

23 May 86

06-L 85-0357
Pleadings
JL

BEFORE THE GOVERNOR AND CABINET
OF THE STATE OF FLORIDA

IN RE: SOUTH BROWARD COUNTY RESOURCE	)	DOAH CASE NO. 85-1106
RECOVERY PROJECT, INC.	)	85-1116
POWER PLANT SITING)	
CERTIFICATION APPLICATION	)	OGC CASE NO. 85-0357
)	
P.A. 85-21)	

The following members of the Florida Power Plant Siting Board were present and participated in the disposition of this matter:

Honorable Bob Graham
Governor

Honorable George Firestone
Secretary of State

Honorable Gerald A. Lewis
Comptroller

Honorable Ralph D. Turlington
Commissioner of Education

Honorable Doyle Conner
Commissioner of Agriculture

Honorable Bill Gunter
Insurance Commissioner and Treasurer

Honorable Jim Smith
Attorney General

FINAL ORDER OF CERTIFICATION

BY THE GOVERNOR AND CABINET SITTING AS THE FLORIDA POWER
PLANT SITING BOARD:

The Governor and Cabinet, sitting as the Siting Board, having reviewed the Recommended Order (attached hereto as Exhibit 1), the Exceptions thereto, and the Stipulation and Joint Motion between the Applicant and DER (attached hereto as Exhibits 2), and the Stipulation and Joint Motion between Audubon and DER (attached hereto as Exhibit 3), and having heard argument of parties at the duly noticed meeting of June 3, 1986, and otherwise being fully advised herein, issue this Final Order of Certification and, therefore, it is ORDERED:

1. The Recommended Order is approved and adopted with the clarifications noted below.

RULING ON APPLICANT AND DER STIPULATION AND JOINT MOTION

2. DER and the Applicant have submitted a Stipulation and Joint Motion in this cause subsequent to the Hearing Officer's Recommended Order and the filing of exceptions by both of said parties. Therein, the parties agreed to withdraw their pending exceptions contingent upon certain agreed to clarifications of the Hearing Officer's Findings of Fact and Conclusions of Law. The Board recognizes that it has limited authority to modify or delete findings of fact that are based upon competent substantial evidence appearing of record according to the provisions of Section 120.57(1)(b)9, Florida Statutes. Therefore, any of the proposed modifications to the findings of fact proposed by the parties are not accepted by the Board. Instead, however, it appears to the Board that the provisions contained in paragraph 5 of the Stipulation and Joint Motion are an attempt to clarify existing DER policies on the determination of what constitutes Best Available Control Technology (B.A.C.T.) and do not result in any substantive change to the conclusions or recommendations of the Hearing Officer. As such, the clarifications contained in said paragraph 5 of said Stipulation are hereby adopted, in toto, as and for an additional Conclusion of Law in the instant case as if fully set forth herein.

3. As such, the Stipulation by and between the Applicant and DER is hereby approved and adopted, in toto.

4. Pursuant to the Stipulation between DER and the Applicant, the following additional Condition of Certification shall be added to those recommended by the Hearing Officer (Exhibit 4):

The Applicant shall comply with any validly enacted rules adopted by DER after the issuance of the certification that prescribe new or stricter criteria, to the extent that the rules apply to electrical power plants, as defined by Section 403.503(7) of the Florida Statutes. Subsequently adopted rules prescribing new or stricter criteria shall operate as automatic modifications to this certification. Nothing contained herein shall be construed to preclude the Applicant from full

participation in any such rule making conducted by the Department.

5. In all other respects, the Hearing Officer's Proposed Conditions of Certification (Exhibit 4) are hereby approved and adopted and are made a part hereof by reference.

RULING ON AUDUBON AND DER STIPULATION AND JOINT MOTION

6. Audubon and DER have submitted a Stipulation and Joint Motion in this cause subsequent to the Hearing Officer's Recommended Order, the filing of Exceptions by Audubon, and the filing of DER's Response to Exceptions. Therein, Audubon agrees to withdraw its Response, contingent upon an agreed to additional Conclusion of Law to the Hearing Officer's Conclusions of Law. The additional Conclusion of Law, contained in paragraph 5 of the Stipulation and Joint Motion between Audubon and DER, is hereby adopted, in toto.

7. The Stipulation and Joint Motion between Audubon and DER is hereby approved and adopted, in toto.

RULING ON EXCEPTIONS

8. Based upon the Stipulation and Joint Motion filed by the Applicant and DER, rulings on the exceptions filed by said parties against one another are unnecessary and moot.

9. The Applicant has filed an exception to the Recommended Order insofar as it and prior rulings of the Hearing Officer allowed Florida and Broward Audubon Societies leave to intervene. The Applicant submits that said intervention was untimely under the provisions of Section 403.508(4)(d), Florida Statutes. It appears that the question of the timeliness of the proposed intervention is not clear but, in any event, the Hearing Officer limited the scope of said intervention and the Societies called only one witness that had previously been noted as a witness for another party. Therefore, no prejudice has been shown by the Applicant by this intervention and said exception is rejected.

10. Based upon the Stipulation and Joint Motion filed by Audubon and DER, a ruling on the Audubon Exception is unnecessary and moot.

THEREFORE, it is ordered that the certification be granted subject to the conditions incorporated in the Hearing Officer's Recommended Order and the additional condition set forth herein.

DONE AND ENTERED this 3 day of June, 1986, in Tallahassee, Florida, pursuant to the vote of the Governor and Cabinet sitting as the Siting Board at a duly constituted Cabinet meeting on June 3, 1986.

FILING AND ACKNOWLEDGEMENT

FILED on this date, pursuant to S120.52 (9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Peggy L. Brown 6-9-86
Clerk Date

BY THE GOVERNOR AND CABINET
SITTING AS THE SITING BOARD:

Bob Graham
BOB GRAHAM
Governor

Copies furnished:
(See attached list)

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of the foregoing FINAL ORDER OF CERTIFICATION was furnished to the following at their respective addresses by United States Mail this 11 day of June, 1986.

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Assistant General Counsel

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Pleading JC

STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

Dept. of Environmental Regulation
Office of Administrative Hearings
Legal Counsel

IN RE: SOUTH BROWARD COUNTY RESOURCE)
RECOVERY PROJECT, INC.)
POWER PLANT SITING)
CERTIFICATION APPLICATION)
P.A. 85-21)

CASE NO. 85-1106
85-1166
(CERTIFICATION HEARING)

RECOMMENDED ORDER

Pursuant to notice, the Division of Administrative Hearings, by its duly designated Hearing Officer, William J. Kendrick, held a public hearing in the above-styled case on November 11-15, 1985, and November 18-22, 1985, at Davie, Florida.

APPEARANCES

For the Applicant:

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PRELIMINARY STATEMENT

On April 8, 1985, South Broward County Resource Recovery Project, Inc. (Applicant), filed its application with the Department of Environmental Regulation (DER) for power plant site certification for a resource recovery facility and landfill to be located in Broward County, Florida. Pursuant to Section 403.508(1) and (2), Florida Statutes, a land use hearing was held before the undersigned Hearing Officer on August 20, 1985, and the Governor and Cabinet, sitting as the Siting Board, entered an Order on October 15, 1985, concluding that the proposed site is consistent and in compliance with existing land use plans and zoning ordinances.

By Order Number 14435 issued on June 4, 1985, the Florida Public Service Commission (PSC) concluded that a need existed for the electrical generating capacity to be supplied by the proposed resource recovery facility. This Order constituted the final report of the PSC required by Section 403.507(1)(b), Florida Statutes, and creates a presumption of public need and necessity, pursuant to Section 403.519, Florida Statutes.

At hearing, the Applicant presented the testimony of 24 witnesses and its Exhibits 1, 2 (Appendix 10.1.5 only), 3-6, 10, 27, 28, 33, 34, 40, 50-52, 54, 58, 59, 68, 69, 72, 73, 79-81, 86, 89-91, 95, 97-106, 109, 110, 112-118, 120-121, 126-133, 136-139, 141-169, 173-176, 178-198, 201; 211, 213-216, and 219 were received into evidence. Applicant Exhibit 2, with the exception of Appendix 10.1.5, was received into evidence for the sole purpose of establishing that an application for power plant site

certification had been filed. Applicant Exhibits 87, 88, 96, and 111 were received into evidence to demonstrate conceptual designs, and not for their truth.

Testifying on behalf of the Applicant were Thomas M. Henderson, accepted as an expert in solid waste management, planning, and implementation; James E. Elias; Ronald J. Mills, accepted as an expert in environmental permitting procedures for resource recovery facilities; Robert J. Snyder, accepted as an expert civil engineer; John M. Klett, accepted as an expert in stationary power engineering; Peter E. Robinson, accepted as an expert in the fields of civil, sanitary and environmental engineering, specializing in the design of storm water control systems, leachate, and liner systems for landfills; Joseph E. Fluet, Jr., accepted as an expert in geosynthetics and geosynthetic design of landfills; Vincent P. Amy, accepted as an expert in groundwater hydrology; James M. Hudgens, accepted as an expert in biology, specializing in wetlands mitigation plans and their institution; James A. Fife, accepted as an expert in mechanical engineering; Mark P. Hepp, accepted as an expert mechanical engineer with special emphasis on the design and performance of power boilers and the application and performance of air pollution control equipment; Howard J. Teas, accepted as an expert in biology, with special emphasis on mitigation plans for wetlands environments and South Florida wetlands; Dalia Germanas, accepted as an expert in chemistry, with emphasis on the constituents and rates of emission of dioxins and related compounds from resource recovery facilities; Robert McCann, accepted as an expert in meteorology and air quality modeling; Allan H. Smith, accepted as an expert in epidemiology, biostatistics, and health risk assessments; Edward T. Wei, accepted as an expert in toxicology and health risk assessment; Robin Hart, accepted as an expert in plant physiological ecology, with emphasis on the effects of acid deposition and other air pollutants on vegetation; Frank J. Mazzotti, accepted as an expert in biology, zoology and herbatology, with emphasis on

crocodilians and their habitat; Oscar Owre, accepted as an expert in ornithology and biology, with emphasis on South Florida avian ornithology; Charles F. Zirrou, accepted as an expert in aviation facilities engineering and planning; Andrew Szurgot, accepted as an expert in environmental engineering; Miroslav Dvirka, accepted as an expert professional engineer, with emphasis on air pollution control equipment for resource recovery facilities; Kennard P. Kosky, accepted as an expert in mechanical and environmental engineering, with emphasis on PSD and BACT analysis; and Jesse R. White, accepted as an expert on marine mammals, with emphasis on manatees and their habitat.

DER presented the testimony of 8 witnesses, and its Exhibits 1-4 and 6-20 were received into evidence. Testifying on behalf of DER were Aaron J. Teller, accepted as an expert in chemical engineering, with emphasis on design efficiency, reliability and cost of air pollution control technology; Hamilton S. Oven, Jr., accepted as an expert in processing and review of power plant siting certification applications, and the applicability of DER rules and standards to such applications; Larry O'Donnell, accepted as an expert in the evaluation of dredge and fill applications, the impact of dredge and fill activities on biological resources, and the impact of dredge and fill activities on DER water quality standards; Barry D. Andrews, accepted as an expert in the review and analysis of stationary air pollution sources for compliance with state and federal regulations, and the review and evaluation of air pollution control technologies and strategies; Jack D. Lauber, accepted as an expert in BACT for control of toxic air contaminants from municipal solid waste resource recovery incineration systems; Edward Svec, accepted as an expert in the review and analysis of air pollution sources for compliance with DER rules and regulations; Thomas G. Rogers, accepted as an expert in meteorology, including air quality impact analysis and air quality modeling; and Clair Fancy, accepted as an expert in air pollution control technology, and the review and analysis of air

pollution sources for compliance with state and federal regulations.

Intervenor, South Broward Citizens for A Better Environment, Inc. (SBC) presented the testimony of 7 witnesses, and its Exhibits 2-3, 6,7, and 9-23 were received into evidence. Testifying on behalf of SBC were Craig Smith, accepted as an expert in manatee habitat in Broward County, Florida; Daniel Austin, accepted as an expert in ecology of habitats and botany; Curtis M. Burney, accepted as an expert in marine chemistry and microbiology; George Fitzpatrick, accepted as an expert in wetland ecology; Herbert J. Bauche; David Addison, accepted as an interpretive naturalist of Southwest Florida; and Sherwood Wilkes, accepted as an expert naturalist in identifying, inventorying and categorizing flora and fauna species, reptiles and manatees, including their habitat.

Intervenors, Florida Audubon Society and Broward County Audubon Society (Audubon) called Bernard J. Yokel, accepted as an expert in biology and wetlands ecology, as a witness. Audubon Exhibits 1 and 2 were received into evidence. Seven members of the public testified on their own behalf.

The Applicant, DER, SBC, and Audubon have submitted proposed findings fact, and they have been reviewed and considered. The parties waived the requirement set forth in Section 120.59(2), Florida Statutes, that a ruling be made on each proposed finding.

FINDINGS OF FACT

1. South Broward County Resource Recovery Project, Inc (Applicant), ¹ proposes to construct a mass burn resource recovery facility (RRF) and two landfills to meet the solid waste disposal needs of approximately 600,000 residents of south

¹ The applicant, a for profit Florida corporation, was formed by the Broward County Board of County Commissioners (Broward County) to own and operate the proposed facility. Under the terms of its agreement with the vendor, Signal Environmental Systems, Inc. (Signal), Broward County proposes to transfer ownership of the applicant to Signal. As a wholly owned subsidiary of Signal, the applicant will construct and operate the facility, under a land lease from Broward County, for an initial term of 20 years. To date, a joint operating agency has not been formed between Broward County and the applicant.

Broward County. At present these residents dispose of their solid waste at the County's Davie landfill. That landfill will reach its capacity by February 1987, and must be closed by December 31, 1987.

2. The facility proposed by the applicant will initially consist of three 750 ton per day (TPD) municipal solid waste (MSW) incinerators capable of disposing of 2,250 tons of waste daily, and generating 68.5 megawatts of electrical power. The facilities' ultimate capacity, with four MSW incinerators, will dispose of 3,000 tons of MSW daily.

3. The site for the proposed RRF and landfills is a predominantly undeveloped 248-acre parcel of land situated at the southeast corner of the intersection of US 441 (State Road 7) and State Road (SR) 84. The site is bounded on the north by the right-of-way for I-595, the northerly part of its east boundary by the proposed Ann Kolb Park, the southerly part of its east boundary and the south by the South Fork New River Canal (New River Canal), and on the west by US 441. As sited, the facility is accessible to US 441, a four-lane undivided highway and major roadway in the area, proximate to the solid waste centroid of south Broward County, and buffered from residential neighborhoods by major thoroughfares and commercial/industrial development.

4. The applicant proposes to locate the RRF on the southerly portion of the site and two landfill cells for the disposal of ash residue and nonprocessable solid waste on the northerly portion of the site. The RRF will occupy 50-acres of land, and the landfills approximately 148 acres. Applicant's Exhibit 10, attached hereto as Appendix 1, graphically illustrates the boundaries and proposed development of the site.

Impact on Public Lands and Wetlands

5. A majority of the proposed site consists of wetlands. These wetlands include marshy areas, shrub swamps, wax myrtle pastures, open water and swamp forest. Prior to the enactment of DER'S statutory authority, the hydrologic regime of

this historically forested wetland was severely impacted by ditching and diking to further agricultural pursuits.

6. The proposed construction of the RRF is expected to eliminate 15.6 acres of mixed healthy and disturbed wetlands which currently provide some pollutant assimilation and contribute detrital or dissolved organic material to the New River Canal. To mitigate the impact of the removal of 15.6 acres of wetlands at the RRF site, the applicant proposes to restore a 300' swath of severely altered wetlands along the bank of the New River Canal. This project, comprising approximately 15 acres, will restore the area to a functional wetland system by excavating existing berms, grading, and revegetating with native wetland species. When restored, the area will significantly increase wetlands habitat and wildlife populations, increase aquatic productivity, enhance water quality, and improve hydrologic exchange between the area and the New River Canal.

7. The preparation of the site for the construction of the landfill and a retention pond will result in the excavation of 527,600 cubic yards of muck and limerock from a 157 acre site, placing fill for the base of the landfill to an elevation of +5' MSL (mean sea level), and the construction of earthen berms and grassed swales around the landfill.

8. The landfill will consist of two large cells (Cell 1 and 2) which, combined with the north-south FP & L easement, incorporate 133 acres of wetlands. The area of Cell 1 is located to the south within the project site and is vegetated by wax myrtle and exotic and jurisdictional herbaceous plants including sawgrass and cattails. To the north and in the west-half of the area of Cell 2, the vegetation consists of a mixture of cypress, maple, buttonbush, willow, exotics, cattails, and sawgrass. The surface hydrological flow and drainage in the area of Cell 1 and the west-half of Cell 2 has been severely restricted by a raised earthen road which bisects the area of Cell 2 north to south (the north-south FP&L easement). Drainage by ditches along US 441 and SR84, and berms along the New River Canal, have also

affected the flow regimes and water levels in the area of Cell 1 and the west-half of Cell 2. This condition has resulted in progressive infestation by melaleuca, Australian pine, and Brazilian pepper. Due to the severe alteration of the site, the area of Cell 1 and the west-half of Cell 2 offer nominal wetland value.

9. The east-half of Cell 2 (herein after referred to as the sawgrass area) lying east of the north-south FP&L easement, is a healthy 42-acre marsh system which supports an abundance and variety of species. This area is predominantly vegetated by sawgrass, cattails, swamp lily, pickeral weed and arrowhead; however, melaleuca and Brazilian pepper have encroached along the bermed periphery of the site.

10. Abutting the east boundary of Cell 2, is the proposed Ann Kolb Park. The park consists of 135 acres of swamp forest acquired for preservation by the Florida Department of Transportation as part of a mitigation plan developed in the environmental permitting process for construction of I-595. The park area has been designated by Broward County as an area of particular concern.

11. The park is a unique historical wetlands area. The western half of the park is populated by a strand of cypress dating as much as 300 years old. Prior to its deforestation, the sawgrass area was part of the park's cypress strand. Today, the sawgrass area functions as a marsh, with signs that it is slowly returning to the swamp system, and provides a habitat and food source for much of the wildlife in the area. The east half of the park consists of a pond apple slough.²

12. The sawgrass area and the park function as an ecological unit. The sawgrass area, with a number of ponds, contains an abundance of organisms which help support the wildlife in the area. Among the food sources available in the

²The natural beauty and diverse life forms which inhabit the park are starkly demonstrated by the slides which comprise SBC's Exhibit 20.

open hunting space provided by the sawgrass area are crayfish, frogs, small snakes, apple snail, snook, bream and large mouth bass. The park itself provides natural shelter for such diverse species as opossum, bobcat, Florida deer, and owls. While surrounded by urban lands, the sawgrass area and the park have survived as an island of wilderness. Any reduction in the size of this ecosystem would have a negative impact on the wildlife it supports.

13. In addition to the close wildlife ties which exist between the sawgrass area and the park, these areas are also linked by surface water flow. That flow from the sawgrass area to the park carries with it various nutrients, detritus and other elements which help support the food chain and ecological functions of the park.

14. To mitigate the destruction of 133 acres of wetlands in the construction of the land fills, the Applicant proposes to restore or enhance five sites. Site 1 consists of 18 acres located between the New River Canal and the landfill site. This area currently consists of disturbed wetlands and spoil mounds supporting exotic vegetation. While restoration of this area would improve water exchange with the canal and improve water quality and habitat value, it also opens the sawgrass area to the risk of salt water intrusion. Site 2 involves a 15 acre parcel located between proposed Cell 2 and the Ann Kolb Park. This parcel consists of a strip of land 250' to 550' wide extending to the New River Canal. As mitigation, the Applicant proposes to plant a 50' strip of cypress trees along the east side of the proposed landfill berm. Site 3 consists of 16 acres near Hacienda Flores, immediately north of Ann Kolb Park. As mitigation, the Applicant proposes to clear that area of exotic vegetation and replant it in native species. Site 4 consists of a 15 acre parcel at a site known as "Treetops Park," about 4 1/2 miles west of the proposed facility. The Applicants' restoration

plan consists of grading and enhancing hydrological conditions to create 13 acres of sawgrass marsh and 2 acres of hydric hammock within the park's expansive boundary. Site 5 consists of a 74 acre parcel of land located some 12 miles west of the proposed facility. At this site, the "Everglades Restoration Area," the applicant proposes to recreate an artificial sawgrass marsh from former Everglades lands which have been drained, and are currently surrounded by agricultural and residential development. The Applicant proposes to control water flow to the area through an artificial system of pipes and gates connected to the New River Canal.

15. The value of the mitigation at Treetops Park and the Everglades Restoration Area in light of the expense involved, the distance from the proposed facility, and the lack of any ecological relationship between the sites and their surrounding lands, is minimal. The Everglades Restoration Area is within two miles of the eastern boundary of Water Conservation Area No. 3 of the South Florida Water Management District. That Conservation area contains hundreds of thousands of acres of healthy, natural, sawgrass habitat. To artificially create another 74 acres two miles away isolated behind dikes and surrounded by agricultural and residential development, is superfluous. The Treetops Park restoration project would produce another man-made modification of an existing semi-natural area. While of some possible value from a park development perspective it suffers from the same ecological deficiencies as the Everglades Restoration Area.

16. The mitigation plan proposed by the Applicant is inadequate to mitigate the destruction of the high quality wetlands which would underly the east-half of proposed Cell 2, and the disruption of the natural balance existing between the sawgrass area and Ann Kolb Park.

17. Significantly, the U.S. Army Corps of Engineers, while tentatively permitting the project, expressly requested that Broward County investigate alternative sites to replace the sawgrass area in its landfill plans. Broward County is currently

investigating alternative sites to comply with the Corps' request. The evidence of negative impact has not been countered by any showing that the economic viability of Applicant's project would be adversely impacted should the sawgrass area be excluded from the landfill area.

Impact on water resources

18. Underlying the proposed site of the RRF and landfill cells is the Biscayne Aquifer. This aquifer supplies fresh water to residents of the region.

19. Except for potential impacts to Ann Kolb Park, discussed supra, the water management system proposed by the applicant provides reasonable assurances that surface and ground waters will not be adversely impacted by the proposed facility. Stormwater runoff from active areas within a landfill cell will be treated as leachate and pumped to the Hollywood Wastewater Treatment Plant. Underlying the cells, a double liner leachate collection system will assure that leachate will not enter the groundwater. The double liner system will consist of layers of geosynthetic textile materials, including two high density polyethylene (HDPE) liners and a series of soil and textile cushions and filter fabrics designed to prevent damage to the liners and obstruction of the collection system. As added protection, the Applicant will install a secondary leachate collection system between the two layers of HDPE material to capture any potential leakage from the primary system, and pump it to a nearby monitoring pump for early detection. Finally, monitoring wells will be installed on the landfill site to detect any increased levels of pollutants which would signify a potential leak in the liner system. If such pollutants are detected, they would be contained and removed by interceptor wells.

20. Upon final completion of each landfill, the Applicant will "cap" the cell with approximately two feet of a mixture of soil and bentonite. This clay-like material will act as an impermeable cover over the land-fill and prevent further

generation of leachate by prohibiting rainfall from entering the completed landfill. Additionally, the Applicant will cover the "cap" with vegetation to stabilize the landfill and prevent erosion.

21. As part of the surface water management system, the Applicant proposes to construct a perimeter swale system around the landfill cells to capture stormwater runoff from inactive areas. Under the Applicant's double-dyked system, an internal dyke will surround each landfill to prevent stormwater from entering the landfill and contacting ash residue. An external dyke will detain the stormwater, allowing it to percolate slowly into the ground and adjacent wetlands or convey it by culverts to a storm water retention pond established at the eastern portion of Cell 2. During peak storm periods, discharges via stormwater outfall diversion structures will allow water to flow over an elevated weir and discharge into a dispersion pond before flowing over the on-site mitigation area into the New River Canal. The Applicant has agreed to monitor the quality of the stormwater runoff.

Air quality impact analysis

22. Since the proposed facility will emit a regulated pollutant at a rate equal to or greater than 100 tons per year (TPY), the project is classified as a major new facility, and subject to New Source Review (NSR) - Prevention of Significant Deterioration (PSD) for all pollutants it will emit in PSD - significant amounts.³ NSR requires an ambient air quality analysis for any pollutant for which national or state ambient air quality standards have been established (criteria pollutants) to assure that the emission levels will not cause or contribute to a violation of ambient air quality standards (AAQS) or any applicable maximum allowable increase (a PSD - increment

³Table 500-2, Rule 17-2.500 F.A.C., establishes a "significant emission rate" in TPY or pounds per year (PPY) for regulated pollutants. If the anticipated emission rate of a pollutant equals or exceeds the established significant emission rate, the pollutant is subject to the NSR requirements.

analysis). For each pollutant subject to NSR requirements for which no national or state AAQS have been established, NSR requires air quality monitoring to assess ambient air quality for that pollutant in the area to be affected. Additionally, NSR requires that the facility apply the Best Available Control Technology (BACT) for each pollutant subject to NSR requirements.

23. Pertinent to this proceeding, the pollutants subject to NSR requirements are the criteria pollutants particulate matter (PM), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and lead (Pb), and the non-criteria pollutants fluoride (Fl), sulfuric acid mist, beryllium (Be), mercury (Hg), and arsenic (As).

24. To analyze existing air quality, the applicant relied on preconstruction monitoring data collected in accordance with Environmental Protection Agency (EPA) approved methods. To perform the AAQS analysis and PSD-increment analysis, the applicant used the EPA approved Industrial Source Complex air quality dispersion model.⁴ In completing the model, the applicant estimated the capacity of the facility at 115 percent of its name plate capacity, a conservative approach, and estimated the emission rates of the regulated pollutants based on test results from similar facilities.

25. The applicant's atmospheric dispersion modeling established that the emission rate of the criteria pollutants pertinent to this proceeding (PM, SO₂, NO_x, CO, and Pb)⁵ will not

⁴The Industrial Source Complex air quality dispersion model is utilized to predict ground-level concentrations of inert gases or small particles emitted into the atmosphere by point, area and volume sources. The model incorporates elements for plume rise, transport by the mean wind, and dispersion. Due to the physical layout of the facility, aerodynamic downwash from the facilities' stack is not reasonably expected to occur.

⁵The Department and EPA designate geographic areas which meet AAQS for a pollutant as "attainment," and those which do not meet AAQS as "nonattainment." Broward County is designated as an attainment area for all criteria pollutants except ozone. Under such circumstances the applicant would normally be required to undergo "nonattainment-new source review" for the pollutant ozone. However, where, as here, less than 100 TPY of VOC (the regulated pollutant for ozone) will be emitted from the facility, nonattainment review is unnecessary, and ozone (VOC) is not a pollutant of concern in this proceeding.

cause or contribute to a violation of primary or secondary AAQS.⁶ The model further established that the emissions from the facility will not cause a violation of the PSD-increment standards established for SO₂ and PM.⁷

26. In addition to meeting AAQS and PSD-increment standards, NSR also requires a further air quality analysis for the non-criteria pollutants which are expected to be emitted in excess of significant emission rates unless their concentrations are predicted to fall below the "de minimus ambient impact" level established by Table 500-3, Rule 17-2.500, F.A.C. In this case, the evidence establishes that the predicted emission rates for Fl, Be and Hg are below the de minus levels requiring further analysis. An analysis of sulfuric acid mist and As was not required since an appropriate monitoring method has not yet been developed for these pollutants.

Best Available Control Technology (BACT)

27. Although the applicant has met the monitoring and air quality analysis requirements of NSR, NSR also requires that the applicant apply the Best Available Control Technology (BACT) for each pollutant the facility will emit in excess of the significant emission rates established by Table 500-2, 17-2.500, F.A.C. BACT is defined by Rule 17-2.100(22), F.A.C. as:

An emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case by case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant.

28. DER and the applicant differ on what constitutes BACT for the control of PM, SO₂, Pb, Fl and sulfuric acid mist.

⁶Federal and state laws establish primary AAQS to protect the public health and secondary AAQS to protect the public interest in animal and plant life, property, visibility, and atmospheric clarity.

⁷The PSD-increments represent the amount that new sources in an area may increase ambient ground-level concentrations of SO₂ and PM over the concentrations that existed on December 27, 1977² (the "baseline date").

DER advocates as BACT an emission limitation achievable through application of a baghouse to control PM and Pb, and flue gas control equipment (dry scrubbers) to control SO₂, F1, sulfuric acid mist and HCL (a non regulated pollutant)⁸. The applicant asserts that the emission limitations achievable through the use of MSW, a low-sulfur content fuel, to control SO₂, the use of electrostatic precipitators (ESPs) to control PM and Pb, and the uncontrolled discharge of F1 and sulfuric acid mist, constitute BACT. Resolution of the BACT issue requires an evaluation of the energy, environmental, and economic impacts that would be occasioned by the different emission limitation standards proposed by DER and the applicant.

29. At 115 per cent of its initial nameplate capacity, the proposed facility will emit PM, SO₂, Pb, F1 and sulfuric acid mist at the following rates, compared to the PSD significant emission rates:⁹

<u>Pollutant</u>	<u>Emission Rate</u>	<u>PSD-Significant Emission Rate</u>
PM	328.8 TPY	25 TPY
SO ₂	2,443.6 TPY	40 TPY
Pb	113.3 TPY	0.6TPY
F1	111.1 TPY	3 TPY
Sulfuric Acid Mist	12.3 TPY	7 TPY

30. Adoption of DER's limitation standards would result in a reduction of PM to .015 GR/DSCF¹⁰ corrected to 12% CO₂, heavy metals (Pb, Be, cadmium and zinc) by 99%, and of hydrogen fluoride (HF), SO₂, and HCL by 95%, 70% and 90%, respectively. Adoption of the applicant's limitation standards, would control the emission of PM to .03 GR/DSCF corrected to 12%

⁸ Although DER sought to regulate HCL by non-rule policy, it failed to establish any adverse impacts which could be reasonably anticipated by its emission, or to otherwise explicate its policy. Accordingly, there exists no rational basis to support the regulation of HCL in this case.

⁹ Applicant's Exhibit 2, Appendix 10.1.5.

¹⁰ Per standard cubic foot of dry gas.

CO₂, and would not further abate the discharge of SO₂, Pb, Fl, or sulfuric acid mist.

31. The capital and annual cost for the baghouse/dry scrubber system can be expressed as a factor of cost per ton of pollutant removed or cost per ton of MSW incinerated. The cost per ton of pollutant removed, when the facility is operated between 85 and 115 percent of capacity, is calculated to be:

<u>Pollutant</u>	<u>85%</u>	<u>100%</u> ¹¹	<u>115%</u>
PM	\$3,719	\$3,232	\$2,744
SO ₂ , Fl, ¹² H ₂ SO ₄	\$3,670	\$3,147	\$2,623

The cost per ton of MSW incinerated is approximately \$6.00.¹³

32. At hearing, the only objective standard advanced to establish a reasonable cost for removal of these pollutants was a 1978 EPA guideline. That guideline suggested a cost factor of \$2,000 per ton of pollutant removed as reasonable; however, in light of the significant inflation rate experienced in the late 1970's and early 1980's, that guideline is unreliable. Therefore, there was not shown an objective standard against which the cost of removal of these pollutants can be compared.

33. The environmental benefit to be gained by the adoption of DER's standards was shown to be minimal. The emission rates proposed by the Applicant will consume a nominal percentage of AAQS and PSD-increments, and will produce no significant adverse effects on human health, the environment, the

¹¹The applicant calculated the cost at 85 percent and 115 per cent capacity. Simple interpolation yields the cost per ton of pollutant removed at 100 percent capacity.

¹²The applicant also presented computations based on the cost per pollutant removed. Since SO₂, Fl, and H₂SO₄ will be removed by the same system it is more appropriate to relate cost to pollutants removed en masse. Additionally, although not factored into this cost estimate, the system will also remove heavy metals (Pb, Be, cadmium and zinc) by 99 percent.

¹³The applicant also advanced figures for cost per ton of pollutant removed and cost per ton of MSW incinerated which included a provision for lost revenues based on its assertion that the baghouse/dry scrubber system was unreliable. The systems reliability has, however, been established at 98-100 per cent.

ecology of the land and state waters and their wildlife and aquatic life. While the emission levels proposed by the Applicant for PM, SO₂, Pb, Fl, and sulfuric acid mist are above the PSD-Significant Emission Rate, their concentrations are, with minor exception, well below the "de minimus ambient impact" level which would require preconstruction air quality monitoring. Adoption of DER's standards, while reducing the bulk loading of pollutants into the atmosphere, was not shown to be of any benefit to the environment, public health, or the future economic and industrial development of the area.

34. The last element of the BACT analysis requires an examination of the energy effects of the proposed limitation standards. This energy impact assessment, as opposed to increased energy costs which were addressed in the annual operating costs of the system, requires a consideration of the actual energy consumed (i.e., kilowatt hours) by imposition of the limitations. To limit PM emissions to .015GR/DSCF by a baghouse/dry scrubber system would increase energy consumption by 41 percent.

35. At 100 percent capacity, compliance with DER's limitations would cost \$4,927,500 annually, provide no demonstrated benefit to the environment, and increase energy consumption by 41 percent. A balancing of the energy, environmental and economic impacts of available methods, systems and techniques establishes that the emission limitations proposed by the Applicant are BACT.

CONCLUSIONS OF LAW

1. The Division of Administrative Hearings has jurisdiction over the parties to, and the subject matter of, these proceedings.

2. While recognizing the need and demand for increased power generation facilities, it is the policy of this State to ensure that the location and operation of electrical power plants will produce minimal adverse effects on human health, the environment, the ecology of the land and state waters and their

wildlife and aquatic life. Thus the need and demand for electrical power is to be balanced with the broad interests of the public. This balancing requires a consideration of the provision of abundant, low-cost electrical energy, technically sufficient operational safeguards and the need versus environmental impacts resulting from construction and operation of the facility. Section 403.502, Florida Statutes.

3. The evidence adduced at the certification hearing established that the construction and operational safeguards for the proposed RRF, landfill Cell 1, and the western half of landfill Cell 2, are technically sufficient for the welfare and protection of the citizens of Florida. If performed in accordance with the recommended conditions of certification attached hereto as Appendix II, the construction, operation and location of this portion of the facility are expected to produce minimal adverse effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and their aquatic life. Certification of this portion of the applicant's proposal is consistent with the premise of abundant, low-cost electrical energy and is a reasonable balance between those minimal environmental impacts which will occur and the recognized need for the proposed facility.

4. The evidence failed to establish, however, that the construction and operation of the eastern half of Cell 2 would produce minimal adverse effects on the environment, the ecology of the land and state waters and their wildlife and aquatic life. Further, the applicant failed to establish any need for the construction of the eastern half of Cell 2 to render its project economically viable. A refusal to certify this portion of the applicant's proposal is not inconsistent with the premise of abundant, low-cost electrical energy, and is a recognition of the adverse environmental impacts which would occur without any demonstrated need.

Based on the foregoing Findings of Fact and Conclusions of Law, it is

RECOMMENDED that the Governor and Cabinet, sitting as the Siting Board, enter a Final Order:

1. Granting certification for the location, construction and operation of the proposed RRF and landfill Cell 1 and so much of the landfill Cell 2 as extends west of the FP & L north-south easement, subject to the conditions of certification attached to this Recommended Order as Appendix II and subject to the following additional conditions:


A. The offsite mitigation proposed by the applicant at Sites 4 and 5 be deleted as required mitigation for this project.

B. The onsite mitigation proposed by the applicant at Site 1 be deferred until additional study is conducted to assure that removal of the berm will not adversely impact the sawgrass area and Ann Kolb Park by permitting the intrusion of salt water.

C. The onsite mitigation proposed for Site 2 (the sawgrass area) be deleted and the Applicant be required to develop and implement, at its expense, a mitigation plan to include removal and control of exotic vegetation in the sawgrass area east of the FP & L north-south easement.

2. Denying certification for the location, construction and operation of so much of landfill Cell 2 as extends east of the FP & L north-south easement.

DONE AND ORDERED THIS 8th day of April, 1986, at Tallahassee, Florida.


WILLIAM J. KENDRICK
Hearing Officer
Division of Administrative Hearings
Oakland Building
2009 Apalachee Parkway
Tallahassee, Florida 32301
904/488-9675

FILED with the Clerk of the
Division of Administrative
Hearings this 8th day of
April, 1986.

Copies furnished:

See Next Page

Case No. 85-1106

Copies Furnished:

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Governor
The Capitol
Tallahassee, Florida 32301

Honorable George Firestone
Secretary of State
The Capitol
Tallahassee, Florida 32301

Honorable Jim Smith
Attorney General
The Capitol
Tallahassee, Florida

Honorable Gerald A. Lewis
Comptroller
The Capitol
Tallahassee, Florida 32301

Honorable Ralph Turlington
Commissioner of Education
The Capitol
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Honorable Doyle Conner
Commissioner of Agriculture
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Insurance Commissioner and
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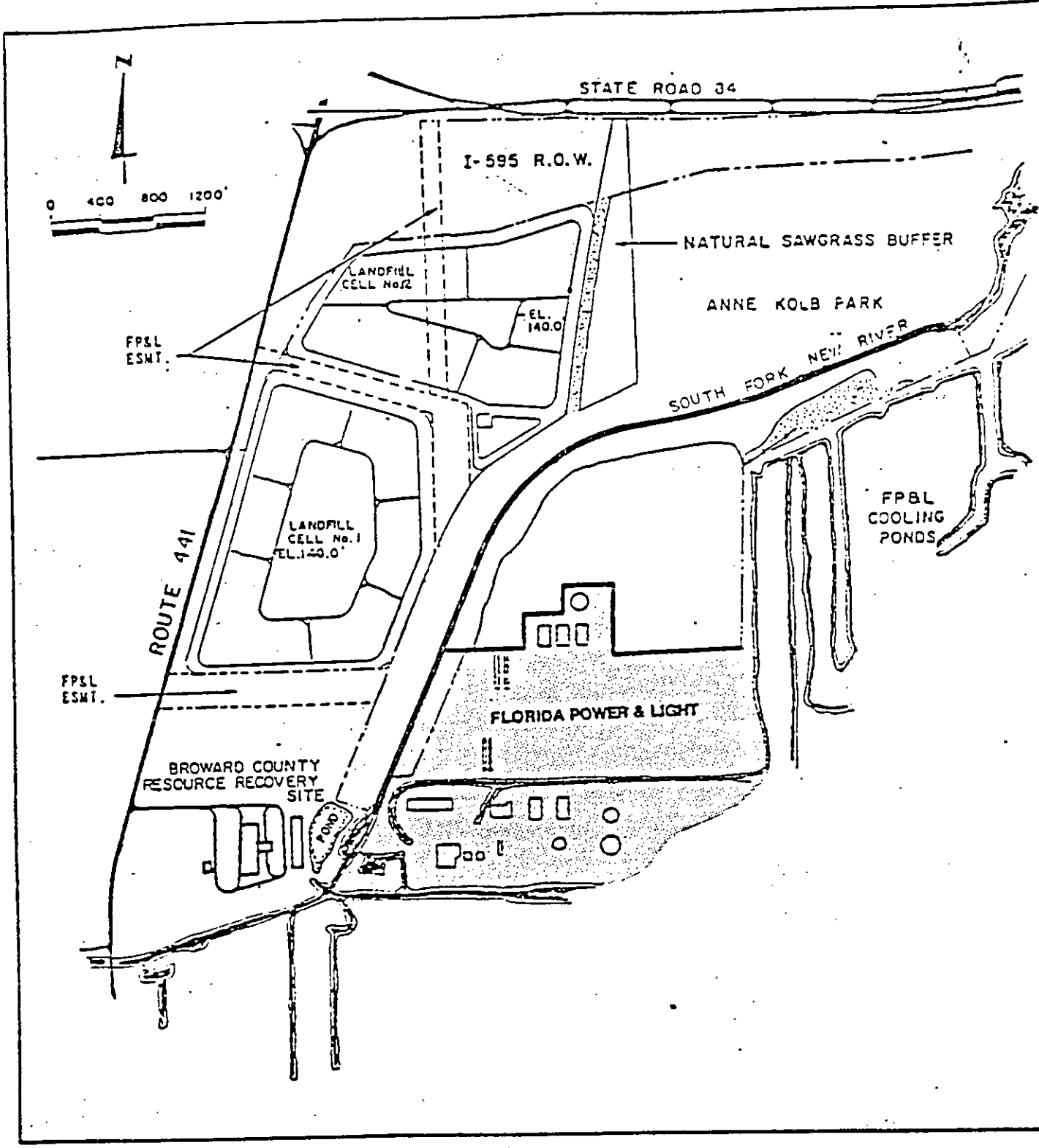
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**BROWARD COUNTY
RESOURCE RECOVERY
SITE AND UTILITY LOCATIONS**

RECEIVED
MAY 1986
Plead 2

STATE OF FLORIDA
POWER PLANT SITING BOARD

Dept. of Environmental Reg.
Office of General Counsel

IN RE: SOUTH BROWARD COUNTY	)	CASE NO. 85-1106
RESOURCE RECOVERY PROJECT, INC.	)	CASE NO. 85-1166
POWER PLANT SITING)	
CERTIFICATION APPLICATION	)	<u>STIPULATION</u>
	)	<u>AND JOINT MOTION</u>
)	
P.A. 85-21)	

The Applicant, SOUTH BROWARD RESOURCE RECOVERY PROJECT, INC. (Broward), and the STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION (DER) file this stipulation and jointly move this Board to adopt all the provisions of their stipulation, as follows:

1. On or about the 8th day of April 1986 the Hearing Officer in this case submitted his Findings of Fact, Conclusions of Law, and Recommended Order to the Florida Electric Power Plant Siting Board, under section 403.508(3) of the Florida Statutes (1985).

2. Subsequently, both DER and Broward filed exceptions to the Recommended Order.

3. DER and Broward believe that it is in the best interests of the public to withdraw their respective exceptions to the Recommended Order and to agree to the following matters.

4. By this stipulation, Broward and DER withdraw their exceptions to the Recommended Order, subject to the Board's issuing its Final Order in conformance with the terms of this stipulation. If the Final Order does not adopt all the terms of this stipulation, then DER and Broward reserve the right to reassert any and all points raised in their respective exceptions, and no waiver of those grounds may be implied, construed, or asserted in that event. Broward further reserves the right to reassert any such points if a party other than DER appeals the Board's Final Order. DER and Broward expressly recognize that the analysis of BACT must follow a case-by-case approach and that in future BACT

determinations not involving the South Broward facility at issue in this proceeding the Final Order in this case shall not bind either DER or Broward or preclude them from asserting any of the points they have previously raised in this proceeding, regardless of any other statement in this stipulation.

5. DER and Broward agree that the Board should adopt the findings of fact, conclusions of law, and recommendations of the Hearing Officer in this matter, except as noted* in the following paragraphs numbered the same as they appear in the Recommended Order:

28. DER and the applicant differ on what constitutes BACT for the control of PM, SO₂, Pb, Fl and sulfuric acid mist. DER advocates as BACT an emission limitation achievable through application of a baghouse to control PM and Pb, and flue gas control equipment (dry scrubbers) to control SO₂, Fl, and sulfuric acid mist. and HCB (a non-regulated pollutant)⁸. The applicant asserts that the emission limitations achievable through the use of MSW, a low-sulfur content fuel, to control SO₂, the use of electrostatic precipitators (ESPs) to control PM and Pb, and the uncontrolled discharge of Fl and sulfuric acid mist, constitute BACT. Although BACT analysis requires a technology determination resulting in a set of emission limitations done on a case-by-case basis, the resolution of the BACT issue at the hearing in this case requires required an a comparison and evaluation of the energy, environmental, and economic impacts and other costs that would be occasioned by result from applying the different emission limitations standards proposed by DER and the applicant.

* * * *

31. The capital and annual cost for the baghouse/dry scrubber system can be expressed as a factor of cost per ton of pollutant removed or cost per ton of MSW incinerated. The cost per ton of pollutant removed, when the facility is operated between 85 and 115 percent of capacity is calculated to be:

* Dashes show deletions and underlining shows additions.

8 Although DER sought to regulate HCB by non-rule policy, it failed to establish any adverse impacts which could be reasonably anticipated by its emission, or to otherwise explicate its policy. Accordingly, there exists no rational basis to support the regulation of HCB in this case.

<u>Pollutant</u>	<u>85%</u>	<u>100%¹¹</u>	<u>115%</u>
PM	\$3,719	\$3,232	\$2,744
SO ₂ F ₁ , ¹²	\$3,670	\$3,147	\$2,623

The cost per ton of MSW incinerated is approximately \$6.00.¹³ Based on an operation at 100% capacity, compliance with DER's limitations would cost \$4,927,500 annually.

* * * *

33. The environmental benefit to be gained by the adoption of DER's standards was shown to be minimal. The evidence introduced at the hearing established the following comparative environmental impacts of the competing technologies proposed as BACT by the Applicant and DER. The emission rates proposed by the Applicant will consume a nominal percentage of AAQS and PSD-increments, and will produce no significant adverse effects on human health, the environment, the ecology of the land and state waters and their wildlife and aquatic life. While the emission levels proposed by the Applicant for PM, SO₂, Pb, F₁, and sulphuric acid mist are above the PSD-Significant Emission Rate, their concentrations are, with minor exceptions, well below the "de minimis ambient impact" level which would require preconstruction air quality monitoring. Adoption of DER's standards, while reducing would reduce the bulk loading of pollutants into the atmosphere, was not shown to be of any benefit to the environment, public health, or the future economic and industrial development of the area resulting in a calculated reduction of consumption of PSD increments of PM of 1.1% for the twenty-four hour averaging time and 0.2% for the annual average and of SO₂ of 2.4% for the three-hour averaging time, 2.8% for the twenty-four hour averaging time, and 1.3% for the annual average, and a reduction of the impact on ambient air quality standards amounting to less than 7% for TSP and less than 2% for SO₂.

¹¹ The applicant calculated the cost at 85 percent and 115 percent capacity. Simple interpolation yields the cost per ton of pollutant removed at 100 percent capacity.

¹² The applicant also presented computations based on the cost per pollutant removed. Since SO₂, F₁, and H₂SO₄ will be removed by the same system it is more appropriate to relate cost to pollutants removed en masse. Additionally, although not factored into this cost estimate, the system will also remove heavy metals. (Pb, Be, cadmium and zinc) by 99 percent.

¹³ The applicant also advanced figures for cost per ton of pollutant removed and cost per ton of MSW incinerated which included a provision for lost revenues based on its assertion that the baghouse/dry scrubber system was unreliable. The systems reliability has, however, been established at 98-100 percent.

* * * *

35. At 100 percent capacity, compliance with DER's limitations would cost \$4,927,500 annually, provide no demonstrated benefit to the environment, and increase energy consumption by 41 percent. A balancing of the energy, environmental and economic impacts of available methods, systems and techniques. Considering all the existing regulations, prior BACT determinations by the United States Environmental Protection Agency or by states other than Florida, all the scientific, engineering, and technical material and other information presented at the hearing, the social and economic impact of applying each of the competing technologies proposed as BACT, and taking into account the energy, environmental, and economic impacts of applying each of the proposed technologies to this particular project, the evidence introduced in this dispute establishes that the emission limitations proposed by the Applicant are BACT.

CONCLUSIONS OF LAW

AIR QUALITY AND BACT

5. The evidence introduced at the Certification Hearing also established that BACT as more particularly described in the Findings of Fact for anticipated plant air emissions from this particular facility would be as proposed by the Applicant and included as a part of Appendix II.

6. Broward agrees to comply with the additional condition of certification proposed by the Hearing Officer that states:

"2. Emissions Control Equipment"

b. The facility shall be designed to leave sufficient room for installation of an acid gas control system should it be subsequently required by rule or modification of these conditions pursuant to Section 403.516, Florida Statutes."

7. Broward agrees that it will comply with any validly enacted rules adopted by DER after the issuance of the certification that prescribe new or stricter criteria, to the extent that the rules apply to electrical power plants, as defined by section 403.503(7) of the Florida Statutes. Subsequently adopted rules prescribing new or stricter criteria shall operate as automatic modifications to this certification. Nothing contained in this stipulation shall be construed to preclude Broward from full participation in any such rulemaking conducted by the Department.

CONDITIONAL REMAND


8. If after incorporation in the Board's Final Order any provision of this stipulation is determined by a court of competent jurisdiction to be invalid, unenforceable, or requiring remand to the Hearing Officer for further fact-finding, DER and Broward agree that the matter will be forthwith remanded back to the Board for reconsideration, with each party being placed back in the same legal position as before execution of this stipulation, and both parties shall be entitled to reassert any or all exceptions previously filed as if this stipulation did not exist.

THEREFORE, the undersigned agree to the findings and conditions set forth above and jointly move for entry of a final order of the State of Florida Electrical Power Plant Siting Board in accordance with this Stipulation.

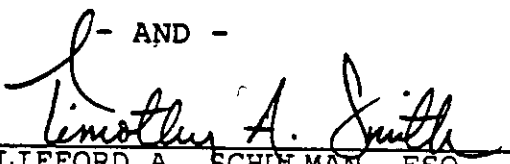
Respectfully submitted,

SUSAN F. DELEGAL, ESQ.
Broward County
General Counsel
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- AND -



JULIA D. COBB, ESQ.
Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

By: 

CLIFFORD A. SCHOLMAN, ESQ.
Special Counsel for Broward
County
Greenberg, Traurig, Askew,
Hoffman, Lipoff, Rosen &
Quentel, P.A.
1401 Brickell Avenue
Miami, Florida 33131

CERTIFICATE OF SERVICE

I CERTIFY that on this 23rd day of May 1986 the original and one true copy of the foregoing Stipulation and Joint Motion were hand-delivered to the Clerk, Office of General Counsel, Florida Department of Environmental Regulation, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32301, one true copy of the Exceptions was federal-expressed to the Office of the Governor, The Capitol, Tallahassee, Florida 32301, and one true copy of the Stipulation and Joint Motion was mailed to each of the following:

Honorable Bob Graham
Governor
The Capitol
Tallahassee, Florida 32301

Honorable George Firestone
Secretary of State
The Capitol
Tallahassee, Florida 32301

Honorable Jim Smith
Attorney General
The Capitol
Tallahassee, Florida

Honorable Gerald A. Lewis
Comptroller
The Capitol
Tallahassee, Florida 32301

Honorable Ralph Turlington
Commissioner of Education
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Honorable Doyle Conner
Commissioner of Agriculture
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Honorable Bill Gunter
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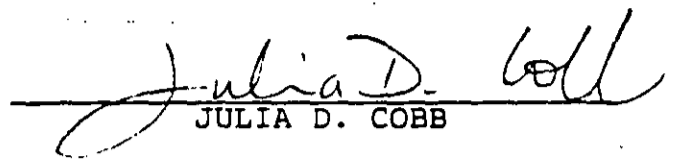
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Miami, Florida 33131


JULIA D. COBB

11-12-1985

Ed Svec

1. Please state your name and address
2. where are you presently employed
3. How long have you been in that position
4. Prior to your employment with DOR, what did you do
5. What is your educational background?
6. Have you ever attended any courses or seminars on air pollution control technology? Please describe what, when, etc.
7. Have you ever before testified as an expert in an administrative or judicial proceeding?
8. Offer Ed Svec as an expert in the areas of the review and analysis of air pollution sources for compliance with the Dept's rules and regulations
9. Please explain for me your involvement with the review of an application we've been referring to as the South Broward ^{County} Resource Recovery Facility Project. Are you familiar with that application?
9. After receiving the application, what did you do

10. Is Broward County designated as a non-attainment area for any air pollutant. Which pollutant

11. What standards apply to other pollutants proposed to be emitted

12. What is the next step in determining which rules apply

13. After you determined that the proposed facility is on the "List of 28", what did you do

ans: compared proposed emissions to Sig. Emission Rate, if ever 100 tpy for ^{one or more} listed reg pollutant, subject to review for PSD.

14. I show you on the overhead the chart included in the staff report and ask you to explain which emissions exceed the significant emission rate

15. What does PSD review include

16. You said previously that Broward Co is a non-attainment area for ozone. What is the reg. pollutant for ozone

17. ~~How are pollutants regulated~~ Please explain for us the non-attainment review process

18. ~~Are the~~ VOC emissions proposed by the applicant subject to non-attainment review? Why not

19

Is this facility subject to the federal New Source Performance Stds. Why

20

What do these rules require

21

~~Is this source also subject to the rule 17-2.620 (2) which ~~regulates~~ prohibits the discharge of pollutants which cause or contribute to an objectionable odor.~~

Van Rogers
Comments

BEFORE THE STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE:)	
)	
SOUTH BROWARD COUNTY RESOURCE)	
RECOVERY PROJECT, POWER PLANT	)	DOAH Case No.: 85-1106
SITING CERTIFICATION	)	85-1116
APPLICATION PA 85-21	)	OGC File No.: 85-0357
)	

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION'S
PROPOSED FINDINGS OF FACT, PROPOSED CONCLUSIONS
OF LAW AND PROPOSED RECOMMENDED ORDER

Pursuant to Section 120.57(1)(b)4., Florida Statutes, and Florida Administrative Code Rule 28-5.401 and 22I-6.31, the State of Florida Department of Environmental Regulation, Department submits within the allowed time this, its Proposed Recommended Order, which includes Proposed Findings of Fact and Proposed Conclusions of Law.

Recommended Order

Pursuant to Notice, the Division of Administrative Hearings, by its duly designated Hearing Officer, William J. Kendrick, held a public hearing in the above-styled case November 12-15, and 18-22, 1985, in Davie, Florida.

Appearances

For the Applicant:	Clifford A. Schulman, Esquire Timothy A. Smith, Esquire Kerri L. Barsh, Esquire Greenberg, Traurig, Askew, Hoffman, Lipoff, Rosen & Quentel, P.A. 1401 Brickell Avenue, 7th Floor Miami, Florida 33131
For the Department of Environmental Regulation:	Julia D. Cobb, Esquire Richard Tucker, Certified Legal Intern Department of Environmental Regulation Twin Towers Office Building 2600 Blair Stone Road Tallahassee, Florida 32301
For the Department of Community Affairs:	David L. Jordan, Esquire Department of Community Affairs 2751 Executive Center Circle, East Tallahassee, Florida 32301

For South Florida Water
Management District:

Elizabeth D. Ross, Esquire
Irene Kennedy Quincey, Esquire
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For South Broward
Citizens For a Better
Environment, Inc.:

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and
Frank A. Kreidler, Esquire
521 Lake Avenue, Suite 3
Lake Worth, Florida 33460

For Florida Audubon
Society and Broward
County Audubon Society:

Charles Lee,
Senior Vice President
Florida Audubon Society
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Preliminary Statement

On April 8, 1985, the South Broward County Resource Recovery Project, Inc., on behalf of the Broward County Board of County Commissioners, filed with the Department of Environmental Regulation its application for Power Plant Site Certification of the proposed resource recovery facility and landfill.

A land use hearing was held on August 20, 1985, and the Governor and Cabinet, sitting as the Siting Board pursuant to Chapter 403, Part II, Florida Statutes, entered an Order on October 15, 1985, concluding that the proposed site is consistent with the existing land use plans and zoning ordinances.

On June 4, 1985, the Public Service Commission issued its Consummating Order, numbered 14435, which adopted the proposed agency action contained in PSC Order No. 14357. This act effectively certified the present and future need for the electrical generating capacity to be supplied by the proposed resource recovery facility as required by Section 403.507(1)(b), Florida Statutes.

Prior to the certification hearing, the Department limited its objection to the project to the issue of whether the air pollution control technology proposed by the applicant constituted Best Available Control Technology (BACT). Accordingly, the Department presented testimony and evidence

limited to this issue. One Department witness was called to address dredge and fill implications of the project.

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Having considered all testimony and evidence properly admitted, having heard argument of counsel and being otherwise fully advised herein, the following Findings of Fact, Conclusions of Law, and Recommended Order are entered.

Findings of Fact

1. Broward County proposes to construct a resource recovery facility near Ft. Lauderdale, Florida. The facility will consist of three mass burn incinerators, which combined will have the capacity to incinerate 2,250 tons per day (TPD) ^{of Municipal Solid Waste (MSW)} [DER Exhibit 2, p. 27].
2. The applicant has estimated maximum annual emissions for the air pollutants that the facility will emit based on operation of the boilers at 115% of their rated nameplate capacity, 24 hours a day, 365 days each year. [T. 1037]
3. Each incinerator unit will have an approximate heat input of 281×10^6 Btu heat input per hour. [DER Exhibit 2]
4. The pollutants the applicant proposes to emit for which the Department ^{regulates} ~~has standards~~ include Particulate Matter (PM), Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Lead (Pb), Beryllium (Be), Mercury (Hg), ~~Arsenic (As)~~, Fluorides (F), Ozone (O₃), and Sulfuric Acid Mist.

5. Other pollutants which will be emitted by the facility, but for which the Department does not have emission-limiting standards, include Hydrogen Chloride (HCl), Dioxins, and Furans.

6. The optimal temperature that the incinerator will operate at will be at or above 1800°F, ^{with} ~~and~~ the residence time of the flue gas in the boilers ^{at or above} ~~will be~~ one second. [T.810-815.]

7. Broward County is designated a non-attainment area for the pollutant ozone. Volatile Organic Compounds (VOC) are the regulated pollutant for ozone.

8. The proposed controlled emission rate of VOC for the proposed facility is 56.7 tons per year. Therefore, the applicant did not have to undergo a determination of Lowest Achievable Emission Rates (LAER) for VOC's.

9. For all other pollutants for which standards exist, the county is designated attainment.

10. The Environmental Protection Agency presently requires hazardous waste incinerators emitting more than four (4) pounds of HCl per hour to achieve removal efficiency of up to 99%. A minimum of 99% removal efficiency is required when removal at 99% will not reduce emissions to four pounds per hour.

11. The facility ^{is estimated} ~~proposed~~ to emit HCl at 5252 tons per year. With 90% control as proposed by the Department, the facility will emit 120 pounds per hour, or 525 tons per year.

12. The release of HCl gas from the combustion of polyvinyl chloride (PVC) plastics is a major contributor to HCl emissions from MSW incinerators.

13. The plastics content of refuse varies from load to load, city to city. However, due to the large number of people who visit Broward County for vacation purposes, it is reasonable to expect a high percentage of plastics in the county's solid waste.

Why?
What's the connection between visitors and plastics?

14. The plastics content of refuse was the subject of an EPA sponsored study in 1968. The study indicated that a 300-400% increase in plastics in refuse between the years 1968 and 2000 could be expected.

15. Flue gas controls are the most conventional means of reducing HCl emissions from MSW incinerators. ESP's do not provide any control of ~~acid-gases or HCl~~ ^{HCl or other acid gases} emissions.

16. The applicant indicated at the hearing that it had amended its proposed emission of lead from 0.27 lbs. per unit ton of MSW charged, to 0.030 lbs./MBtu.

17. Prior to the hearing the Department was advised orally by the applicant that its proposed lead emission was incorrect by a factor of 10. However, the applicant never amended its application formally, nor did it provide the Department with any justification for the revised emission.

18. Even with the applicant's revised emission for lead, the amount greatly exceeds the Significant Emission Rate of 0.6 tons per year listed in Florida Administrative Code Rule 17-2.500, Table 500-2.

19. High removal efficiencies for metallic compounds emitted from MSW incinerators require operation of the particulate control equipment at temperatures below 500°F, and consistently efficient removal of submicron fly ash particles.

something is missing here.

20. The flue gas temperature at the inlet of the proposed facility's particulate control device is estimated to be 425-475°F.

21. Electrostatic precipitators are less efficient than filter systems (baghouses) for removing particulate matter in the submicron-sized particle range.

22. Metallic compounds, including lead, adsorb and condense onto submicron-sized particles when flue gas temperatures are lowered below 500°F.

23. The facility proposes to emit Fluorides, uncontrolled, at the rate of .018 tons/MBtu or 22.15 TPY. The Significant Emission Rate for Fluorides listed in Florida Administrative Code Rule 17-2.500, Table 500-2, is three (3) tons per year.

~~24. Broward County is designated a non-attainment area for the pollutant ozone.~~ *repeated from 7.*

~~25. For all other pollutants for which standards exist, the county is designated attainment.~~ Repealed from 9.

26. The emissions proposed by the County for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Beryllium, Mercury, ~~Arsenic~~, and Sulfuric Acid Mist are higher than the Significant Emission Rates for Regulated Air Pollutants contained in Florida Administrative Code 17-2.500, Table 500-2.

27. Applicable rules and regulations require an analysis of compliance with applicable air quality standards. These standards include ambient air quality standards ("AAQS") and prevention of significant deterioration ("PSD") requirements.

28. Computer modeling techniques are used to determine compliance with applicable standards.

29. Air quality impacts from a proposed facility depend on a number of factors, including meteorological conditions (such as the ambient temperature, wind speed and direct^{ion} and the turbulence of the atmosphere) and the physical parameters of the proposed emission source, such as the dimensions of the stack (including its height and diameter) and the temperature of the stack gas.

30. When determining the effect of emissions from a proposed source on an area other than the immediate area, the geographical proximity of the proposed source to the impacted area is also a key factor.

31. Using these factors, computer models predict the impact of air pollutant emissions on the concentration of a pollutant at the ground level at a certain point.

32. PSD review requires an analysis of the proposed facility's impact on a Class-I area^s within 100 kilometers of the facility. [T. 1764]

33. The U.S. Department of Interior, National Park Service, determined that the proposed facility would not significantly impact the Everglades National Park. [T. 1765]

34. The U.S. Department of Interior, National Park Service, agreed with the Florida Department of Environmental Regulation's BACT determination that dry scrubbers and a baghouse constituted Best Available Control Technology for the proposed facility. [DER Exhibit 4].

35. Due to the dimensions of the proposed stack and building, aerodynamic downwash could increase emission concentrations in the location of the facility. [T. 1771].

36. The proposed facility's stack is 4.6 meters below the allowed good engineering practices stack height of 65 meters.

37. An acid gas scrubber would lower the temperature of the flue gas, which would result in a lower plume height. [T. 1776-1777].

38. Although a lower plume height would result in deposition closer to the facility and less opportunity for dispersion of pollutants, a scrubber would reduce the amount of emissions coming out of the facility, and reduce the ambient concentrations of those emissions. [T. 1779].

39. The modeling analysis predicts that no ambient air quality standards will be exceeded for the criteria pollutants PM, SO₂, CO, NO_x, and Pb, based on the emission rates proposed by the Applicant or the Department. [T. 1767].

40. For the proposed facility, PSD review is required for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Sulfuric Acid Mist, Beryllium, and Mercury. [DER Exhibit 2, page 48].

41. PSD rules provide that a proposed source cannot result in emissions which, when considered with all other ^{new} sources required to be included in the analysis, will exceed certain "increments" over the existing ambient air quality (or "baseline concentrations") established as of a certain date (in this case December, 1977). [DER Exhibit 2, page 52].

42. The proposed facility is within an area designated as Class **II**. [DER Exhibit 2, page 52].

43. A Class I area, the Everglades National Park, is located within 57 kilometers of the proposed facility.

44. Impact analysis indicated that the proposed facility would have a less than significant impact on the Class I area.

45. ~~Although~~ the proposed facility's emissions of SO₂ and PM are the only significant source^s in the area that will consume PSD increment. atmospheric dispersion modeling indicates that the concentration increases are ~~within~~ ^{less than} ~~the~~ ^{maximum} allowable amounts. [DER Exhibit 2, p. 52].

46. Given existing air quality in the area ^{of} the proposed facility, emissions from the resource recovery facility are not expected to cause or contribute to a violation of an AAQS. [DER Exhibit 2, pp. 52-53].

47. SO₂, NO_x, and HCl are identified precursors to possible acid formation and subsequent acidic rain. [DER Exhibit 2, p. 54].

48. A de minimus ambient impact level has been defined for fluorides, beryllium, and mercury. The proposed facility is not expected to exceed the de minimus level for these three non-criteria pollutants ^{at the department's BACT emission limitations.} [DER Exhibit 2, p. 55].

F would exceed this level at the applicant's BACT.

49. PSD requirements also require the use of Best Available Control Technology ("BACT"). A determination of BACT requires an analysis of the energy, environmental, and economic impacts of the proposed facility. BACT was determined for PM, SO₂, NO_x, CO, F⁻, Sulfuric Acid Mists, Lead, Mercury, Beryllium, ~~VOC~~, and Visible Emissions.

50. The Department and the Applicant differ on what constitutes BACT for PM, SO₂, Pb, F⁻, and Sulfuric Acid Mists.

51. The installation of a Baghouse to control particulate emissions and lead has been determined to represent BACT.

52. The use of flue gas control equipment, specifically dry scrubbers, to control SO₂, F⁻, Sulfuric Acid Mists, and HCl emissions has been determined to represent BACT for these emissions.

I thought we didn't specify particular control equip. as BACT, only limitations. We can only recommend.

53. In determining BACT for acid gas control, and particulate and heavy metal control, the capital and annual costs of utilizing a baghouse/dry scrubber system are set forth below:

Dry Scrubber/Baghouse

Capital Cost \$13,000,000.00

Annual Cost \$ 4,147,100.00

Resulting Emission Rates

Particulate Matter: 0.01 GR/DSCF

(corrected to 12% CO₂)

Acid Gas Reduction:

HF 95%

SO₂ 70%

HCl 90%

Heavy Metal Reduction: 99%

Cost per ton of refuse burned: \$4.38

[DER Exhibit 1; T. 1334-1339]

54. The State of Connecticut has certified a scrubber/baghouse system as BACT for the Mid-Connecticut facility.

55. ~~The~~ ^{The} cost of controlling SO₂ and HCl emissions alone is estimated at \$1,050 per ton of pollutant removed. This is less than the 1978 EPA guideline of \$2,000 per ton. [T. 1605-1606].

56. The South Florida Water Management District has filed its report as required by Section 403.507(1)(a), Florida Statutes, and that report does not object to certification of this site subject to certain conditions which are proposed to be adopted as conditions of certification. [DER Exhibit 2, and jointly filed Conditions of Certification.].

57. The Department of Community Affairs has filed its report as required by Section 403.507(1)(a), Florida Statutes, and that report concludes that the proposed project is compatible with the state comprehensive plan. [DER Exhibit 2].

58. The State of Florida Department of Environmental Regulation has filed its report as required by Section 403.507(2), Florida Statutes, and has recommended certification of the proposed facility subject to the proposed conditions of certification. [DER Exhibit 2; Jointly filed Conditions of Certification with Exhibit B.].

CONCLUSIONS OF LAW

1. The Division of Administrative Hearings has jurisdiction, and this proceeding was heard pursuant to the Florida Electrical Power Plant Siting Act, Chapter 403, Part II, Florida Statutes, and Chapter 17-17, Florida Administrative Code, to consider the subject application for site certification.

2. Notice, in accordance with Chapters 120 and 403, Florida Statutes, and Chapter 17-17, Florida Administrative Code, has been given to all persons and parties entitled thereto, as well as to the general public.

3. The record of this proceeding consists of all pleadings and papers filed herein, including the site certification application the transcripts of all hearings, all orders entered by the Hearing Officer, and evidence and exhibits properly admitted into the record.

4. The purpose of the site certification hearing was to receive testimony and evidence concerning whether the location and operation of the proposed facility will produce minimal effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and aquatic life, and balance fully the increasing demand for electric power plant location and operation with the above environmental effects. Section 403.502, Florida Statutes, and the Florida

Chapter of the Sierra Club v. Orlando Utilities Commission, 436 So.2d 383, 385 (Fla. 5th DCA 1983):

5. The air quality issues are governed by regulations contained in Chapter 17-2, Florida Administrative Code, and in Chapter 40 of the Code of Federal Regulations.

6. All necessary and required governmental agencies were parties to this proceeding, and all required reports and studies were completed and presented to the Department of Environmental Regulation. These include the report of the Department of Community Affairs as to the compatibility of the proposed resource recovery facility with the State Comprehensive Plan, Section 403.507(1)(a), Florida Statutes; the Florida Public Service Commissions report as to the present and future need for electrical generating capacity to be supplied by the proposed facility, Section 403.507(1)(d), Florida Statutes; and the report of the South Florida Water Management District as to the impact of the proposed facility on water resources, Section 403.507(1)(c), Florida Statutes. The record further establishes that the Department of Environmental Regulation conducted or contracted for the enumerated studies required by Section 403.507(2), Florida Statutes, and completed its report and recommendations with respect thereto. The Department of Environmental Regulation recommends certification of the proposed resource recovery facility subject to its recommended conditions of certification, which with the exception of the Air Emission Limitations, have been accepted by the applicant.

7. The oral and documentary evidence adduced at the certification hearing demonstrate that the construction and operational safeguards for the proposed resource recovery facility are technically sufficient for the welfare and protection of the citizens of Florida. If performed in accordance with the recommended conditions of certification, the construction, operation and location of the proposed resource recovery facility are expected to produce minimal adverse effects on human health, the environment, the ecology of land and its

wildlife, and the ecology of state waters and their aquatic life. Certification incorporating the conditions proposed by the Department is consistent with the premise of abundant, low-cost electrical energy and is a reasonable balance between those environmental impacts which will occur and the recognized need for the proposed resource recovery facility's electrical generating capacity.

8. The construction and operation of the resource recovery facility ^{at the} proposed site is compatible with the applicable provisions of the Florida State Comprehensive Plan. <

9. The construction and operation of the resource recovery facility at the proposed site will comply with applicable statutes, rules, regulations and other criteria of the South Florida Water Management District, as set forth in Chapter 373, Florida Statutes, Chapter 40E, Florida Administrative Code, and the conditions for certification proposed by the District.

10. Non-attainment review is required for all non-attainment pollutants which have the potential to emit 100 tons per year or more of the affected pollutants, Florida Administrative Code Rule 17-2.510(4). Non-attainment review includes a determination of Lowest Achievable Emission Rate (LAER), and the obtaining of emission offsets.

11. As the proposed facility will emit less than 100 tons of ^{VOC, the regulated pollutant for} the non-attainment pollutant ozone, the facility does not have to undergo non-attainment review, including a determination of LAER.

12. The proposed facility is subject to the provisions of the federal New Source Performance Standards, 40 CFR 60, Subpart E, for incinerators. These rules require that any standard required by BACT shall be at least as stringent as an applicable New Source Performance Standard.

13. The proposed facility is subject to the provisions of Rule 17-2.620(2), Florida Administrative Code, which states that no person shall cause, suffer, allow or permit the discharge of

air pollutants which cause or contribute to an objectionable odor.

14. Rule 17-2.500(2)(f)3, Florida Administrative Code, requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in Table 500-2, Regulated Air Pollutants.

15. The emissions proposed by the County for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Beryllium, Mercury, ~~Ammonia~~, and Sulfuric Acid Mist exceed the significant emission rates for Regulated Air Pollutants contained in Florida Administrative Code Rule 17-2.500, Table 500-2.

16. The applicant and the Department of Environmental Regulation differ over what constitutes BACT for the proposed facility's air emissions. I have carefully considered the evidence and conclude that the emission limits proposed by the Department, with the appropriate technology for achieving such, constitutes BACT.

17. BACT is defined as:

an emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, system and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant. Rule 17-2.100(22), Florida Administrative Code. (E.S.)

18. Section 17-2.630, Florida Administrative Code, requires the Department give consideration to four areas when making a determination of Best Available Control Technology (BACT). Those four areas that must be considered include:

(a) Any EPA determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 or 40 CFR Part 61. In no event shall application of BACT result in

emissions of any pollutant which would exceed the emissions allowed under 40 CFR Parts 60 or 61.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

19. The Department gave ^{due} consideration ^{and balanced} all required factors when understaking the BACT determination for the proposed project. <

20. The applicant disputes the BACT determination completed by the Department for Particulate Matter, Sulfur Dioxide, Lead, Fluoride, and Sulfuric Acid Mist. I have considered carefully the evidence and conclude that the emission limitations for these pollutants proposed by Department constitute BACT. The control technology proposed by the applicant, that being an Electrostatic Precipitator, does not constitute BACT. <

21. The department's determination of BACT is further justified when the facility's proposed emissions of HCl are considered. Although the Department does not have an emission-limiting standard for HCl emissions from MSW incinerators, testimony and evidence adduced as the final hearing establish conclusively that the facility will be a major source of HCl emissions, HCl emissions have the potential to create adverse environmental impacts, and that the control technology proposed by the applicant will not provide control for HCl emissions. As required by the holding in McDonald v. Department of Banking and Finance, 346 So.2d 569 (Fla. 1st DCA 1977), the Department has the authority to protect and enhance the air quality of Florida, and appropriately defended its emerging policy of regulating HCl Emissions from MSW incinerators at the final hearing.

22. The air quality impact analysis required by the PSD regulations for the proposed facility included an analysis of

existing air quality; a PSD increment analysis for SO₂ and PM only; an AAQS analysis; an analysis of impacts on soils, vegetation, and ^{acid}rain, and growth-related air quality impacts; and a "Good Engineering Practice" stack height determination.

23. In 1978, E.P.A. published a N.S.P.S. guideline for reasonableness of cost that suggested that costs up to \$2,000 per ton of pollutant control was reasonable. [T. 1605, 1811]. This guideline has not been revised since it was promulgated, and while it still has some value as a comparative guideline, I do not consider it conclusive on the question of costs per ton of pollutant removed.

RECOMMENDED ORDER

Based upon the entire record of this proceeding and the above findings of fact and conclusions of law,

IT IS RECOMMENDED THAT:

1. South Broward Resource Recovery Facility Project, Inc., be granted certification pursuant to Chapter 403, Part II, Florida Statutes, for the location, construction, and operation of the proposed resource recovery facility, as proposed in the application and evidence of record;

2. Certification be subject to the Conditions of Certification, including the Air Emission Limitations proposed by the Department, and which are attached to this Recommended Order as Appendix I.

Respectfully submitted and entered this ____ day of April, 1986, in Tallahassee, Florida.

WILLIAM J. KENDRICK
Hearing Officer

Division of Administrative Hearings
The Oakland Building
209 Apalachee Parkway
Tallahassee, Florida 32301
Telephone: (904) 488-9675

Filed with the Clerk of the
Division of Administrative Hearings
this ____ day of April, 1986, in
Tallahassee, Florida.

Copies furnished:

See attached page

BEFORE THE STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE:)
)
SOUTH BROWARD COUNTY RESOURCE)
RECOVERY PROJECT, POWER PLANT) DOAH Case No.: 85-1106
SITING CERTIFICATION) 85-1116
APPLICATION PA 85-21) OGC File No.: 85-0357
)
_____)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION'S
PROPOSED FINDINGS OF FACT, PROPOSED CONCLUSIONS
OF LAW AND PROPOSED RECOMMENDED ORDER

Pursuant to Section 120.57(1)(b)4., Florida Statutes, and Florida Administrative Code Rule 28-5.401 and 22I-6.31, the State of Florida Department of Environmental Regulation, Department submits within the allowed time this, its Proposed Recommended Order, which includes Proposed Findings of Fact and Proposed Conclusions of Law.

Recommended Order

Pursuant to Notice, the Division of Administrative Hearings, by its duly designated Hearing Officer, William J. Kendrick, held a public hearing in the above-styled case November 12-15, and 18-22, 1985, in Davie, Florida.

Appearances

For the Applicant:	Clifford A. Schulman, Esquire Timothy A. Smith, Esquire Kerri L. Barsh, Esquire Greenberg, Traurig, Askew, Hoffman, Lipoff, Rosen & Quentel, P.A. 1401 Brickell Avenue, 7th Floor Miami, Florida 33131
For the Department of Environmental Regulation:	Julia D. Cobb, Esquire Richard Tucker, Certified Legal Intern Department of Environmental Regulation Twin Towers Office Building 2600 Blair Stone Road Tallahassee, Florida 32301
For the Department of Community Affairs:	David L. Jordan, Esquire Department of Community Affairs 2751 Executive Center Circle, East Tallahassee, Florida 32301

For South Florida Water
Management District:

Elizabeth D. Ross, Esquire
Irene Kennedy Quincey, Esquire
South Florida Water Management
District
3301 Gun Club Road
West Palm Beach, Florida 33402

For South Broward
Citizens For a Better
Environment, Inc.:

J. Robert Miertschin, Jr., Esquire
2801 Ponce de Leon Boulevard
Suite 250
Coral Gables, Florida 33134
and
Frank A. Kreidler, Esquire
521 Lake Avenue, Suite 3
Lake Worth, Florida 33460

For Florida Audubon
Society and Broward
County Audubon Society:

Charles Lee,
Senior Vice President
Florida Audubon Society
1101 Audubon Way
Maitland, Florida 32751

Preliminary Statement

On April 8, 1985, the South Broward County Resource Recovery Project, Inc., on behalf of the Broward County Board of County Commissioners, filed with the Department of Environmental Regulation its application for Power Plant Site Certification of the proposed resource recovery facility and landfill.

A land use hearing was held on August 20, 1985, and the Governor and Cabinet, sitting as the Siting Board pursuant to Chapter 403, Part II, Florida Statutes, entered an Order on October 15, 1985, concluding that the proposed site is consistent with the existing land use plans and zoning ordinances.

On June 4, 1985, the Public Service Commission issued its Consummating Order, numbered 14435, which adopted the proposed agency action contained in PSC Order No. 14357. This act effectively certified the present and future need for the electrical generating capacity to be supplied by the proposed resource recovery facility as required by Section 403.507(1)(b), Florida Statutes.

Prior to the certification hearing, the Department limited its objection to the project to the issue of whether the air pollution control technology proposed by the applicant constituted Best Available Control Technology (BACT). Accordingly, the Department presented testimony and evidence

limited to this issue. One Department witness was called to address dredge and fill implications of the project.

At the site certification hearing, the Department presented testimony of eight witnesses, and its Exhibits 1-4, and 6-20 were received into evidence. The witnesses presented by the Department were: Hamilton J. Oven, Jr., accepted as an expert in the areas of processing and reviewing power plant siting certification applications, and the applicability of the Department's rules and standards to power plant siting certification applications, [T.1456]; Mr. Larry O'Donnell, accepted as an expert in the evaluation of dredge and fill applications, the impact of dredge and fill on biological resources, and the impact of dredge and fill on DER water quality standards, [T.1534]; Mr. Ed Svec, accepted as an expert in the review and analysis of air pollution sources for compliance with the Department's rules and regulations, [T.1754]; Mr. Barry Andrews, accepted as an expert in the review and analysis of stationary air pollution sources for compliance with state and federal regulations, and the review and evaluation of air pollution control technologies and strategies [T.1567-1571]; Mr. Tom Rogers, accepted as an expert in meteorology, including air quality impact analysis and air quality modeling [T.1761]; Dr. Aaron J. Teller, accepted as an expert in chemical engineering, with emphasis on design efficiency, reliability, and cost of air pollution control technology [T.1328-1334]; Mr. Jack Lauber, P.E., accepted as an expert in Best Available Control Technology ("BACT") for control of toxic air contaminants from municipal solid waste resource recovery incineration systems [T.1652-1658]; and Mr. Clair Fancy, accepted as an expert in air pollution control technology, and the review and analyses of air pollution sources for compliance with state and federal regulations [T.1780-1786].

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No other party produced any witnesses nor introduced any evidence concerning the air issues in dispute between the applicant and the Department.

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Having considered all testimony and evidence properly admitted, having heard argument of counsel and being otherwise fully advised herein, the following Findings of Fact, Conclusions of Law, and Recommended Order are entered.

Findings of Fact

1. Broward County proposes to construct a resource recovery facility near Ft. Lauderdale, Florida. The facility will consist of three mass burn incinerators, which combined will have the capacity to incinerate 2,250 tons per day (TPD).

2. The applicant has estimated maximum annual emissions for the air pollutants that the facility will emit based on operation of the boilers at 115% of their rated nameplate capacity, 24 hours a day, 365 days each year.

3. Each incinerator unit will have an approximate heat input of 281×10^6 Btu heat input per hour.

4. The pollutants the applicant proposes to emit for which the Department has standards include Particulate Matter (PM), Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Lead (Pb), Beryllium (Be), Mercury (Hg), Arsenic (As), Fluorides (F), Ozone (O_3), and Sulfuric Acid Mist.

Volatile Organic Compounds (VOC)

5. Other pollutants which will be emitted by the facility, but for which the Department does not have emission-limiting standards, include Hydrogen Chloride (HCl), Dioxins, and Furans.

6. The optimal temperature that the incinerator will operate at will be at or above 1800°F, and the residence time of the flue gas in the boilers will be one second. [T.810-815.]

7. Broward County is designated a non-attainment area for the pollutant ozone. Volatile Organic Compounds (VOC) are the regulated pollutant for ozone.

8. The proposed controlled emission rate of VOC for the proposed facility is 56.7 tons per year. Therefore, the applicant did not have to undergo a determination of Lowest Achievable Emission Rates (LAER) for VOC's.

9. For all other pollutants for which standards exist, the county is designated attainment.

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13. The plastics content of refuse varies from load to load, city to city. However, due to the large number of people who visit Broward County for vacation purposes, it is reasonable to expect a high percentage of plastics in the county's solid waste.

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17. Prior to the hearing the Department was advised orally by the applicant that its proposed lead emission was incorrect by a factor of 10. However, the applicant never amended its application formally, nor did it provide the Department with any justification for the revised emission.

18. Even with the applicant's revised emission for lead, the amount greatly exceeds the Significant Emission Rate of 0.6 tons per year listed in Florida Administrative Code Rule 17-2.500, Table 500-2.

19. High removal efficiencies for metallic compounds emitted from MSW incinerators require operation of the particulate control equipment at temperatures below 500°F, and consistenly efficient removal of submicron fly ash particles.

20. The flue gas temperature at the inlet of the proposed facility's particulate control devise is estimated to be 425-475°F.

21. Electrostatic precipitators are less efficient than filter systems (baghouses) for removing particulate matter in the submicron-sized particle range.

22. Metallic compounds, including lead, adsorb and condense onto submicron-sized particles when flue gas temperatures are lowered below 500°F.

23. The facility proposes to emit Fluorides, uncontrolled, at the rate of ^{0.025 lb/MMBtu} ~~0.18 tons/MBtu~~ or ^{108.6} ~~22.15~~ TPY. The Significant Emission Rate for Fluorides listed in Florida Administrative Code Rule 17-2.500, Table 500-2, is three (3) tons per year.

24. Broward County is designated a non-attainment area for the pollutant ozone.

$\frac{X}{0.018}$ $\frac{108.6}{0.25}$

25. For all other pollutants for which standards exist, the county is designated attainment.

26. The emissions proposed by the County for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Beryllium, Mercury, Arsenic, and Sulfuric Acid Mist are higher than the Significant Emission Rates for Regulated Air Pollutants contained in Florida Administrative Code 17-2.500, Table 500-2.

27. Applicable rules and regulations require an analysis of compliance with applicable air quality standards. These standards include ambient air quality standards ("AAQS") and prevention of significant deterioration ("PSD") requirements.

28. Computer modeling techniques are used to determine compliance with applicable standards.

29. Air quality impacts from a proposed facility depend on a number of factors, including meteorological conditions (such as the ambient temperature, wind speed and direction, and the turbulence of the atmosphere) and the physical parameters of the proposed emission source, such as the dimensions of the stack (including its height and diameter) and the temperature of the stack gas.

30. When determining the effect of emissions from a proposed source on an area other than the immediate area, the geographical proximity of the proposed source to the impacted area is also a key factor.

31. Using these factors, computer models predict the impact of air pollutant emissions on the concentration of a pollutant at the ground level at a certain point.

32. PSD review requires an analysis of the proposed facility's impact on a Class-I area within 100 kilometers of the facility. [T. 1764]

33. The U.S. Department of Interior, National Park Service, determined that the proposed facility would not significantly impact the Everglades National Park. [T. 1765]

34. The U.S. Department of Interior, National Park Service, agreed with the Florida Department of Environmental Regulation's BACT determination that dry scrubbers and a baghouse constituted Best Available Control Technology for the proposed facility. [DER Exhibit 4].

35. Due to the dimensions of the proposed stack and building, aerodynamic downwash could increase emission concentrations in the location of the facility. [T. 1771].

36. The proposed facility's stack is 4.6 meters below the allowed good engineering practices stack height of 65 meters.

37. An acid gas scrubber would lower the temperature of the flue gas, which would result in a lower plume height. [T. 1776-1777].

38. Although a lower plume height would result in deposition closer to the facility and less opportunity for dispersion of pollutants, a scrubber would reduce the amount of emissions coming out of the facility, and reduce the ambient concentrations of those emissions. [T. 1779].

39. The modeling analysis predicts that no ambient air quality standards will be exceeded for the criteria pollutants PM, SO₂, CO, NO_x, and Pb, based on the emission rates proposed by the Applicant or the Department. [T. 1767].

40. For the proposed facility, PSD review is required for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Sulfuric Acid Mist, Beryllium, and Mercury. [DER Exhibit 2, page 48].

41. PSD rules provide that a proposed source cannot result in emissions which, when considered with all other sources required to be included in the analysis, will exceed certain "increments" over the existing ambient air quality (or "baseline concentrations") established as of a certain date (in this case December, 1977). [DER Exhibit 2, page 52].

42. The proposed facility is within an area designated as Class **II**. [DER Exhibit 2, page 52].

43. A Class I area, the Everglades National Park, is located within 57 kilometers of the proposed facility.

44. Impact analysis indicated that the proposed facility would have a less than significant impact on the Class I area.

45. Although the proposed facility's emissions of SO₂ and PM are the only significant source in the area that will consume PSD increment, atmospheric dispersion modeling indicates that the concentration increases are within the allowable amounts. [DER Exhibit 2, p. 52].

46. Given existing air quality in the area^{of} the proposed facility, emissions from the resource recovery facility are not expected to cause or contribute to a violation of an AAQS. [DER Exhibit 2, pp. 52-53].

47. SO₂, NO_x, and HCl are identified precursors to possible acid formation and subsequent acidic rain. [DER Exhibit 2, p. 54].

48. A de minimus ambient impact level has been defined for fluorides, beryllium, and mercury. The proposed facility is not expected to exceed the de minimus level for these three non-criteria pollutants. [DER Exhibit 2, p. 55].

49. PSD requirements also require the use of Best Available Control Technology ("BACT"). A determination of BACT requires an analysis of the energy, environmental, and economic impacts of the proposed facility. BACT was determined for PM, SO₂, NO_x, CO, F, Sulfuric Acid Mists, Lead, Mercury, Beryllium, VOC, and Visible Emissions.

50. The Department and the Applicant differ on what constitutes BACT for PM, SO₂, Pb, F, and Sulfuric Acid Mists.

51. The installation of a Baghouse to control particulate emissions and lead has been determined to represent BACT.

52. The use of flue gas control equipment, specifically dry scrubbers, to control SO₂, F, Sulfuric Acid Mists, and HCl emissions has been determined to represent BACT for these emissions.

53. In determining BACT for acid gas control, and particulate and heavy metal control, the capital and annual costs of utilizing a baghouse/dry scrubber system are set forth below:

Dry Scrubber/Baghouse

Capital Cost \$13,000,000.00

Annual Cost \$ 4,147,100.00

Resulting Emission Rates

Particulate Matter: 0.01 GR/DSCF
(corrected to 12% CO₂)

Acid Gas Reduction:

HF	95%
SO ₂	70%
HCl	90%

Heavy Metal Reduction: 99%

Cost per ton of refuse burned: \$4.38

[DER Exhibit 1; T. 1334-1339]

54. The State of Connecticut has certified a scrubber/baghouse system as BACT for the Mid-Connecticut facility.

55. ~~The~~ ^{The} cost of controlling SO₂ and HCl emissions alone is estimated at \$1,050 per ton of pollutant removed. This is less than the 1978 EPA guideline of \$2,000 per ton. [T. 1605-1606].

56. The South Florida Water Management District has filed its report as required by Section 403.507(1)(a), Florida Statutes, and that report does not object to certification of this site subject to certain conditions which are proposed to be adopted as conditions of certification. [DER Exhibit 2, and jointly filed Conditions of Certification.].

57. The Department of Community Affairs has filed its report as required by Section 403.507(1)(a), Florida Statutes, and that report concludes that the proposed project is compatible with the state comprehensive plan. [DER Exhibit 2].

58. The State of Florida Department of Environmental Regulation has filed its report as required by Section 403.507(2), Florida Statutes, and has recommended certification of the proposed facility subject to the proposed conditions of certification. [DER Exhibit 2; Jointly filed Conditions of Certification with Exhibit B.].

CONCLUSIONS OF LAW

1. The Division of Administrative Hearings has jurisdiction, and this proceeding was heard pursuant to the Florida Electrical Power Plant Siting Act, Chapter 403, Part II, Florida Statutes, and Chapter 17-17, Florida Administrative Code, to consider the subject application for site certification.

2. Notice, in accordance with Chapters 120 and 403, Florida Statutes, and Chapter 17-17, Florida Administrative Code, has been given to all persons and parties entitled thereto, as well as to the general public.

3. The record of this proceeding consists of all pleadings and papers filed herein, including the site certification application the transcripts of all hearings, all orders entered by the Hearing Officer, and evidence and exhibits properly admitted into the record.

4. The purpose of the site certification hearing was to receive testimony and evidence concerning whether the location and operation of the proposed facility will produce minimal effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and aquatic life, and balance fully the increasing demand for electric power plant location and operation with the above environmental effects. Section 403.502, Florida Statutes, and the Florida

Chapter of the Sierra Club v. Orlando Utilities Commission, 436 So.2d 383, 385 (Fla. 5th DCA 1983):

5. The air quality issues are governed by regulations contained in Chapter 17-2, Florida Administrative Code, and in Chapter 40 of the Code of Federal Regulations.

6. All necessary and required governmental agencies were parties to this proceeding, and all required reports and studies were completed and presented to the Department of Environmental Regulation. These include the report of the Department of Community Affairs as to the compatibility of the proposed resource recovery facility with the State Comprehensive Plan, Section 403.507(1)(a), Florida Statutes; the Florida Public Service Commissions report as to the present and future need for electrical generating capacity to be supplied by the proposed facility, Section 403.507(1)(d), Florida Statutes; and the report of the South Florida Water Management District as to the impact of the proposed facility on water resources, Section 403.507(1)(c), Florida Statutes. The record further establishes that the Department of Environmental Regulation conducted or contracted for the enumerated studies required by Section 403.507(2), Florida Statutes, and completed its report and recommendations with respect thereto. The Department of Environmental Regulation recommends certification of the proposed resource recovery facility subject to its recommended conditions of certification, which with the exception of the Air Emission Limitations, have been accepted by the applicant.

7. The oral and documentary evidence adduced at the certification hearing demonstrate that the construction and operational safeguards for the proposed resource recovery facility are technically sufficient for the welfare and protection of the citizens of Florida. If performed in accordance with the recommended conditions of certification, the construction, operation and location of the proposed resource recovery facility are expected to produce minimal adverse effects on human health, the environment, the ecology of land and its

wildlife, and the ecology of state waters and their aquatic life. Certification incorporating the conditions proposed by the Department is consistent with the premise of abundant, low-cost electrical energy and is a reasonable balance between those environmental impacts which will occur and the recognized need for the proposed resource recovery facility's electrical generating capacity.

8. The construction and operation of the resource recovery facility ^{at the} proposed site is compatible with the applicable provisions of the Florida State Comprehensive Plan.

9. The construction and operation of the resource recovery facility at the proposed site will comply with applicable statutes, rules, regulations and other criteria of the South Florida Water Management District, as set forth in Chapter 373, Florida Statutes, Chapter 40E, Florida Administrative Code, and the conditions for certification proposed by the District.

10. Non-attainment review is required for all non-attainment pollutants which have the potential to emit 100 tons per year or more of the affected pollutants, Florida Administrative Code Rule 17-2.510(4). Non-attainment review includes a determination of Lowest Achievable Emission Rate (LAER), and the obtaining of emission offsets.

11. As the proposed facility will emit less than 100 tons of ^{volatile organic compounds, the precursor of} the non-attainment pollutant ozone, the facility does not have to undergo non-attainment review, including a determination of LAER.

12. The proposed facility is subject to the provisions of the federal New Source Performance Standards, 40 CFR 60, Subpart E, for incinerators. These rules require that any standard required by BACT shall be at least as stringent as an applicable New Source Performance Standard.

13. The proposed facility is subject to the provisions of Rule 17-2.620(2), Florida Administrative Code, which states that no person shall cause, suffer, allow or permit the discharge of

air pollutants which cause or contribute to an objectionable odor.

14. Rule 17-2.500(2)(f)3, Florida Administrative Code, requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in Table 500-2, Regulated Air Pollutants.

15. The emissions proposed by the County for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, *Volatile Organic Compounds*, Fluorides, Beryllium, Mercury, Arsenic, and Sulfuric Acid Mist exceed the significant emission rates for Regulated Air Pollutants contained in Florida Administrative Code Rule 17-2.500, Table 500-2.

16. The applicant and the Department of Environmental Regulation differ over what constitutes BACT for the proposed facility's air emissions. I have carefully considered the evidence and conclude that the emission limits proposed by the Department, with the appropriate technology for achieving such, constitutes BACT.

17. BACT is defined as:

an emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, system and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant. Rule 17-2.100(22), Florida Administrative Code. (E.S.)

18. Section 17-2.630, Florida Administrative Code, requires the Department give consideration to four areas when making a determination of Best Available Control Technology (BACT). Those four areas that must be considered include:

(a) Any EPA determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 or 40 CFR Part 61. In no event shall application of BACT result in

emissions of any pollutant which would exceed the emissions allowed under 40 CFR Parts 60 or 61.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

19. The Department gave ^{due} ~~considered~~ ^{attention} ~~all~~ ^{and balanced} required factors when understaking the BACT determination for the proposed project.

20. The applicant disputes the BACT determination completed by the Department for Particulate Matter, ~~Sulfur~~ Sulfur Dioxide, Lead, Fluoride, and Sulfuric Acid Mist. I have considered carefully the evidence and conclude that the emission limitations for these pollutants proposed by Department constitute BACT. The control technology proposed by the applicant, that being ^{only} an Electrostatic Precipitator, does not constitute BACT.

21. The department's determination of BACT is further justified when the facility's proposed emissions of HCl are considered. Although the Department does not have an emission-limiting standard for HCl emissions from MSW incinerators, testimony and evidence adduced as the final hearing establish conclusively that the facility will be a major source of HCl emissions, HCl emissions have the potential to create adverse environmental impacts, and that the control technology proposed by the applicant will not provide control for HCl emissions. As required by the holding in McDonald v. Department of Banking and Finance, 346 So.2d 569 (Fla. 1st DCA 1977), the Department has the authority to protect and enhance the air quality of Florida, and appropriately defended [?] ite emerging policy of regulating HCl Emissions from MSW incinerators at the final hearing.

22. The air quality impact analysis required by the PSD regulations for the proposed facility included an analysis of

existing air quality; a PSD increment analysis for SO₂ and PM only; an AAQS analysis; an analysis of impacts on soils, vegetation, and rain, and growth-related air quality impacts; and a "Good Engineering Practice" stack height determination.

23. In 1978, E.P.A. published a N.S.P.S. guideline for reasonableness of cost that suggested that costs up to \$2,000 per ton of pollutant control was reasonable. [T. 1605, 1811]. This guideline has not been revised since it was promulgated, and while it still has some value as a comparative guideline, I do not consider it conclusive on the question of costs per ton of pollutant removed.

RECOMMENDED ORDER

Based upon the entire record of this proceeding and the above findings of fact and conclusions of law,

IT IS RECOMMENDED THAT:

1. South Broward Resource Recovery Facility Project, Inc., be granted certification pursuant to Chapter 403, Part II, Florida Statutes, for the location, construction, and operation of the proposed resource recovery facility, as proposed in the application and evidence of record;

2. Certification be subject to the Conditions of Certification, including the Air Emission Limitations proposed by the Department, and which are attached to this Recommended Order as Appendix I.

Respectfully submitted and entered this ____ day of April, 1986, in Tallahassee, Florida.

WILLIAM J. KENDRICK
Hearing Officer

Division of Administrative Hearings
The Oakland Building
2009 Apalachee Parkway
Tallahassee, Florida 32301
Telephone: (904) 488-9675

Filed with the Clerk of the
Division of Administrative Hearings
this ____ day of April, 1986, in
Tallahassee, Florida.

Copies furnished:

See attached page

BEFORE THE STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE:)
)
SOUTH BROWARD COUNTY RESOURCE)
RECOVERY PROJECT, POWER PLANT) DOAH Case No.: 85-1106
SITING CERTIFICATION) 85-1116
APPLICATION PA 85-21) OGC File No.: 85-0357
)
)

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION'S
PROPOSED FINDINGS OF FACT, PROPOSED CONCLUSIONS
OF LAW AND PROPOSED RECOMMENDED ORDER

Pursuant to Section 120.57(1)(b)4., Florida Statutes, and Florida Administrative Code Rule 28-5.401 and 22I-6.31, the State of Florida Department of Environmental Regulation, Department submits within the allowed time this, its Proposed Recommended Order, which includes Proposed Findings of Fact and Proposed Conclusions of Law.

Recommended Order

Pursuant to Notice, the Division of Administrative Hearings, by its duly designated Hearing Officer, William J. Kendrick, held a public hearing in the above-styled case November 12-15, and 18-22, 1985, in Davie, Florida.

Appearances

For the Applicant:	Clifford A. Schulman, Esquire Timothy A. Smith, Esquire Kerri L. Barsh, Esquire Greenberg, Traurig, Askew, Hoffman, Lipoff, Rosen & Quentel, P.A. 1401 Brickell Avenue, 7th Floor Miami, Florida 33131
For the Department of Environmental Regulation:	Julia D. Cobb, Esquire Richard Tucker, Certified Legal Intern Department of Environmental Regulation Twin Towers Office Building 2600 Blair Stone Road Tallahassee, Florida 32301
For the Department of Community Affairs:	David L. Jordan, Esquire Department of Community Affairs 2751 Executive Center Circle, East Tallahassee, Florida 32301

For South Florida Water
Management District:

Elizabeth D. Ross, Esquire
Irene Kennedy Quincey, Esquire
South Florida Water Management
District
3301 Gun Club Road
West Palm Beach, Florida 33402

For South Broward
Citizens For a Better
Environment, Inc.:

J. Robert Miertschin, Jr., Esquire
2801 Ponce de Leon Boulevard
Suite 250
Coral Gables, Florida 33134
and
Frank A. Kreidler, Esquire
521 Lake Avenue, Suite 3
Lake Worth, Florida 33460

For Florida Audubon
Society and Broward
County Audubon Society:

Charles Lee,
Senior Vice President
Florida Audubon Society
1101 Audubon Way
Maitland, Florida 32751

Preliminary Statement

On April 8, 1985, the South Broward County Resource Recovery Project, Inc., on behalf of the Broward County Board of County Commissioners, filed with the Department of Environmental Regulation its application for Power Plant Site Certification of the proposed resource recovery facility and landfill.

A land use hearing was held on August 20, 1985, and the Governor and Cabinet, sitting as the Siting Board pursuant to Chapter 403, Part II, Florida Statutes, entered an Order on October 15, 1985, concluding that the proposed site is consistent with the existing land use plans and zoning ordinances.

On June 4, 1985, the Public Service Commission issued its Consummating Order, numbered 14435, which adopted the proposed agency action contained in PSC Order No. 14357. This act effectively certified the present and future need for the electrical generating capacity to be supplied by the proposed resource recovery facility as required by Section 403.507(1)(b), Florida Statutes.

Prior to the certification hearing, the Department limited its objection to the project to the issue of whether the air pollution control technology proposed by the applicant constituted Best Available Control Technology (BACT). Accordingly, the Department presented testimony and evidence

limited to this issue. One Department witness was called to address dredge and fill implications of the project.

At the site certification hearing, the Department presented testimony of eight witnesses, and its Exhibits 1-4, and 6-20 were received into evidence. The witnesses presented by the Department were: Hamilton J. Oven, Jr., accepted as an expert in the areas of processing and reviewing power plant siting certification applications, and the applicability of the Department's rules and standards to power plant siting certification applications, [T.1456]; Mr. Larry O'Donnell, accepted as an expert in the evaluation of dredge and fill applications, the impact of dredge and fill on biological resources, and the impact of dredge and fill on DER water quality standards, [T.1534]; Mr. Ed Svec, accepted as an expert in the review and analysis of air pollution sources for compliance with the Department's rules and regulations, [T.1754]; Mr. Barry Andrews, accepted as an expert in the review and analysis of stationary air pollution sources for compliance with state and federal regulations, and the review and evaluation of air pollution control technologies and strategies [T.1567-1571]; Mr. Tom Rogers, accepted as an expert in meteorology, including air quality impact analysis and air quality modeling [T.1761]; Dr. Aaron J. Teller, accepted as an expert in chemical engineering, with emphasis on design efficiency, reliability, and cost of air pollution control technology [T.1328-1334]; Mr. Jack Lauber, P.E., accepted as an expert in Best Available Control Technology ("BACT") for control of toxic air contaminants from municipal solid waste resource recovery incineration systems [T.1652-1658]; and Mr. Clair Fancy, accepted as an expert in air pollution control technology, and the review and analyses of air pollution sources for compliance with state and federal regulations [T.1780-1786].

The applicant presented testimony of thirteen witnesses concerning the proposed air emissions, their impacts, and the

type and cost of air pollution control equipment it believed appropriate for the proposed facility.

No other party produced any witnesses nor introduced any evidence concerning the air issues in dispute between the applicant and the Department.

Two sessions of the certification hearing were devoted to allowing the public an opportunity to present testimony and evidence either for or against the proposed facility. These sessions were held on November 19 and 21, 1985. As necessary for such evidence or testimony to be considered in this proceedings, all witnesses were placed under oath and subject to cross-examination.

Having considered all testimony and evidence properly admitted, having heard argument of counsel and being otherwise fully advised herein, the following Findings of Fact, Conclusions of Law, and Recommended Order are entered.

Findings of Fact

1. Broward County proposes to construct a resource recovery facility near Ft. Lauderdale, Florida. The facility will consist of three mass burn incinerators, which combined will have the capacity to incinerate 2,250 tons per day (TPD).

2. The applicant has estimated maximum annual emissions for the air pollutants that the facility will emit based on operation of the boilers at 115% of their rated nameplate capacity, 24 hours a day, 365 days each year.

3. Each incinerator unit will have an approximate heat input of 281×10^6 Btu heat input per hour.

4. The pollutants the applicant proposes to emit for which the Department has standards include Particulate Matter (PM), Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Lead (Pb), Beryllium (Be), Mercury (Hg), Arsenic (As), Fluorides (F), Ozone (O₃), and Sulfuric Acid Mist.

5. Other pollutants which will be emitted by the facility, but for which the Department does not have emission-limiting standards, include Hydrogen Chloride (HCl), Dioxins, and Furans.

6. The optimal temperature that the incinerator will operate at will be at or above 1800°F, and the residence time of the flue gas in the boilers will be one second. [T.810-815.]

7. Broward County is designated a non-attainment area for the pollutant ozone. Volatile Organic Compounds (VOC) are the regulated pollutant for ozone.

8. The proposed controlled emission rate of VOC for the proposed facility is 56.7 tons per year. Therefore, the applicant did not have to undergo a determination of Lowest Achievable Emission Rates (LAER) for VOC's.

9. For all other pollutants for which standards exist, the county is designated attainment.

(23)
(xx) }
10. The Environmental Protection Agency presently requires hazardous waste incinerators emitting more than four (4) pounds of HCl per hour to achieve removal efficiency of up to 99%. A minimum of 99% removal efficiency is required when removal at 99% will not reduce emissions to four pounds per hour.

11. The facility proposed to emit HCl, ^{uncontrolled} at 5252 tons per year. With 90% control as proposed by the Department, the facility will emit 120 pounds per hour, or 525 tons per year.

12. The release of HCl gas from the combustion of polyvinyl chloride (PVC) plastics is a major contributor to HCl emissions from MSW incinerators.

13. The plastics content of refuse varies from load to load, city to city. However, due to the large number of people who visit Broward County for vacation purposes, it is reasonable to expect a high percentage of plastics in the county's solid waste.

14. The plastics content of refuse was the subject of an EPA sponsored study in 1968. The study indicated that a 300-400% increase in plastics in refuse between the years 1968 and 2000 could be expected.

15. Flue gas controls are the most conventional means of reducing HCl, ^{fluorides and sulfuric acid mist} emissions from MSW incinerators. ESP's do not provide any control of acid gases or HCl emissions.

16. The applicant indicated at the hearing that it had amended its proposed emission of lead from 0.27 lbs. per unit ton of MSW charged, to 0.030 lbs./MBtu.

17. Prior to the hearing the Department was advised orally by the applicant that its proposed lead emission was incorrect by a factor of 10. However, the applicant never amended its application formally, nor did it provide the Department with any justification for the revised emission.

18. Even with the applicant's revised emission for lead, the amount greatly exceeds the Significant Emission Rate of 0.6 tons per year listed in Florida Administrative Code Rule 17-2.500, Table 500-2.

19. High removal efficiencies for metallic compounds emitted from MSW incinerators require operation of the particulate control equipment at temperatures below 500°F, and consistently efficient removal of submicron fly ash particles.

20. The flue gas temperature at the inlet of the proposed facility's particulate control device is estimated to be 425-475°F.

21. Electrostatic precipitators are less efficient than filter systems (baghouses) for removing particulate matter in the submicron-sized particle range.

22. Metallic compounds, including lead, adsorb and condense onto submicron-sized particles when flue gas temperatures are lowered below 500°F.

23. The facility proposes to emit ^{the acid gas} Fluorides, uncontrolled, at the rate of .018 tons/MBtu or 22.15 TPY. The Significant Emission Rate for Fluorides listed in Florida Administrative Code Rule 17-2.500, Table 500-2, is three (3) tons per year.

24. Broward County is designated a non-attainment area for the pollutant ozone.

(X) The facility proposes to emit Sulfuric Acid Mist, uncontrolled at a rate of 0.047 lb/MMBtu or 200 tons per year. The Significant Emission rate for Sulfuric Acid Mist listed in FAC Rule 17-2.500 Table 500-2 is seven (7) tons per year.

25. For all other pollutants for which standards exist, the county is designated attainment.

26. The emissions proposed by the County for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Beryllium, Mercury, Arsenic, and Sulfuric Acid Mist are higher than the Significant Emission Rates for Regulated Air Pollutants contained in Florida Administrative Code 17-2.500, Table 500-2.

27. Applicable rules and regulations require an analysis of compliance with applicable air quality standards. These standards include ambient air quality standards ("AAQS") and prevention of significant deterioration ("PSD") requirements.

28. Computer modeling techniques are used to determine compliance with applicable standards.

29. Air quality impacts from a proposed facility depend on a number of factors, including meteorological conditions (such as the ambient temperature, wind speed and direction, and the turbulence of the atmosphere) and the physical parameters of the proposed emission source, such as the dimensions of the stack (including its height and diameter) and the temperature of the stack gas.

30. When determining the effect of emissions from a proposed source on an area other than the immediate area, the geographical proximity of the proposed source to the impacted area is also a key factor.

31. Using these factors, computer models predict the impact of air pollutant emissions on the concentration of a pollutant at the ground level at a certain point.

32. PSD review requires an analysis of the proposed facility's impact on a Class-I area within 100 kilometers of the facility. [T. 1764]

33. The U.S. Department of Interior, National Park Service, determined that the proposed facility would not significantly impact the Everglades National Park. [T. 1765]

34. The U.S. Department of Interior, National Park Service, agreed with the Florida Department of Environmental Regulation's BACT determination that dry scrubbers and a baghouse constituted Best Available Control Technology for the proposed facility. [DER Exhibit 4].

35. Due to the dimensions of the proposed stack and building, aerodynamic downwash could increase emission concentrations in the location of the facility. [T. 1771].

36. The proposed facility's stack is 4.6 meters below the allowed good engineering practices stack height of 65 meters.

37. An acid gas scrubber would lower the temperature of the flue gas, which would result in a lower plume height. [T. 1776-1777].

38. Although a lower plume height would result in deposition closer to the facility and less opportunity for dispersion of pollutants, a scrubber would reduce the amount of emissions coming out of the facility, and reduce the ambient concentrations of those emissions. [T. 1779].

39. The modeling analysis predicts that no ambient air quality standards will be exceeded for the criteria pollutants PM, SO₂, CO, NO_x, and Pb, based on the emission rates proposed by the Applicant or the Department. [T. 1767].

40. For the proposed facility, PSD review is required for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Sulfuric Acid Mist, Beryllium, and Mercury. [DER Exhibit 2, page 48].

41. PSD rules provide that a proposed source cannot result in emissions which, when considered with all other sources required to be included in the analysis, will exceed certain "increments" over the existing ambient air quality (or "baseline concentrations") established as of a certain date (in this case December, 1977). [DER Exhibit 2, page 52].

42. The proposed facility is within an area designated as Class **II**. [DER Exhibit 2, page 52].

43. A Class I area, the Everglades National Park, is located within 57 kilometers of the proposed facility.

44. Impact analysis indicated that the proposed facility would have a less than significant impact on the Class I area.

45. Although the proposed facility's emissions of SO₂ and PM are the only significant source in the area that will consume PSD increment, atmospheric dispersion modeling indicates that the concentration increases are within the allowable amounts. [DER Exhibit 2, p. 52].

46. Given existing air quality in the area^{of} the proposed facility, emissions from the resource recovery facility are not expected to cause or contribute to a violation of an AAQS. [DER Exhibit 2, pp. 52-53].

More to acid gas discussion

47. SO₂, NO_x, and HCl are identified precursors to possible acid formation and subsequent acidic rain. [DER Exhibit 2, p. 54].

48. A de minimus ambient impact level has been defined for fluorides, beryllium, and mercury. The proposed facility is not expected to exceed the de minimus level for these three non-criteria pollutants. [DER Exhibit 2, p. 55].

49. PSD requirements also require the use of Best Available Control Technology ("BACT"). A determination of BACT requires an analysis of the energy, environmental, and economic impacts of the proposed facility. BACT was determined for PM, SO₂, NO_x, CO, F, Sulfuric Acid Mists, Lead, Mercury, Beryllium, VOC, and Visible Emissions.

50. The Department and the Applicant differ on what constitutes BACT for PM, SO₂, Pb, F, and Sulfuric Acid Mists.

51. The installation of a Baghouse to control particulate emissions and lead has been determined to represent BACT.

52. The use of flue gas control equipment, specifically dry scrubbers, to control SO₂, F, Sulfuric Acid Mists, and HCl emissions has been determined to represent BACT for these emissions.

53. In determining BACT for acid gas control, and particulate and heavy metal control, the capital and annual costs of utilizing a baghouse/dry scrubber system are set forth below:

Dry Scrubber/Baghouse

Capital Cost \$13,000,000.00

Annual Cost \$ 4,147,100.00

Resulting Emission Rates

Particulate Matter: 0.01 GR/DSCF

(corrected to 12% CO₂)

Acid Gas Reduction:

HF 95%

SO₂ 70%

HCl 90%

Heavy Metal Reduction: 99%

Cost per ton of refuse burned: \$4.38

[DER Exhibit 1; T. 1334-1339]

54. The State of Connecticut has certified a scrubber/baghouse system as BACT for the Mid-Connecticut facility.

55. ~~The~~ ^{The} cost of controlling SO₂ and HCl emissions alone is estimated at \$1,050 per ton of pollutant removed. This is less than the 1978 EPA guideline of \$2,000 per ton. [T. 1605-1606].

56. The South Florida Water Management District has filed its report as required by Section 403.507(1)(a), Florida Statutes, and that report does not object to certification of this site subject to certain conditions which are proposed to be adopted as conditions of certification. [DER Exhibit 2, and jointly filed Conditions of Certification.].

57. The Department of Community Affairs has filed its report as required by Section 403.507(1)(a), Florida Statutes, and that report concludes that the proposed project is compatible with the state comprehensive plan. [DER Exhibit 2].

58. The State of Florida Department of Environmental Regulation has filed its report as required by Section 403.507(2), Florida Statutes, and has recommended certification of the proposed facility subject to the proposed conditions of certification. [DER Exhibit 2; Jointly filed Conditions of Certification with Exhibit B.].

CONCLUSIONS OF LAW

1. The Division of Administrative Hearings has jurisdiction, and this proceeding was heard pursuant to the Florida Electrical Power Plant Siting Act, Chapter 403, Part II, Florida Statutes, and Chapter 17-17, Florida Administrative Code, to consider the subject application for site certification.

2. Notice, in accordance with Chapters 120 and 403, Florida Statutes, and Chapter 17-17, Florida Administrative Code, has been given to all persons and parties entitled thereto, as well as to the general public.

3. The record of this proceeding consists of all pleadings and papers filed herein, including the site certification application the transcripts of all hearings, all orders entered by the Hearing Officer, and evidence and exhibits properly admitted into the record.

4. The purpose of the site certification hearing was to receive testimony and evidence concerning whether the location and operation of the proposed facility will produce minimal effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and aquatic life, and balance fully the increasing demand for electric power plant location and operation with the above environmental effects. Section 403.502, Florida Statutes, and the Florida

Chapter of the Sierra Club v. Orlando Utilities Commission, 436 So.2d 383, 385 (Fla. 5th DCA 1983):

5. The air quality issues are governed by regulations contained in Chapter 17-2, Florida Administrative Code, and in Chapter 40 of the Code of Federal Regulations.

6. All necessary and required governmental agencies were parties to this proceeding, and all required reports and studies were completed and presented to the Department of Environmental Regulation. These include the report of the Department of Community Affairs as to the compatibility of the proposed resource recovery facility with the State Comprehensive Plan, Section 403.507(1)(a), Florida Statutes; the Florida Public Service Commissions report as to the present and future need for electrical generating capacity to be supplied by the proposed facility, Section 403.507(1)(d), Florida Statutes; and the report of the South Florida Water Management District as to the impact of the proposed facility on water resources, Section 403.507(1)(c), Florida Statutes. The record further establishes that the Department of Environmental Regulation conducted or contracted for the enumerated studies required by Section 403.507(2), Florida Statutes, and completed its report and recommendations with respect thereto. The Department of Environmental Regulation recommends certification of the proposed resource recovery facility subject to its recommended conditions of certification, which with the exception of the Air Emission Limitations, have been accepted by the applicant.

7. The oral and documentary evidence adduced at the certification hearing demonstrate that the construction and operational safeguards for the proposed resource recovery facility are technically sufficient for the welfare and protection of the citizens of Florida. If performed in accordance with the recommended conditions of certification, the construction, operation and location of the proposed resource recovery facility are expected to produce minimal adverse effects on human health, the environment, the ecology of land and its

wildlife, and the ecology of state waters and their aquatic life. Certification incorporating the conditions proposed by the Department is consistent with the premise of abundant, low-cost electrical energy and is a reasonable balance between those environmental impacts which will occur and the recognized need for the proposed resource recovery facility's electrical generating capacity.

8. The construction and operation of the resource recovery facility ^{at the} proposed site is compatible with the applicable provisions of the Florida State Comprehensive Plan. <

9. The construction and operation of the resource recovery facility at the proposed site will comply with applicable statutes, rules, regulations and other criteria of the South Florida Water Management District, as set forth in Chapter 373, Florida Statutes, Chapter 40E, Florida Administrative Code, and the conditions for certification proposed by the District.

10. Non-attainment review is required for all non-attainment pollutants which have the potential to emit 100 tons per year or more of the affected pollutants, Florida Administrative Code Rule 17-2.510(4). Non-attainment review includes a determination of Lowest Achievable Emission Rate (LAER), and the obtaining of emission offsets.

11. As the proposed facility will emit less than 100 tons of the non-attainment pollutant ozone, the facility does not have to undergo non-attainment review, including a determination of LAER.

12. The proposed facility is subject to the provisions of the federal New Source Performance Standards, 40 CFR 60, Subpart E, for incinerators. These rules require that any standard required by BACT shall be at least as stringent as an applicable New Source Performance Standard.

13. The proposed facility is subject to the provisions of Rule 17-2.620(2), Florida Administrative Code, which states that no person shall cause, suffer, allow or permit the discharge of

air pollutants which cause or contribute to an objectionable odor.

14. Rule 17-2.500(2)(f)3, Florida Administrative Code, requires a BACT review for all regulated pollutants emitted in an amount equal to or greater than the significant emission rates listed in Table 500-2, Regulated Air Pollutants.

15. The emissions proposed by the County for Particulate Matter, Sulfur Dioxide, Nitrogen Oxides, Carbon Monoxide, Lead, Fluorides, Beryllium, Mercury, Arsenic, and Sulfuric Acid Mist exceed the significant emission rates for Regulated Air Pollutants contained in Florida Administrative Code Rule 17-2.500, Table 500-2.

16. The applicant and the Department of Environmental Regulation differ over what constitutes BACT for the proposed facility's air emissions. I have carefully considered the evidence and conclude that the emission limits proposed by the Department, with the appropriate technology for achieving such, constitutes BACT.

17. BACT is defined as:

an emission limitation, including a visible emissions standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, system and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of each such pollutant. Rule 17-2.100(22), Florida Administrative Code. (E.S.)

18. Section 17-2.630, Florida Administrative Code, requires the Department give consideration to four areas when making a determination of Best Available Control Technology (BACT). Those four areas that must be considered include:

(a) Any EPA determination of BACT pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 or 40 CFR Part 61. In no event shall application of BACT result in

emissions of any pollutant which would exceed the emissions allowed under 40 CFR Parts 60 or 61.

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

19. The Department gave ^{due} consideration ^{and balanced} all required factors when understaking the BACT determination for the proposed project. <

20. The applicant disputes the BACT determination completed by the Department for Particulate Matter, Suulfur Dioxide, Lead, Fluoride, and Sulfuric Acid Mist. I have considered carefully the evidence and conclude that the emission limitations for these pollutants proposed by Department constitute BACT. The control technology proposed by the applicant, that being an Electrostatic Precipitator, does not constitute BACT. <

21. The department's determination of BACT is further justified when the facility's proposed emissions of HCl are considered. Although the Department does not have an emission-limiting standard for HCl emissions from MSW incinerators, testimony and evidence adduced as the final hearing establish conclusively that the facility will be a major source of HCl emissions, HCl emissions have the potential to create adverse environmental impacts, and that the control technology proposed by the applicant will not provide control for HCl emissions. As required by the holding in McDonald v. Department of Banking and Finance, 346 So.2d 569 (Fla. 1st DCA 1977), the Department has the authority to protect and enhance the air quality of Florida, and appropriately defended its emerging policy of regulating HCl Emissions from MSW incinerators at the final hearing.

22. The air quality impact analysis required by the PSD regulations for the proposed facility included an analysis of

existing air quality; a PSD increment analysis for SO₂ and PM only; an AAQS analysis; an analysis of impacts on soils, vegetation, and rain, and growth-related air quality impacts; and a "Good Engineering Practice" stack height determination.

23. In 1978, E.P.A. published a N.S.P.S. guideline for reasonableness of cost that suggested that costs up to \$2,000 per ton of pollutant control was reasonable. [T. 1605, 1811]. This guideline has not been revised since it was promulgated, and while it still has some value as a comparative guideline, I do not consider it conclusive on the question of costs per ton of pollutant removed.

RECOMMENDED ORDER

Based upon the entire record of this proceeding and the above findings of fact and conclusions of law,

IT IS RECOMMENDED THAT:

1. South Broward Resource Recovery Facility Project, Inc., be granted certification pursuant to Chapter 403, Part II, Florida Statutes, for the location, construction, and operation of the proposed resource recovery facility, as proposed in the application and evidence of record;

2. Certification be subject to the conditions of Certification, including the Air Emission Limitations proposed by the Department, and which are attached to this Recommended Order as Appendix I.

Respectfully submitted and entered this ____ day of April, 1986, in Tallahassee, Florida.

WILLIAM J. KENDRICK
Hearing Officer

Division of Administrative Hearings
The Oakland Building
209 Apalachee Parkway
Tallahassee, Florida 32301
Telephone: (904) 488-9675

Filed with the Clerk of the
Division of Administrative Hearings
this ____ day of April, 1986, in
Tallahassee, Florida.

Copies furnished:

See attached page