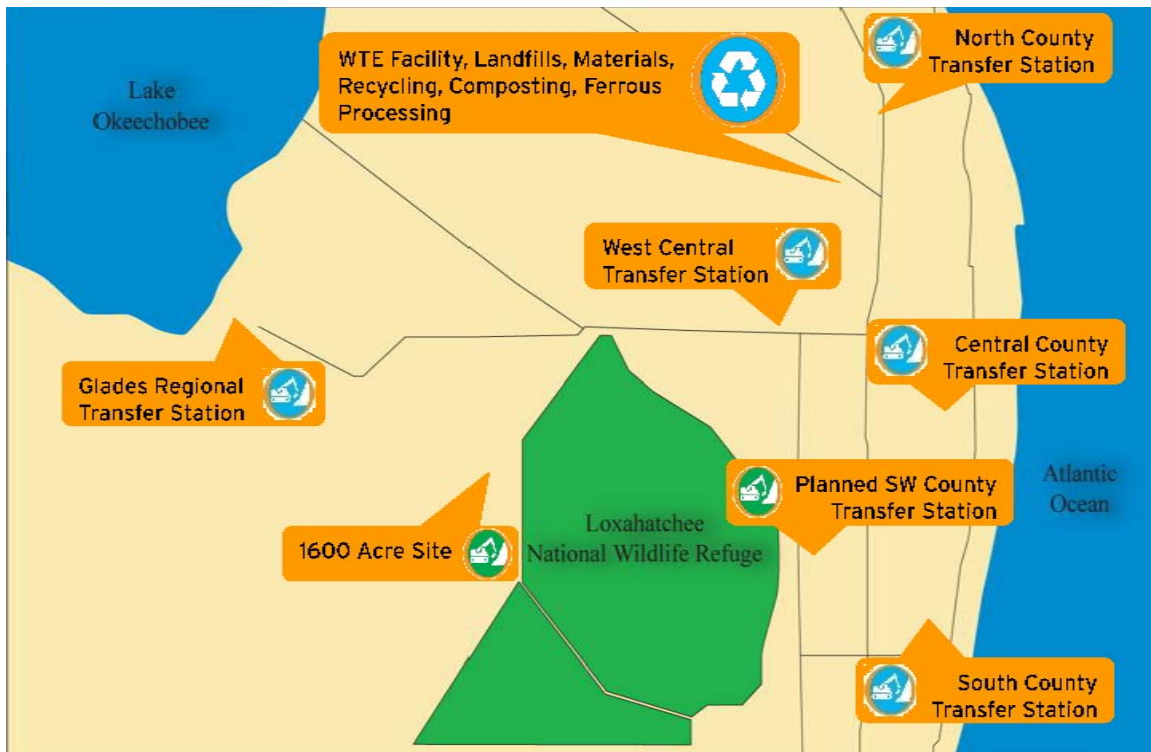


Figure 2-1: Authority Solid Waste Facilities in Palm Beach County

Many of these facilities, including the NCRRF, MRF, and CMRF are located at the Palm Beach Renewable Energy Park in the City of West Palm Beach. A map of the Energy Park is shown in Figure 2-2.



Figure 2-2: Facilities at the Palm Beach Renewable Energy Park

While the County's recycling, reduction, and separation program continues to grow and improve, it cannot handle the existing and additional non-recyclable materials projected to be generated within the service area in the future. Table 2-1 below shows the processible solid waste projections (in tons) for the County through the year 2024².

**Table 2-1.
Processible Solid Waste Projections**

YEAR	MSW (tons)	Recycled (tons)	TOTAL (tons)
2009	1,778,197	355,231	1,422,965
2010	1,806,030	360,792	1,445,238
2011	1,950,560	381,565	1,568,995
2012	1,995,175	389,380	1,605,795
2013	2,040,852	397,365	1,643,487
2014	2,087,618	405,523	1,682,094
2015	2,135,499	413,860	1,721,639
2016	2,179,600	421,426	1,758,173
2017	2,224,657	429,142	1,795,515
2018	2,270,690	437,009	1,833,681
2019	2,317,724	445,032	1,872,692
2020	2,365,778	453,213	1,912,565
2021	2,411,798	460,967	1,950,831
2022	2,458,761	468,865	1,989,896
2023	2,506,689	476,911	2,029,778
2024	2,555,601	485,107	2,070,494

Table 2-2 below projects the available processing capacity through the year 2023. It is projected that by this time, there will be a solid waste processing capacity shortfall in excess of 1.5 million tons. According to the 2009 Landfill Depletion Model, the balanced life of the existing landfills is expected to end in 2024 with the existing landfill and solid waste management facilities. With the addition of the 3,000 tpd Proposed Facility in 2015, the life of the existing landfill is expected to end seven years later, or 2031. Without construction of the Proposed Facility, the processible municipal solid waste will be landfilled. The expected quantity of waste that cannot be processed in the current facility is shown in Table 2-2 as the waste processing capacity shortfall.

**Table 2-2.
NCRRF Available Processing Capacity**

Fiscal Year	Available Waste Processing Capacity⁽¹⁾ (tons)	Required Waste Processing Capacity⁽²⁾ (tons)	Waste Processing Capacity Shortfall (tons)
2009	817,000	1,422,965	-605,966
2010	571,900	1,445,238	-873,338
2011	571,900	1,568,995	-997,095
2012	817,000	1,605,795	-788,795
2013	817,000	1,643,487	-826,487
2014	817,000	1,682,094	-865,095
2015	817,000	1,721,639	-904,639
2016	817,000	1,758,173	-941,174
2017	817,000	1,795,515	-978,515
2018	817,000	1,833,681	-1,016,682
2019	817,000	1,872,692	-1,055,692
2020	817,000	1,912,565	-1,095,566
2021	817,000	1,950,831	-1,133,831
2022	817,000	1,989,896	-1,172,896
2023	817,000	2,029,778	-1,212,778
2024	817,000	2,070,494	-1,253,495
<i>(1) Assumed throughput based on Authority's long range planning assumptions of 860,000 tpy, anticipated retrofit in FY2010, and an estimated downtime of 5%.</i>			
<i>(2) Based on BEBR population projections and an estimated per capita generation rate that is projected to increase annually.</i>			

The Authority has investigated options to increase facility capacity and overall disposal capacity while still conserving landfill airspace. The three practical and demonstrated options available for the future disposal of the materials that cannot be handled by the County's materials separation program are the:

1. Expansion of the Existing Facility;
2. Building a second WTE facility; and
3. Disposal of unprocessed waste in existing landfill.

The Authority has carefully evaluated these options and determined that developing the Proposed Facility is the most feasible option. This option has subsequently been included as a scenario in the Authority 2009 Landfill Depletion Model. According to this model, construction of the Proposed Facility would extend the existing landfill lifespan by seven years. Development of the Proposed Facility would also have the advantage of allowing the Authority to process a majority of its own waste in an environmentally sound manner, thereby reducing the volume of waste landfilled, and increasing the life of the current

landfill and future landfills while also contributing to the new State recycling goal of 75%.

The Authority is also considering developing a new landfill on property purchased in the western part of the County. Development of this 1,600 acre site is expected to provide approximately 230 million cubic yards of airspace. With the development of this landfill site, the construction of the Proposed Facility and continuing operation and improvement of other waste reduction and recycling programs, the Authority will have disposal capacity for at least 50 years.

Based upon the discussions above, the Authority's Proposed Facility is an integral part of its integrated solid waste management program.

¹ ISWM Plan 2006

² 2009 Landfill Depletion Model

3. Requirement B

3.1. Requirement

■ FS 403.7061 (3) (b)

The use of capacity at existing WTE facilities within reasonable transportation distance of the proposed facility must have been evaluated and found not to be economically feasible when compared to the use of the proposed facility for the expected life of the proposed facility.

3.2. Response

The use of capacity at existing WTE facilities within reasonable transportation distance of the Proposed Facility has been evaluated and found to be infeasible because no other WTE facilities in Florida within reasonable transportation distance would entertain a 20-year disposal agreement for a guaranteed tonnage amount of 795,600 tpy. Table 3-1 shows the results of the Authority's survey of the nearest WTE facilities that could potentially accept out-of-county MSW.

As documented in the ISWM Plan and the 2009 Landfill Depletion Model, the Existing Facility, does not have the available capacity to receive additional MSW. While the Existing Facility has a rated capacity of 624,000 tpy, each year over the past 12 years, with the exception of FY 2006, it has surpassed 800,000 tons of processible waste¹. Even with the Existing Facility running at an assumed throughput of 817,000 tpy, the County landfills nearly 500,000 tpy of unprocessed combustible waste that exceeds plant capacity. This figure is expected to rise as the population increases. The Proposed Facility will be able to process 936,000 tpy of municipal solid waste, reducing the quantity of waste placed in the landfill by at least 60 percent and extending the landfill life by approximately seven years. This additional capacity will be needed as the expected average annual growth rate for Class 1 waste is 2.43 percent and for Class 3 waste is 1.17 percent².

Table 3-1.
Palm Beach County WTE Capacity Feasibility Survey

Facility Name	North Broward County Resource Recovery Facility	South Broward County Resource Recovery Facility	Dade County Resource Recovery Facility	Hillsborough County SW Energy Recovery Facility	McKay Bay Refuse to Energy Project	Lake County Resource Recovery Facility	Lee County Resource Recovery Facility	Pasco County Solid Waste Resource Recovery	Pinellas County Resource Recovery Facility	Bay County Resource Management Center
Facility Contact	Jairaj Gosine	Jairaj Gosine	Asok Ganguli and Tony Guillen	Tom Smith	Greg Grotecloss	Jeff Cooper and Gary Main	Lindsey Sampson	John Power	Audrey Schafer	Glen Ogborn and Ken Caine
Contact number	954-581-6606	954-581-6606	305-514-6687 and 305-766-8099	813-276-2900	813-348-1155	352-343-9651 and 352-365-1611	239-533-8000	727-856-0119	727-464-7500	850-233-5047 and
Survey Date	6/25/08	6/25/08	8/26/08	6/25/08	6/25/08	6/27/08	6/25/08	6/25/08	8/25/08	6/25/08
QUESTIONS: 1. Does your facility accept out-of county municipal solid waste?	Yes	Yes	No	No	No	Yes	No	No	No	Yes
2. If yes, would you entertain a 20-year disposal agreement for a guaranteed tonnage amount of up to 795,600 tpy?	No	No	N/A	N/A	N/A	No	N/A	N/A	N/A	No
3. If yes, what is the disposal fee per ton?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4. Distance from Palm Beach County WTE facility to the Selected Out-of-County WTE facility?	40.3 miles	54.9 miles	N/A	N/A	N/A	201.2 miles	N/A	N/A	N/A	522.0 miles
5. Transfer cost and haul cost per ton.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6. Total disposal cost and transfer cost per ton.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

¹ 2009 Landfill Depletion Model

² 2009 Landfill Depletion Model

4. Requirement C

4.1. Requirement

■ FS 403.7061 (3) (c)

The county in which the facility is located has implemented and maintains a solid waste management and recycling program that is designed to achieve the waste reduction goal set forth in s. 403.706(4). For the purposes of this section, the provisions of s. 403.706(4)(c) for counties having populations of 100,000 or fewer do not apply.

4.2. Response

As a leader in the recycling industry, the Authority's award winning recycling program has been recognized for excellence by organizations such as the Solid Waste Association of North America and Recycle Florida Today. The Authority's Materials Separation Plan is embodied within the ISWM Plan and encompasses a wide array of integrated approaches, mechanisms, and components to accomplish its materials separation goals. The Authority's ISWM Plan is designed to provide an integrated solid waste management and materials separation approach and has proven to be a financially and environmentally sound means of providing solid waste services to the residents and businesses in Palm Beach County. The Authority emphasizes the conservation of resources by diverting materials from solid waste disposal facilities through recycling, reuse, and reduction. In addition, the Florida Department of Environmental Protection (FDEP) 2007 Solid Waste Management Annual Report ranks Palm Beach County 4th for recycling in the state of Florida¹.

The solid waste management plan developed in 1988, which is the basis for the current ISWM Plan, implemented collection and processing programs that were designed to achieve and ultimately exceed the state-wide goal of 30 percent recycling with specific goals of 50 percent recycling of ferrous, aluminum, glass, and plastic containers, and newsprint. In addition to these five materials, the Authority's residential collection programs currently include aseptic packaging, magazines, corrugated cardboard gable-top containers, and other aluminum products. The Commercial Recycling Programs include office paper and corrugated cardboard as well as the materials in the residential programs. Special Waste recycling is also a part of the program, and includes materials such as yard waste, construction/demolition debris, tires, white goods, and used oil. Furthermore, as markets are developed that assure that materials recovered are recyclable, they may be added to the recycling programs.

Beyond the state-wide recycling goal, the Authority has established a goal of reducing the quantity of waste being delivered for combustion or landfill by 50 percent. The Authority met both the FDEP and their internal recycling rate goals in 2007². Below is a table listing the FDEP reported recycling rate and the recycling rate when construction and demolition debris is included from 2003 through 2007.

**Table 4-1.
Palm Beach County Recycling Rates**

Year	FDEP Recycling Rate	Recycling Rate including C&D	Tons/ capita disposed
2003	33%	51%	1.03
2004	33%	43%	1.13
2005	29%	46%	1.15
2006	27%	43%	1.15
2007	36%	50%	1.02

The drop below the 30 percent adjusted recycling goal for the years 2005 and 2006 is an isolated occurrence and is attributed to hurricane and disaster relief efforts for Hurricanes Francis and Jeanne in September 2004 and Hurricane Wilma in October 2005. During these years, there was an increased amount of garbage due to disaster conditions, and much of the material was disposed of without taking the extra time to separate recyclable materials. Permitted C&D facilities must report the amount of materials they recycle, however, only municipal waste is counted. Ten percent of the total tonnage reported is deducted as “non-MSW-C&D”, even though the material could be counted as recycled materials to meet the Authority’s 50% goal. This inconsistent reporting of C&D tonnages may have contributed to the lower recycling rate during some years.

As stated previously, the Authority’s waste reduction goal is 50 percent and the ISWM Plan includes a variety of mechanisms and approaches to accomplish its materials and separation goals. For example, at the Energy Park, the Authority operates a 175,000 tpy residential materials recycling facility (MRF), a 22,000 tpy commercial materials recycling facility (CMRF), a 120,000 tpy compost facility, a 45,000 tpy ferrous processing facility, household hazardous waste collection, and an area designated for yard waste processing. The Authority constructed a new Recovery Materials Processing Facility, which began operations in late 2009 replacing the Authority’s MRF and CMRF. Statistical data is not yet available on the RMPF and for the purposes of this report, recycling data will be provided for the MRF and CMRF. This \$40 million, 140,000 square foot facility will be the largest RMPF in Florida and is sized to manage the projected growth in the recycling stream far into the future. Once completed, the Authority has plans to begin to accept junk mail and steel cans at the curb, further

reducing reliance on the landfill. The Authority also collects hazardous waste from Conditionally Exempt Small Quantity Generators (CESQG) and currently employs 8 full-time field representatives to provide outreach services to residents, businesses, and institutions throughout the County. These field representatives encourage and assist with coordination of recycling efforts throughout the County.

The Authority operates a bin distribution program to promote single-family and multi-family resident involvement in recycling. Through this program, the Authority actively distributed recycling bins to single-family residents and provides a toll free phone number for both single and multi-family residents to request bins at any time. Since the inception of this program, the Authority has witnessed a 20% increase in recycling of self-hauler municipalities. Field representative also reach out to single-family and multi-family residents to promote recycling. During the first 6 months of FY 2009, the Authority visited 327 multi-family communities and started recycling programs at 174 of those communities³. The Authority has also developed promotional materials such as television commercials, a recycling webpage, and pamphlets used for a variety of audiences to promote recycling.

The Authority has an extensive Education Outreach Program to help educate children about the importance of recycling and reducing waste. This program offers classroom presentations, facility tours, educational CD and DVD offerings, lesson plans, activity sheets, and reference materials. Last year, 962 DVDs and CDs were given to teachers for educational purposes and classroom use and since FY 2003, the Authority has give, over 2,300 school presentations. In addition, the Authority provided desk side recycling bins and 95 gallon containers to schools for separating and recycling recyclable materials⁴.

In addition to recyclables, the Authority recovers over 200,000 tons of clean vegetation per year. This material is mulched and either composted, processed into boiler fuel, or returned to the land as a soil amendment⁵.

These programs are designed to achieve the Authority's waste reduction goal of 50 percent, which exceeds the waste reduction goal set forth in s. 403.706(4) of at least 30 percent. The continued development and improvement of these programs will also help to maintain and improve residential, commercial, and industrial waste reduction and recycling programs.

With legislation recently passed to revise the State recycling goal to 75% by the year 2020, the FDEP is charged with developing a program to meet this goal. The Authority has been actively monitoring the development of the State's new recycling goal and the programs in development to reach this goal. One component of this new goal is that any solid waste used for the production of renewable energy shall count toward the long term recycling goal, which would include the waste processed at the Proposed Facility.

¹ FDEP 2007 Solid Waste Annual Report Data

² Authority Recycling Group

³ Authority Recycling Group

⁴ Authority Recycling Group

⁵ 2009 Landfill Depletion Model

5. Requirement D

5.1. Requirement

■ FS 403.7061 (3) (d)

The local government in which the facility is located has implemented a mulching, composting or other waste reduction program for yard waste.

5.2. Response

Horticultural or yard waste includes vegetative materials resulting from landscaping maintenance or land clearing operations, and includes grass clippings, palm fronds, tree and shrub trimmings, trees and tree stumps. The Authority receives more than 250,000 tons of residential yard trimmings, commercial yard trimmings, and clean lumber per year. At the Woody Waste Recycling Facility located in the Energy Park, over 100,000 tpy of vegetative debris from curbside collection routes is processed into mulch for use in the Authority's Compost Facility, as a boiler fuel, or as a soil amendment, with some of this mulch given to the community free of charge. The Woody Waste Recycling Facility process includes receiving, drying, contaminant removal, grinding, and screening prior to end use. The remaining yard waste is delivered to the New Hope River co-generation site in Okeelanta, Florida.

The Authority's Compost Facility, also located at the Renewable Energy Park, opened in 1991 as a four bay pilot facility and was then expanded to 36 bays in 1994. This facility accepts mulch produced by the Authority from vegetative debris from curbside collection routes and wastewater residuals from the City of West Palm Beach and others. Vegetative mulch is composted with wastewater residuals to produce compost that is suitable for agricultural and horticultural uses. The composting facility incorporates windrow/in-vessel and static pile technologies and has the capacity to treat 120,000 tpy of material. The composting operation produces a Class AAA compost product that is given to the public free of charge. In 1994, the Compost Facility received the American Society of Mechanical Engineers Award for Resource Recovery. The Authority compost is an Exceptional Quality product approved for all horticultural applications.

In 2008, as a result of both of these programs, the Authority recovered or recycled 203,170 tons of vegetation and mulch, amounting to 97.1 percent of the total inbound vegetative debris¹.

¹ 2009 Landfill Depletion Model

6. Requirement E

6.1. Requirement

■ FS 403.7061 (3) (e)

The local governments served by the facility will have implemented or participated in a separation program designed to remove small-quantity generator and household hazardous waste, mercury containing devices, and mercuric-oxide batteries from the waste stream prior to incineration, by the time the facility begins operation.

6.2. Response

As previously stated, the Authority is the governmental agency responsible for providing an economical and environmentally conscious integrated solid waste management system for Palm Beach County, Florida. The Authority provides solid waste disposal and recycling services and programs to the County's 1.4 million residents and businesses. The Authority also provides solid waste and recycling collection services to the residents and businesses in unincorporated Palm Beach County through private haulers under exclusive franchise agreements. The programs implemented by the Authority are implemented County-wide and the Authority's facilities serve Palm Beach County jurisdictions and unincorporated Palm Beach County. The following sections describe the Authority's relevant programs.

6.2.1. Household Hazardous Waste Program

Household Hazardous Wastes (HHW) are those wastes that are generated by homeowners and consist of discarded chemical products such as pesticides, paints, stains, solvents, drain cleaners, used motor oil, pool chemicals, antifreeze, auto batteries and household batteries. In the spring of 1987, the Authority implemented a program for the collection of HHW. These materials can be delivered to the Authority Household Hazardous Waste Facility located at the Energy Park, drop-off locations, or Authority Transfer Stations. The Authority's network of six drop-off locations, open six days a week, provides one of the highest levels for household hazardous waste collection services in the country.

Household hazardous waste materials generated in Palm Beach County, once consolidated at the Household Hazardous Waste Facility, are handled by a licensed contract hauler that transports the HHW to licensed recycling or disposal facilities, depending on waste type. The Authority collected more than 1.7 million pounds of HHW last year. There is no fee for residents and the Authority provides a fee-based system for

the disposal of HHW by qualifying small businesses to dispose of HHW at the HHW Facility.

6.2.2. Conditionally Exempt Small Quantity Generator (CESQG) Program

The Authority offers services to help local businesses find disposal services and options as well as information about laws and regulations. Any business that produces, or "generates," a hazardous waste is responsible for disposing of it legally and properly. A business in this sense includes non-profit agencies, governments, and homeowners associations and any entity not considered a household. There are many wastes that, while not particularly hazardous, may have special handling requirements or disposal restrictions.

The Authority offers hazardous waste disposal services, for a fee, to qualifying small businesses. This program is aimed at those companies, which produce small or infrequent amounts of hazardous wastes. A CESQG is defined as any entity, other than a household, that generates less than 220 pounds of hazardous waste or 2.2 pounds of acute hazardous waste per calendar month, and never accumulates more than 2,200 pounds of hazardous waste. The Authority's CESQG program is one of less than a half dozen in the state of Florida.

The advantage of this program is that small quantities from different generators can be combined for disposal and the costs distributed among the contributors. Each business pays for only their share of the combined drum of waste. Hazardous wastes generated by CESQGs may be delivered to the Authority's Hazardous Waste Collection facility in proper containers for disposal¹.

6.2.3. Mercury Containing Devices/Mercury Oxide Batteries

Because part of the waste generated in Palm Beach County is incinerated, fluorescent lamps are not accepted curbside. Homeowners are asked to bring their used lamps to any of the household hazardous waste drops-offs including all Authority transfer stations and the HHW Facility. Other mercury containing devices (MCDs), such as thermostats, thermometers, mercuric oxide batteries, electrical switches and liquid mercury may also be brought to the nearest Authority staffed HHW collection center. In fiscal year 2008, the Authority collected 11,395 pounds of fluorescent lamps and 332 pounds of other mercury containing devices².

Commercially generated special waste which contains mercury, such as fluorescent bulbs, thermostats, batteries, and thermometers are contracted independently for proper collection and disposal by the generator. Many manufacturers, such as Honeywell, have programs for "taking-back" thermostats from equipment distributors. Information on these programs is provided to the public through the Authority's website and HHW Disposal Program.

6.2.4. Electronic Waste

The Authority accepts electronic waste from County residents and everything collected is processed and recycled in the United States. While the Authority has recently seen a rise in the number of rechargeable batteries being processed, they have been collecting and recycling rechargeable batteries for more than 15 years. In fiscal year 2008, the Authority collected 4,639 pounds of nickel cadmium rechargeable batteries and 310,260 pounds of lead acid batteries³.

The Authority's HHW program also collects electronics. Items such as computers, monitors, printers, cell phones, radios, televisions, and many other items can be brought to any HHW collection site during normal operating hours. Collected items are sorted by Authority staff and hauled away by a private contractor. The electronics are then stripped apart and all useful components redistributed. In fiscal year 2008, the Authority collected 379,997 pounds of electronic waste⁴.

¹ Authority Hazardous Waste Services Section

² Authority Hazardous Waste Services Section

³ Authority Hazardous Waste Services Section

⁴ Authority Hazardous Waste Services Section

7. Requirement F

7.1. Requirement

■ FS 403.7061 (3) (f)

The local government in which the facility is located has implemented a program to procure products or materials with recycled content, pursuant to s. 403.7065.

7.2. Response

The Authority is a member of the Green Business Alliance and was subsequently “Greenified” in 2008. The “Greenified” certification is issued by the Green Business Alliance once a company or organization has fulfilled the necessary environmentally friendly requirements, as assigned by the Alliance. The requirements for the Authority to obtain the “Greenified” certification includes the procurement of products and materials with recycled content. This includes procuring paper products made from 35 to 100 percent post consumer waste, using recycled toner cartridges, and procuring garbage cans and bags made of recycled material. Nationwide, there are at least 31 “Greenified” businesses and 46 other companies that are in the process of becoming “Greenified” through the Green Business Alliance. Furthermore, the Authority encourages all quality suppliers, including Minority/Woman/Small Business Enterprises and vendors offering products with recycled/recyclable content, to explore business opportunities with the Authority¹.

The Governing Board of the Authority adopted resolution number R-92-13 regarding the procurement of commodities, which contain recycled and/or recyclable materials on March 18, 1992. The resolution includes the following points²:

- Recycled paper shall be purchased and used in all copy machines that will accept it.
- Vendors competing to provide products or services to the Authority shall demonstrate that they comply with the specifications developed pursuant to this resolution.
- When recycled products are purchased, the vendor shall undertake reasonable efforts to label these products to indicated recycled materials content.
- The Authority shall use stationary and envelopes made with recycled paper that includes post-consumer recycled content and indicates on the paper and envelopes that it contains recycled material.

- A maximum of 10 percent price preference may be given to recycled products, reusable products offered as alternative to disposable products, and products designed to be recycled where they are offered as alternatives to non-recyclable products.
- The Authority shall cooperate to the greatest extent feasible with neighboring city and county governments in an effort to develop a comprehensive, consistent, and effective procurement effort intended to stimulate the market for recycled products, reusable products, and products designed to be recycled.
- All related Authority department and units shall work cooperatively to further the purposes of this resolution.

¹ Authority Purchasing Department

² Authority Purchasing Manual, November 8, 2006

8. Requirement G

8.1. Requirement

■ FS 403.7061 (3) (g)

A program will exist in the local government in which the facility is located for collecting and recycling recovered materials from the institutional, commercial, and industrial sectors by the time the facility begins operation.

8.2. Response

The Authority has a waste reduction goal of 50 percent, which has been incorporated into the Authority's ISWM Plan. The ISWM Plan includes a variety of integrated mechanisms and approaches to accomplish its materials separation and recycling goals. The Authority's Solid Waste Management System is a result of the Comprehensive Integrated Solid Waste Management Master Plan that included a course of action for the Authority to follow in order to ensure environmentally sound methods for the management, reuse, recycling and/or disposal of all solid waste generated in Palm Beach County.

The County's ISWM Plan assumes that a significant portion of the waste generated by the County is recyclable. A large portion of these recyclables are separately collected and were brought to the Authority's Residential Material Recycling Facility (MRF) and Commercial Material Recycling Facility (CMRF). All material is now brought to the Recovery Materials Processing Facility (RMPF).

COMMERCIAL

Commercial recycling in Palm Beach County is entirely voluntary. The Authority's commercial recycling program gives businesses the opportunity to recycle, either at their place of business or at one of the more than 150 public drop-off locations or 385 small business drop-off containers located throughout the County. These drop-off locations are free and allow businesses to drop-off items such as office paper, magazines, cardboard, newspapers and catalogs. The Authority's CMRF opened in 1996 and was expanded in 2002. In this 14,000 square foot facility, the Authority sorts and bales recovered commercial paper and cardboard for sale to paper mills in the southeastern United States. The current annual throughput of the CMRF is approximately 25,000 tons. The revenues from the sale of the finished products cover approximately 85 percent to 90 percent of the total owning and operating cost of the facility. The current operating RMPF eliminated the need for a separate CMRF operation and now both commercial and residential

recycling occurs under one roof. The 140,000 square foot facility will is the largest MRF in the state and is sized to manage the projected growth in the recycling stream.

In an effort to provide an incentive to Palm Beach County businesses and governmental agencies to recycle, the Authority offers the Commercial Material Purchase Program. Through this Program, the Authority will purchase clean loads of corrugated cardboard and sorted white ledger paper from local businesses and governmental entities that deliver the material to the Commercial Materials Recycling Facility.

Palm Beach County governmental offices participate in the Authority's recycling program by operating a source separation program at the County administrative buildings, which helps the Authority reach the County-wide goal of 50 percent reduction of the quantity of waste landfilled. Palm Beach County offices also participate in the Authority's Commercial Material Purchase Program and purchase some materials with recycled content¹.

The City of West Palm Beach governmental offices also participates in the Authority's recycling program and a majority of the paper products the City procures contain between 30 to 100 percent recycled content².

In FY 2008, there were 72 active businesses participating in this program and over 6,500 tons of materials were collected. The Authority employs field representatives to provide outreach services to residents, businesses, and institutions throughout the County. In the first half of FY 2009, the Authority field representatives visited over 470 businesses, starting recycling programs at 253 of them³.

INSTITUTIONAL

Institutional recycling in Palm Beach County is promoted by the Authority's designated education staff. Through the Authority's Education Outreach Program, the Authority is actively involved in educating school-age children about the importance of recycling and reducing waste. The Authority offers the following:

- Classroom presentations (Grades K-12)
- Facility tours (Grades 4-12)
- Educational CD and DVD offerings
- Lesson Plans
- Activity sheets
- Reference materials

The Palm Beach County School District appoints a recycling coordinator that coordinates recycling programs in the schools throughout the district. The Authority coordinates with the School District recycling coordinator for educational materials as well as recycling

program assistance. The Authority provides desk side recycling bins and 95-gallon containers to schools for separating and recycling recyclable materials. In FY 2008, the Authority provided over 10,000 desk side and central recycling bins. These educational efforts touched more than 630,000 residents, including approximately 26,000 students. The field representatives employed by the Authority are available to higher education institutions within the County to encourage and assist with coordination of recycling efforts.

INDUSTRIAL

Some industrial entities within the County have implemented private recycling programs. The field representatives employed by the Authority are also available to industrial entities within the County to encourage and assist with coordination of recycling efforts. Industrial entities can also participate in the small business waste drop-off (if they qualify), public recycling drop-off locations, and the commercial materials purchasing program.

¹ Palm Beach County Purchasing Department

² City of West Palm Beach Printing Department

³ Authority Recycling Group

9. Requirement H

9.1. Requirement

■ FS 403.7061 (3) (h)

The facility will be in compliance with applicable local ordinances and with the approved state and local comprehensive plans required by Chapter 163 FS.

9.2. Response

Palm Beach County adopted a Comprehensive Plan in 1980 and amended it in 1989, 1996, 1997 and 2007. Palm Beach County's Comprehensive Plan has been prepared to meet the requirements of Chapter 163, F. S. and Rule 9J-5, F.A.C., and to address the needs and interests of the County's residents and visitors. The Solid Waste Sub-Element is intended to summarize the provisions of the ISWM Plan of the Authority and to integrate the goals of that plan into the Palm Beach County Comprehensive Plan. This Sub-Element is excerpted from the Authority's ISWM Plan, which was written to comply with the requirements of Chapter 403, FS. The Authority has the power to construct and operate solid waste disposal facilities, including resource recovery facilities and to require that all solid waste collected by private and/or public agencies within the County be delivered to processing and disposal facilities designated by the Authority. The Proposed Facility and the Authority will comply with the approved state and local comprehensive plans. Some examples of compliance are indicated by the following, categorized by Comprehensive Plan Element:

Future Land Use Element:

- **Policy 4.3-e:** The County shall continue to pursue public/private partnerships, such as, but not limited to, partnerships with the Authority and Keep Palm Beach County Beautiful for the design and funding of community appearance enhancement projects, which shall include, but not be limited to, litter reduction, streetscape enhancement, and landscape treatments.

The Authority continues to participate in many community appearance enhancement projects. The Authority and Palm Beach County have developed several recreational sites at closed and operational solid waste facilities, including the Dyer Recreational Park constructed at the closed Dyer landfill, the Park Ridge Golf Course, constructed on the closed Lantana Landfill, and the Greenway Trail System in the conservation area of the Palm Beach Renewable Energy Park.

The Authority participates in community appearance enhancement projects by sponsoring private community organizations including Keep Palm Beach County Beautiful and Resource Depot, a non-profit organization that distributes safe, reusable materials to the Palm Beach County community for creative learning experiences while preserving the environment. The Authority offers recycled exterior latex paint to qualified residents, non-profit organizations such as Rebuilding Together of the Palm Beaches and Paint Your Heart Out Palm Beach County, and other groups in Palm Beach County who are conducting projects to restore communities and benefit those in need. The Adopt-A-Spot program was developed and is maintained by the Authority to reduce litter and improve the overall appearance of the community by organizing volunteer groups to participate in litter removal and abatement and community beautification. The Authority also offers free mulch and compost from their facilities to residents and other interested entities.

- **Uses Discouraged in Residential Future Land Use Categories.** Large-scale Park and Recreation uses, Institutional and Public Facility uses, and Utilities and Transportation uses designed to serve regional needs, including regional parks, regional water and wastewater treatment plants, power transmission facilities, solid waste transfer stations and disposal sites are discouraged in residentially designated areas and may be permitted only subject to the siting criteria of the appropriate regulatory agencies as well as any special review and siting criteria adopted by the Board of County Commissioners. Power plants and correctional facilities shall be prohibited in residential land use categories.

The Proposed Facility is to be included at the existing Renewable Energy Park, which is properly zoned and designated for solid waste activities and facilities.

Conservation Element:

- **Air Quality:** In an effort to protect air quality and manage air pollution problems, it is imperative that the County, through the Health Department, which is an approved Local Pollution Control Program, continue to monitor the ambient air quality, regulate mobile and stationary sources of air pollution, administer asbestos and open burning regulations, and implement Pollution Prevention (P2) programs.

The Proposed Facility's air emissions will be permitted and regulated by the Florida Department of Environmental Protection. The Authority also works cooperatively with the Health Department to monitor the air quality of the facilities.

- **Policy 1.2-a:** The County shall implement public information programs concerning natural resource issues including, but not limited to:
 - 7. Hazardous waste;
 - 8. Illegal dumping;
 - 10. Natural areas protection and stewardship;
 - 16. Waste management;

The Authority has implemented many extensive public information programs for the related solid waste elements listed above. The Authority has developed television commercials and pamphlets on hazardous waste disposal and other waste management activities as well as an Educational Outreach Program. This Education Outreach Program offers classroom and community presentations, facility tours, educational CD and DVD offerings, lesson plans, activity sheets, and reference materials on solid waste activities, disposal, and recycling. Green Team and Neighbor to Neighbor Volunteer Programs have also been developed by the Authority for volunteers from the community to assist with the Authority's educational outreach presentations and educate their families, neighbors, and friends at a grassroots level on waste prevention and recycling.

The Authority also participates in illegal dumping investigations performed by the local law enforcement entities and provides "no dumping" signs in problem areas. The Authority recently developed and maintains a Greenway Trail System in the conservation area adjacent to the Palm Beach Renewable Energy Park. This Greenway Trail System is open to the public and includes informational kiosks throughout providing educational information to the trail patrons. The Authority website also provides comprehensive information to the public regarding all of the Authority facilities and services.

Utilities Element:

- Disposal of treated effluent and solid/hazardous waste has the potential of affecting groundwater quality, as does stormwater runoff found in surface waters. Protection of the aquifer system and wellfields through conservation and reuse, recharge enhancement, limitations on withdrawal, regulation of land use, and maintenance of minimum flows and levels will ensure the availability of an adequate water supply for all competing demands, maintain and enhance the functions of natural systems and preserve water quality.

The Authority disposes of solid waste in an environmentally conscious and permitted manner. Furthermore, the extensive recycling and hazardous waste collection programs the Authority offers provides for the proper disposal of hazardous wastes and discourages illegal dumping, helping to reduce the contaminates and protect the potable water supplies.

■ Solid Waste Sub-Element

- **Policy 1.2-a:** Palm Beach County shall continue to operate a source separation program at all County administrative buildings, consistent with the recycling program of the Solid Waste Authority of Palm Beach County.

Palm Beach County participates in the Authority's recycling program by operating a source separation program at the County administrative buildings,

which helps the Authority reach the County-wide goal of 50 percent reduction of the quantity of waste landfilled.

- **Policy 1.2-b:** Palm Beach County and the Authority shall continue to implement programs with the purpose of further reducing waste in Palm Beach County. The Authority met the recycling goals of the 1988 Solid Waste Management Act, and the Authority's goal of achieving a 50 percent reduction in the quantity of waste landfilled by 1998.

The Authority has implemented many recycling and collection programs to reduce the amount of waste landfilled. These programs include a resource recovery facility, residential and commercial recycling programs, materials recycling facilities, yard waste processing, a composting facility, and a biosolids pelletizing facility.

- **Policy 1.3-a:** The County Water Utilities Department (PBCWUD) shall continue to dispose of stabilized, dewatered sludge from wastewater treatment plants at facilities provided by the Solid Waste Authority, pursuant to Interlocal Agreement approved by the Solid Waste Authority September 16, 1992.

Currently the Authority uses sludge from wastewater treatment plants at the composting facility. The Authority is also developing, in conjunction with participating wastewater treatment utilities, a biosolids pelletizing facility that uses landfill gas to produce Class AAA biosolids for environmentally friendly reuse of this special waste.

Recreation Element:

- **Policy 1.6-d:** The County shall pursue the use of utility sites where possible for recreational and open space purposes and coordinate these efforts with the Authority, Water Utilities Department and other local utility agencies.

The Authority has developed recreational facilities on closed solid waste sites and will continue to work with the local agencies to continue this program. The Authority and Palm Beach County have developed several recreational sites at closed and operational solid waste facilities. Dyer Park is constructed at the closed Dyer landfill and is a 560 acre park that offers various sport fields and courts, hiking, biking, and horse trails, picnic areas, playgrounds, and other outdoor facilities. The Park Ridge Golf Course, constructed on the closed Lantana Landfill, is a 148 acre public golf course, which includes a driving range, putting green, and pro shop¹. The Greenway Trail System was recently developed in the conservation area of the Palm Beach Renewable Energy Park. This 300 acre trail system was developed for hiking, biking, bird watching, nature viewing, and photography².

¹ Palm Beach County Parks and Recreation

² The Solid Waste Authority website

10. Requirement I

10.1. Requirement

■ FS 403.7061 (3) (i)

The facility is in substantial compliance with its permit, conditions of certification, and any agreements or orders resulting from environmental enforcement actions by state agencies.

10.2. Response

The facilities in the Energy Park are in substantial compliance with their existing operating permits, which include:

- FDEP Power Plant Siting Conditions of Certification (PA 84-20)
- FDEP Title V Air Operating Permit (0990234-013-AV)
- FDEP PSD Air Permit (PSD-FL-108 a-f)
- FDEP Multisector Generic Storm Water Permit (FLR05B523)
- FDEP 78189-003-UO Class I Industrial Injection Well Permit
- USACOE Dredge & Fill Permit (85IP-21054)
- USACOE Dredge & Fill Permit (198521054 IP-TM)
- Palm Beach County Environmental Resource Management (PBCERM) Wellfield Permit (WP-2004-023)
- PBCERM Storage Tank Placard Registrations (FDEP#303948)
- Palm Beach County Health Department (PBCHD) license Class I Landfill (#50-63-00384)
- PBCHD license Class III Landfill (#50-63-00379)
- PBCHD license Compost Facility (#50-63-00535)

The Proposed Facility will also be in compliance with the new site certifications and operating permits required.

The Authority currently owns and oversees the operation of the NCRRF located at the existing Energy Park. Although the NCRRF currently complies with all of the applicable environmental standards, the Authority intends to install state-of-the-art air pollution control (APC) systems that will significantly improve the Authority's ability to reduce the NCRRF's airborne emissions. These new and improved APC systems will greatly

enhance the NCRRF's ability to continuously comply with applicable EPA and FDEP regulations.

The NCRRF has received awards and recognition for operating in an environmental sensitive and conscientious manner. The NCRRF received the Award for Energy Innovation from the State of Florida Governor's office. The Authority's North County Landfill received the National Landfill Excellence Award from the Governmental Refuse Collection and Disposal Association. The NCRRF as well as the landfill are in substantial compliance with all permits and conditions.

Like the NCRRF, the Authority will own and oversee the operation of the Proposed Facility which will be located immediately north of the existing NCRRF. The Authority has received numerous awards for their solid waste management efforts including the System Excellence Award for the permanent collection program of household hazardous waste and multiple Recycling Excellence Awards for processing and marketing and achievement for overall recycling programs from the Solid Waste Association of North America (SWANA). The Authority has also received the Excellence in Solid Waste Education Award for household hazardous waste and pollution prevention from SWANA and the Beth Brown-Beottner Award for Governmental Leadership from the National Recycling Coalition.