



# United States Department of the Interior

## NATIONAL PARK SERVICE SOUTHEAST REGIONAL OFFICE

75 Spring Street, S.W.  
Atlanta, Georgia 30303

IN REPLY REFER TO:

N3615(SER-OPS)

MAR 4 1986

DER

MAR 7 1986

BAQM

Mr. Bill Thomas  
Bureau of Air Quality Management  
Department of Environmental Regulation  
State of Florida  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301-8241

Dear Mr. Thomas:

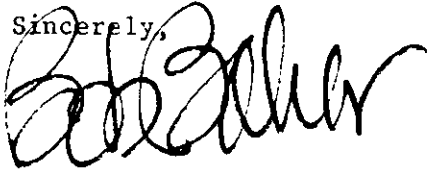
Thank you for sending us a copy of the Collier County Solid Waste Energy Recovery Facility (units 1 and 2) permit application, preliminary determination and draft permit. The proposed resource recovery facility would be approximately 35 km northwest of Everglades National Park and 35 km west of Big Cypress National Preserve and is a potential source of air pollution that could affect the park and/or preserve. Your notification of this project is appreciated; however, for future PSD permit applications, we request that we be provided an opportunity to review the application before a draft permit is written. We also ask that the Department of Environmental Regulation provide us with a written response to our comments, as well as a copy of the final permit.

We recommend that this permit not be issued as drafted because the emission limitations do not represent best available control technology (BACT). In addition, there is not sufficient information provided in the application to determine the effect (if any) on sensitive resources of Everglades National Park and Big Cypress National Preserve. We recommend that the emission limitations in the draft permit be modified to reflect BACT as discussed in the enclosed technical review document and that the applicant address impacts of criteria and non-criteria pollutants on the air quality related values at Everglades National Park and Big Cypress National Preserve prior to permit issuance.

We have several comments regarding the control technology, air quality and air quality related values analyses contained in the application and also comments regarding the draft permit conditions. These comments are discussed in the enclosed technical review document.

If you have any questions regarding the enclosed comments, please contact Miguel Flores of our Air Quality Division in Denver at (303) 236-8765.

Sincerely,



Regional Director  
Southeast Region

Enclosures

*Bill -*

*Ed, Barry &  
Max copied  
Please return  
for file*



# United States Department of the Interior

## NATIONAL PARK SERVICE SOUTHEAST REGIONAL OFFICE

75 Spring Street, S.W.  
Atlanta, Georgia 30303

IN REPLY REFER TO:

WS615(SER-OPS)

MAR 4 1986

DER

MAR 7 1986

BAQM

Mr. Bill Thomas  
Bureau of Air Quality Management  
Department of Environmental Regulation  
State of Florida  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32301-8241

Dear Mr. Thomas:

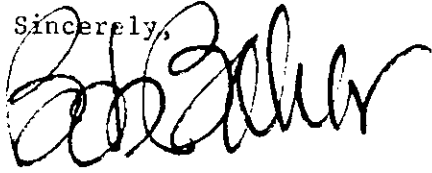
Thank you for sending us a copy of the Collier County Solid Waste Energy Recovery Facility (units 1 and 2) permit application, preliminary determination and draft permit. The proposed resource recovery facility would be approximately 35 km northwest of Everglades National Park and 35 km west of Big Cypress National Preserve and is a potential source of air pollution that could affect the park and/or preserve. Your notification of this project is appreciated; however, for future PSD permit applications, we request that we be provided an opportunity to review the application before a draft permit is written. We also ask that the Department of Environmental Regulation provide us with a written response to our comments, as well as a copy of the final permit.

We recommend that this permit not be issued as drafted because the emission limitations do not represent best available control technology (BACT). In addition, there is not sufficient information provided in the application to determine the effect (if any) on sensitive resources of Everglades National Park and Big Cypress National Preserve. We recommend that the emission limitations in the draft permit be modified to reflect BACT as discussed in the enclosed technical review document and that the applicant address impacts of criteria and non-criteria pollutants on the air quality related values at Everglades National Park and Big Cypress National Preserve prior to permit issuance.

We have several comments regarding the control technology, air quality and air quality related values analyses contained in the application and also comments regarding the draft permit conditions. These comments are discussed in the enclosed technical review document.

If you have any questions regarding the enclosed comments, please contact Miguel Flores of our Air Quality Division in Denver at (303) 236-8765.

Sincerely,

A handwritten signature in black ink, appearing to read "Bob Baker". The signature is written in a cursive, flowing style with a large initial "B".

Regional Director  
Southeast Region

Enclosures



# United States Department of the Interior

NATIONAL PARK SERVICE  
AIR QUALITY DIVISION  
P.O. BOX 25287  
DENVER, CO 80225

IN REPLY REFER TO:  
February 24, 1986

N3615 (475)

## Memorandum

To: Regional Director, Southeast Region  
Attention: Air Quality Coordinator

From: Chief, Permit Review and Technical Support Branch,  
Air Quality Division - Denver

Subject: Permit Application for Collier County Solid Waste  
Energy Recovery Facility, Units 1 and 2

The Collier County Board of County Commissioners is proposing to construct and operate a resource recovery facility located at the existing Naples Sanitary Landfill site on State Road 84 near Golden Gate, Collier County, Florida. This location is approximately 35 km northwest of Everglades National Park and 35 km west of Big Cypress National Preserve. The primary purpose of the facility is to dispose of solid waste generated in the area. The project will be a mass-burn facility with two 425 ton per day refuse fired boilers that will each generate approximately 12 megawatts of electricity.

We have reviewed the technical evaluation and preliminary determination for the permit application and, based on the information provided, we can not determine if emissions from the facility will adversely impact the air quality related values of Everglades National Park. Nevertheless, we have several comments regarding the control technology, air quality and air quality related values analyses contained in the application and also comments regarding the draft permit conditions. We are recommending that the permit not be issued as drafted because the emission limitations do not represent best available control technology (BACT). These comments are discussed in the attached technical review document. Also attached is a draft letter that can be used to transmit these comments to the Florida Department of Environmental Regulation. The public comment period for this project ended on February 14, 1986, however, personnel from the Florida Department of Environmental Regulation, the permit granting authority in this case, have informed us that they would consider our comments if received after that date. Thus, our comments should be delivered as soon as possible. If you have any questions regarding this matter, please contact me or Bud Rolofson at (303) 236-8765 (FTS 776-8765).

Miguel I. Flores

Attachment

Technical Review of Permit Application,  
Preliminary Determination and Draft Permit for  
Collier County Solid Waste Energy Recovery Facility,  
Units 1 and 2

The Collier County Board of County Commissioners is proposing to construct a resource recovery facility at the existing Naples Sanitary Landfill site on State Road 84 near Golden Gate, Collier County, Florida. This location is approximately 35 km northwest of Everglades National Park, a Prevention of Significant Deterioration (PSD) class I area, and 35 km west of Big Cypress National Preserve, a PSD class II area, that are administered by the National Park Service (NPS). The purpose of the facility is to dispose of solid waste, tires, and wood waste generated in the immediate area. The project will be a mass-burn facility with two 425 ton per day (TPD) refuse fired boilers that will each generate approximately 12 megawatts of electricity. The emissions from the proposed facility are estimated as follows; 119 tons per year (TPY) of particulate matter (PM), 920 TPY of sulfur dioxide (SO<sub>2</sub>), 1051 TPY of nitrogen oxides (NO<sub>x</sub>), 257 TPY of volatile organic compounds (VOC), 730 TPY of carbon monoxide (CO), 905.3 TPY of hydrogen chloride (HCl), 43.8 TPY of lead (Pb), 33.6 TPY of fluoride (F), 0.0083 TPY of beryllium (Be), 1.9 TPY of mercury (Hg), 1.3 TPY of arsenic (As) and 11.3 TPY of sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>). Under PSD regulations, these emission rates are considered significant for all except hydrogen chloride (which is not a regulated pollutant) and therefore require new source review. Following are our comments on the best available control technology, air quality and air quality related values analyses with respect to the proposed project's impacts on Everglades National Park and Big Cypress National Preserve.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

The major sources of emissions at the proposed facility are the two associated boilers. Therefore, our review will focus on emission controls on these units. Our BACT review for the proposed boilers is similar to the reviews we performed for the proposed Palm Beach County and South Broward County resource recovery facilities. These reviews were submitted to the Florida Department of Environmental Regulation (DER) previously. We again reference the publication entitled, "Air Pollution Control at Resource Recovery Facilities". This document was published in May 1984 by the California Air Resources Board (CARB) and discusses resource recovery facilities in detail. As of 1984, all refuse burning facilities with applications pending in California are proposing control technologies that are the same as, or more stringent than, the guideline emission limits discussed in this report.

For a new major source, a BACT analysis is required for each regulated pollutant emitted in significant amounts. For the proposed facility, the following pollutants will be emitted in significant amounts and require BACT review: PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, Pb, F, Be, Hg, H<sub>2</sub>SO<sub>4</sub>, and As.

## Particulate Matter

Collier County is proposing to use electrostatic precipitators (ESPs) or baghouses to minimize PM emissions generated by combustion of solid waste in the boilers. The PM rate proposed by Collier County is 0.03 grains per dry standard cubic foot (gr/dscf). The rate determined by the DER to be BACT and specified in the draft permits is 0.02 gr/dscf. We agree with the DER that high efficiency control devices such as ESPs or baghouses represent BACT. We also agree that stack testing data for other solid waste incinerators indicate these devices are capable of controlling PM emissions well below the applicant's proposal of 0.03 gr/dscf. In fact, based on information provided in the CARB document mentioned above, an emission limit of 0.01 gr/dscf can be achieved with these devices. This is the guideline emission limit proposed by the CARB for new resource recovery facilities in California and should be considered as the BACT limit for Florida facilities as well. The 0.01 gr/dscf rate is also approximately equivalent to the rate proposed by Penobscot Energy Recovery Company (PERC) in their recent permit application for a resource recovery facility in Orrington, Maine. Therefore, we recommend the PM rate in the draft permit be changed from 0.02 gr/dscf to 0.01 gr/dscf.

## Sulfur Dioxide

Collier County is proposing the firing of low sulfur refuse as BACT for the proposed facility. The DER specified a maximum hourly SO<sub>2</sub> rate of 5.6 pounds per ton (lb/ton) of refuse (2.8 lb/ton for 30 day rolling average). These rates correspond to 0.56 pounds per million Btu (lb/10<sup>6</sup> Btu) and 0.28 lb/10<sup>6</sup> Btu for hourly and 30 day averages, respectively.

The emission guideline recommended in the CARB document is 30 ppm, which corresponds to an SO<sub>2</sub> emission rate of approximately 0.08 lb/10<sup>6</sup> Btu. To achieve this emission level, which is significantly more stringent than that to be required of Collier County, flue gas controls such as wet or dry scrubbing are required. Dry scrubbing processes have been effectively employed at pilot and full-scale refuse burning facilities in Europe, Japan, and the United States. Wet scrubbers have also been employed at full-scale refuse burning facilities. Also, applicants for two resource recovery facilities in Maine recently proposed the use of spray dryer scrubbers to minimize SO<sub>2</sub> and acid gas emissions. The resulting SO<sub>2</sub> emissions from the PERC facility referenced above were estimated to be 0.067 lb/10<sup>6</sup> Btu after the scrubbing. The SO<sub>2</sub> emissions from Regional Waste Systems' (RWS) proposed facility in Portland, Maine, were estimated to be 0.074 lb/10<sup>6</sup> Btu.

The DER indicates that the installation of a flue gas scrubbing system to control SO<sub>2</sub> emissions alone is not warranted when burning municipal solid waste. Therefore, the SO<sub>2</sub> permit limits for the Collier County facility appear to be based on burning of low sulfur refuse. However, in the BACT analysis for acid gas emissions, the DER concludes BACT for control of acid gases is a flue gas scrubber system or similar technology. The DER also indicates that the installation of an acid gas removal system would also provide control for SO<sub>2</sub> emissions. Therefore, because the DER is requiring flue gas scrubbing for control of acid gases, and SO<sub>2</sub> emissions will also be reduced with this system, we recommend the DER specify SO<sub>2</sub> permit limits that reflect the SO<sub>2</sub> reductions achievable with a flue gas scrubbing system, and are comparable with the above CARB limit.

## Nitrogen Oxides, Carbon Monoxide, Volatile Organic Compounds

The two primary variables that affect the formation of NO<sub>x</sub> are the temperature and the concentration of oxygen in the combustion zone. The proposed BACT for NO<sub>x</sub> emissions is boiler design and good combustion practices. Proposed combustion controls include use of low excess air, limiting peak combustion temperature, and good air/fuel mixing in the combustion chamber. The DER determined that a NO<sub>x</sub> emission rate of 5.0 lb/ton (0.5 lb/10<sup>6</sup> Btu) represents BACT for the proposed facility. We agree with the DER that the proposed combustion controls represent BACT. However, based on information presented in the CARB report, combustion controls can reduce NO<sub>x</sub> emissions to between 0.28 to 0.4 lb/10<sup>6</sup> Btu. We recommend a limit in this range be specified as BACT for the proposed facility.

CO and VOC emissions result primarily from incomplete combustion. Collier County is proposing as BACT a combustion control system that will insure sufficient mixing of the solid waste fuel and air so that the emissions of products of incomplete combustion are minimized. We agree with the DER that the proposed combustion controls represent BACT for emission of CO and VOC from the proposed facility.

## Other Pollutants

Other pollutants emitted from the proposed facility that require BACT review include, Pb, F, Be, Hg, H<sub>2</sub>SO<sub>4</sub> and As. In addition, although presently not a regulated pollutant, significant amounts of hydrogen chloride (HCl) can be emitted from municipal incinerators and should be minimized.

Lead, Be, and As are emitted in the solid phase. Therefore, the ESPs or baghouses proposed to control PM emissions will also control these pollutants. We agree that the proposed ESPs or baghouses represent BACT for these pollutants.

Fluorides, H<sub>2</sub>SO<sub>4</sub>, HCl, and mercury are emitted primarily in the gaseous phase. Collier County did not propose additional controls for these pollutants. However, the DER determined that installation of a flue gas scrubbing system or similar technology is BACT for acid gas removal. We agree with the DER that such a system represents BACT for these pollutants.

## General

We have two additional comments on the draft permit conditions for the Collier County facility. First, in specific condition 1 the hours of operation should be limited to 8,245 "hours per year" not "hours per day" as listed in the permit. Also, specific condition 4.b lists the sulfur dioxide emissions as "2.8 lb/ton or 9.65 lb/hr 30 day rolling average". Assuming 425 tons per day (specific condition 3) 2.8 lb/ton equals a 49.6 lb/hr 30 day rolling average, not the 9.65 lb/hr 30 day rolling average rate listed.



### AIR QUALITY ANALYSIS

The ISCST model was used to predict maximum short and long-term air quality impacts in the vicinity of the proposed resource recovery project. The proposed project would add 7, 2 and 1 micrograms per cubic meters ( $\text{ug}/\text{m}^3$ ) of  $\text{SO}_2$  for the 3-hour, 24-hour, and annual averaging times to Everglades National Park for a total concentration of 176, 66 and 10  $\text{ug}/\text{m}^3$  respectively when added to the background levels. Concentration values were not reported for Big Cypress National Preserve. Any future applications in this area should include a detailed cumulative analysis in order to keep track of all available increment consumption. Accurate annual average concentration values are essential in assessing potential air quality impacts in Everglades National Park. The long-term analysis should consider sources in a screening area outside of the project's impact area. Large sources as far away as 50 kilometers outside the project's impact area may have significant impacts within the applicant's impact area and should be included in annual impact determinations. A level-1 visibility analysis was performed and indicated that the proposed project would not cause visibility impairment in Everglades National Park.

### AIR QUALITY RELATED VALUES ANALYSIS

The analysis of potential impacts of the proposed source on air quality related values (AQRVs) of Everglades National Park is inadequate. The preliminary determination mentions that since the maximum ground level concentrations predicted to occur for the criteria pollutants as a result of the proposed project, when combined with existing ambient concentrations, will be below all applicable ambient air quality standards, that there will not be a harmful impact on soils and vegetation. This is not necessarily true as there are adverse impacts on some species at pollutant concentrations below the National Ambient Air Quality Standards (NAAQS). In addition, there are no NAAQS for F, Be,  $\text{H}_2\text{SO}_4$ , HCl, As or Hg yet these pollutants can cause significant effects. Potential impacts on soils, vegetation and wildlife are not identified. The discussion should have included a description of the vegetation and soil types in the area and the sensitive plant and animal species. There also should have been a discussion of the effect of the proposed pollutant concentrations on the sensitive receptors.

Since the proposed project would be expected to significantly impact ambient air concentration levels in a class I area, a complete permit application should have contained the following additional information to fully assess the potential effects on the air quality related values: a) complete identification of flora and fauna in the subject area; b) vegetation/habitat maps of the subject area; c) listing of the federal and State endangered and threatened species; d) listing of soil types in the subject area; and e) water chemistry data of open water bodies in the subject area.

The applicant should have used this information for the following types of studies to determine the potential adverse impacts: a) examination of flora and fauna for sensitive species; b) examination of the flora and fauna for bioindicator species; c) field evaluation of the sensitive/bioindicator

species for presence of current injury symptoms; d) determination of locations of sensitive species in relation to the proposed air pollution source; e) determination of potential for injury to endangered and threatened species; f) determination of sensitivity of soil types; and g) calculations of loading of pollutants in the subject area in relation to natural inputs and buffering capacities of subject ecosystems.

There are numerous air quality related values (AQRVs) found in Everglades National Park. These include 14 Federally listed endangered and threatened species, and a number of unlisted rare and threatened species. There are also many species of epiphytes, including certain species of orchids, that are not found anywhere else in the National Park system and are uniquely sensitive to air pollution.

In addition to the resources of Everglades National Park, we are concerned about the effects of the proposed project on the resources of Big Cypress National Preserve. It is the responsibility of the National Park Service, under the Organic Act of 1916, to ensure that the unique resources of Everglades National Park and Big Cypress National Preserve are protected from degradation. Big Cypress contains 10 Federally threatened or endangered species and is famous for a high diversity of rare bromeliads and orchids. The effects, if any, of the proposed project on these Federally protected species needs to be addressed.

The discussion below on the sensitive resources of Everglades National Park and Big Cypress National Preserve is partially from testimony given by Jack Morehead, former Superintendent of Everglades National Park, outlining NPS concerns over air pollution effects on park resources from a Dade County power plant. Because of these concerns the NPS and Florida Power and Light have instituted some research projects that are not yet complete.

Dade County Slash Pine. This pine (*Pinus elliotti* var. *densa*) is a variety of slash pine that is biologically distinct from the slash pine that is found in other parts of the southeastern U.S. (Tomlinson, 1980). Originally including some 200,000 to 300,000 acres along a limestone ridge in southeast Florida, it has been seriously cut back by farming and urban development so that the only remaining contiguous population (approximately 20,000 acres) of this variety in the world is in Everglades National Park. The species is known to be sensitive to ozone: levels as low as 0.05 parts per million (ppm) for 18 weeks of exposure have been shown to depress photosynthesis nine percent (Barnes, 1972). Stands of this pine are very open, thus increasing the flux of pollutants to many individual trees. In addition, this species does not grow with only one annual ring per year as temperate pines do. Instead, this species can produce as many as five growth flushes a year, thus subjecting five new sets of needles to air pollutants. NPS is currently funding fumigation studies exposing the pine to both ozone and SO<sub>2</sub> because the likelihood of synergistic effects is high (pines are known to be highly sensitive to both pollutants (Smith, 1981). These studies, conducted by the Environmental Protection Agency Corvallis Environmental Research Laboratory, have shown that south Florida slash pine is extremely sensitive to a few episodes of acute SO<sub>2</sub> when ozone levels average only .04 - .05 ppm/7 hour daylight mean. One exposure to one hour of SO<sub>2</sub> at 534 ug/m<sup>3</sup> plus three exposures at 267 ug/m<sup>3</sup> throughout the growing season caused significant reductions in biomass and

size of seedling trees, even without the appearance of foliar injury symptoms. Permanent plots and potted seedlings of slash pine have been installed in Everglades National Park to monitor effects of these pollutants. So far, there have been reports of ozone-like symptoms on pines in Everglades National Park.

Lichens. Tropical hardwood trees in the hammocks in the park are typically covered with many species of foliose lichens. Lichens are extremely sensitive to low annual averages of  $\text{SO}_2$  (less than 0.01 ppm) and have been observed to disappear in areas where such concentrations are found (Skye, 1968; Richardson, D.H.S. et al., 1981; Manning, W.J. & W. A. Feder, 1980). Lichens are the food base for the unique and rare Liguus tree snails for which Everglades National Park serves as a significant portion of their remaining habitat and population (George, 1972). The effects of  $\text{SO}_2$  on these lichens could lead to irreversible loss of the tree snails. NPS is currently conducting studies of the  $\text{SO}_2$  sensitivities of lichens in Everglades National Park. Of the lichens studied, one, Ramalina denticulata, appears to be sensitive to  $\text{SO}_2$  levels at  $100 \text{ ug/m}^3$  for six hours a week for 10 weeks. This lichen is in a genus that is known to die out at  $\text{SO}_2$  annual average concentrations between 5 and  $30 \text{ ug/m}^3$ . Since the predicted total annual average is  $10 \text{ ug/m}^3$ , it is possible that this lichen could be affected by the additional  $\text{SO}_2$  from this source.

Epiphytes. The park is famous for numerous species of orchids and bromeliads, species of vascular plants that grow on branches of trees in hammocks and pinelands. The epiphytes depend on the branches for support and some nutrients, but they depend entirely on precipitation for water and most nutrients. These species have a unique susceptibility to acid precipitation and dry deposition of  $\text{SO}_2$  and metals on their foliage. A review of the literature has shown that anatomically, physiologically, and ecologically they are uniquely sensitive to air pollution (Benzing, 1981). A study on the sensitivity of epiphytes in Everglades National Park to air pollution ( $\text{SO}_2$  and  $\text{O}_3$ ) was initiated this year. In addition, these epiphytes and the sensitive lichen species have been placed in biomonitoring plots in the parks and other areas of south Florida. They will be studied and sampled every year for air pollution effects.

Other pollutants emitted by the proposed facility deserve special attention in the AQRV analysis. Fluoride is much more phytotoxic than  $\text{SO}_2$ , and lichens and orchids are hypersensitive to it at the parts per billion level. Concentrations of this pollutant should be predicted and analyzed for Everglades National Park and Big Cypress National Park for this permit. In addition, elevated levels of Hg and As have been found in invertebrates in the park (Ogden et al. 1974), raising concern about their emissions from the proposed sources. These two pollutants should also be predicted and analyzed for the two National Park Service units.

There are measurements in the park of the acidity of the rain conducted under the National Atmospheric Deposition Program (NADP). Precipitation with a pH below 5.7 is considered to be acid precipitation. There are recorded episodes in Everglades National Park with pH values of 3.51 and 4.1. Therefore, we would like to see an analysis by the applicant of the effect their  $\text{SO}_2$ ,  $\text{NO}_x$ ,  $\text{H}_2\text{SO}_4$ , and HCl emissions would have on the pH of the rainfall.

## SUMMARY AND RECOMMENDATIONS

Our review of this permit application has identified deficiencies in the proposed control technology and the air quality related values (AQRVs) analysis. We recommend that the permit not be issued as drafted because the emission limitations do not represent best available control technology (BACT). The BACT, as described in our review above, is considered BACT in the States of Maine and California and should be used as BACT in Florida.

In addition, and more importantly, our review has noted serious deficiencies in the applicant's AQRV analysis. Section 165 (e)(3) of the Clean Air Act requires that the State or the permit applicant conduct "an analysis of the... terrain, soils and vegetation...at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility..." Such an analysis is not included in the permit application, nor were we provided sufficient time to obtain the necessary information. Because of the lack of information on AQRV effects, we cannot support the DER's conclusion that the proposed facility will not adversely impact the AQRVs of Everglades National Park.

The Clean Air Act gives the Federal Land Manager (FLM) an affirmative responsibility to protect AQRVs. Congress has directed that: "In case of doubt, the land manager should err on the side of protecting the air quality related values for future generations." Senate Rep. No. 95-127, 95th Cong., 1st Sess., p. 36 (1977). Therefore, we recommend that the additional information listed in the AQRV analysis section of our review be gathered and analyzed before a final permit is issued. We would be happy to work with you in designing and conducting these analyses.

Finally, we would appreciate being provided with a written response to each of our comments. Specifically, the DER should address the comments on; the emission limits for particulate matter, sulfur dioxide and nitrogen oxides; the draft permit conditions; acid precipitation; and threatened and endangered species. If the DER decides to issue the permit for this facility, we request that our comments on the proposed control technology and AQRV analysis be addressed in the final permit and that we be provided with a copy of the final permit for this project.

#### LITERATURE CITED

- Barnes, R.L. 1972. Effects of chronic exposure to ozone on photosynthesis and respiration of pines. *Environ. Pollut.* 3: 133-138.
- Benzing, David H. 1981. The Potential for the Impact of Acid Rain and Other Potential Air-borne Toxins on Epiphytic Vegetation on Everglades National Park. Report to the National Park Service, Air Quality Division, Denver, Colorado.
- George, J.C. 1972. Everglades Wildguide. National Park Service, Office of Publications.
- Manning, W.J. & W.A. Feder. 1980. Biomonitoring Air Pollutants with Plants. Applied Science Publishers, London.
- Ogden, J.C. et al. 1974. Pesticides, polychlorinated byphenols and heavy metals in upper food chain levels, Everglades National Park and vicinity. Final Report. Everglades National Park. NTIS # PB -235 359.
- Richardson, D.H.S. & E. Nieboer. 1981. Lichens and Pollution Monitoring. *Endeavor* 5: 127-133.
- Skye, E. 1968. *Acta Phytogeo. Suecica*. 52 Uppsala.
- Smith, W.H. 1981. Air Pollution and Forests. Springer-Verlag, New York.
- Tomlinson, P.B. 1980. The Biology of Trees Native to Tropical Florida. Harvard Univ. Printing Office, Allston, Mass.



# United States Department of the Interior

NATIONAL PARK SERVICE  
AIR QUALITY DIVISION  
P.O. BOX 25287  
DENVER, CO 80225

IN REPLY REFER TO:  
February 24, 1986

N3615 (475)

## Memorandum

To: Regional Director, Southeast Region  
Attention: Air Quality Coordinator

From: Chief, Permit Review and Technical Support Branch,  
Air Quality Division - Denver

Subject: Permit Application for Collier County Solid Waste  
Energy Recovery Facility, Units 1 and 2

The Collier County Board of County Commissioners is proposing to construct and operate a resource recovery facility located at the existing Naples Sanitary Landfill site on State Road 84 near Golden Gate, Collier County, Florida. This location is approximately 35 km northwest of Everglades National Park and 35 km west of Big Cypress National Preserve. The primary purpose of the facility is to dispose of solid waste generated in the area. The project will be a mass-burn facility with two 425 ton per day refuse fired boilers that will each generate approximately 12 megawatts of electricity.

We have reviewed the technical evaluation and preliminary determination for the permit application and, based on the information provided, we can not determine if emissions from the facility will adversely impact the air quality related values of Everglades National Park. Nevertheless, we have several comments regarding the control technology, air quality and air quality related values analyses contained in the application and also comments regarding the draft permit conditions. We are recommending that the permit not be issued as drafted because the emission limitations do not represent best available control technology (BACT). These comments are discussed in the attached technical review document. Also attached is a draft letter that can be used to transmit these comments to the Florida Department of Environmental Regulation. The public comment period for this project ended on February 14, 1986, however, personnel from the Florida Department of Environmental Regulation, the permit granting authority in this case, have informed us that they would consider our comments if received after that date. Thus, our comments should be delivered as soon as possible. If you have any questions regarding this matter, please contact me or Bud Rolofson at (303) 236-8765 (FTS 776-8765).

Miguel I. Flores

Attachment

Technical Review of Permit Application,  
Preliminary Determination and Draft Permit for  
Collier County Solid Waste Energy Recovery Facility,  
Units 1 and 2

The Collier County Board of County Commissioners is proposing to construct a resource recovery facility at the existing Naples Sanitary Landfill site on State Road 84 near Golden Gate, Collier County, Florida. This location is approximately 35 km northwest of Everglades National Park, a Prevention of Significant Deterioration (PSD) class I area, and 35 km west of Big Cypress National Preserve, a PSD class II area, that are administered by the National Park Service (NPS). The purpose of the facility is to dispose of solid waste, tires, and wood waste generated in the immediate area. The project will be a mass-burn facility with two 425 ton per day (TPD) refuse fired boilers that will each generate approximately 12 megawatts of electricity. The emissions from the proposed facility are estimated as follows; 119 tons per year (TPY) of particulate matter (PM), 920 TPY of sulfur dioxide (SO<sub>2</sub>), 1051 TPY of nitrogen oxides (NO<sub>x</sub>), 257 TPY of volatile organic compounds (VOC), 730 TPY of carbon monoxide (CO), 905.3 TPY of hydrogen chloride (HCl), 43.8 TPY of lead (Pb), 33.6 TPY of fluoride (F), 0.0083 TPY of beryllium (Be), 1.9 TPY of mercury (Hg), 1.3 TPY of arsenic (As) and 11.3 TPY of sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>). Under PSD regulations, these emission rates are considered significant for all except hydrogen chloride (which is not a regulated pollutant) and therefore require new source review. Following are our comments on the best available control technology, air quality and air quality related values analyses with respect to the proposed project's impacts on Everglades National Park and Big Cypress National Preserve.

BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

The major sources of emissions at the proposed facility are the two associated boilers. Therefore, our review will focus on emission controls on these units. Our BACT review for the proposed boilers is similar to the reviews we performed for the proposed Palm Beach County and South Broward County resource recovery facilities. These reviews were submitted to the Florida Department of Environmental Regulation (DER) previously. We again reference the publication entitled, "Air Pollution Control at Resource Recovery Facilities". This document was published in May 1984 by the California Air Resources Board (CARB) and discusses resource recovery facilities in detail. As of 1984, all refuse burning facilities with applications pending in California are proposing control technologies that are the same as, or more stringent than, the guideline emission limits discussed in this report.

For a new major source, a BACT analysis is required for each regulated pollutant emitted in significant amounts. For the proposed facility, the following pollutants will be emitted in significant amounts and require BACT review: PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, VOC, Pb, F, Be, Hg, H<sub>2</sub>SO<sub>4</sub>, and As.

## Particulate Matter

Collier County is proposing to use electrostatic precipitators (ESPs) or baghouses to minimize PM emissions generated by combustion of solid waste in the boilers. The PM rate proposed by Collier County is 0.03 grains per dry standard cubic foot (gr/dscf). The rate determined by the DER to be BACT and specified in the draft permits is 0.02 gr/dscf. We agree with the DER that high efficiency control devices such as ESPs or baghouses represent BACT. We also agree that stack testing data for other solid waste incinerators indicate these devices are capable of controlling PM emissions well below the applicant's proposal of 0.03 gr/dscf. In fact, based on information provided in the CARB document mentioned above, an emission limit of 0.01 gr/dscf can be achieved with these devices. This is the guideline emission limit proposed by the CARB for new resource recovery facilities in California and should be considered as the BACT limit for Florida facilities as well. The 0.01 gr/dscf rate is also approximately equivalent to the rate proposed by Penobscot Energy Recovery Company (PERC) in their recent permit application for a resource recovery facility in Orrington, Maine. Therefore, we recommend the PM rate in the draft permit be changed from 0.02 gr/dscf to 0.01 gr/dscf.

## Sulfur Dioxide

Collier County is proposing the firing of low sulfur refuse as BACT for the proposed facility. The DER specified a maximum hourly  $\text{SO}_2$  rate of 5.6 pounds per ton (lb/ton) of refuse (2.8 lb/ton for 30 day rolling average). These rates correspond to 0.56 pounds per million Btu ( $\text{lb}/10^6$  Btu) and 0.28  $\text{lb}/10^6$  Btu for hourly and 30 day averages, respectively.

The emission guideline recommended in the CARB document is 30 ppm, which corresponds to an  $\text{SO}_2$  emission rate of approximately 0.08  $\text{lb}/10^6$  Btu. To achieve this emission level, which is significantly more stringent than that to be required of Collier County, flue gas controls such as wet or dry scrubbing are required. Dry scrubbing processes have been effectively employed at pilot and full-scale refuse burning facilities in Europe, Japan, and the United States. Wet scrubbers have also been employed at full-scale refuse burning facilities. Also, applicants for two resource recovery facilities in Maine recently proposed the use of spray dryer scrubbers to minimize  $\text{SO}_2$  and acid gas emissions. The resulting  $\text{SO}_2$  emissions from the PERC facility referenced above were estimated to be 0.067  $\text{lb}/10^6$  Btu after the scrubbing. The  $\text{SO}_2$  emissions from Regional Waste Systems' (RWS) proposed facility in Portland, Maine, were estimated to be 0.074  $\text{lb}/10^6$  Btu.

The DER indicates that the installation of a flue gas scrubbing system to control  $\text{SO}_2$  emissions alone is not warranted when burning municipal solid waste. Therefore, the  $\text{SO}_2$  permit limits for the Collier County facility appear to be based on burning of low sulfur refuse. However, in the BACT analysis for acid gas emissions, the DER concludes BACT for control of acid gases is a flue gas scrubber system or similar technology. The DER also indicates that the installation of an acid gas removal system would also provide control for  $\text{SO}_2$  emissions. Therefore, because the DER is requiring flue gas scrubbing for control of acid gases, and  $\text{SO}_2$  emissions will also be reduced with this system, we recommend the DER specify  $\text{SO}_2$  permit limits that reflect the  $\text{SO}_2$  reductions achievable with a flue gas scrubbing system, and are comparable with the above CARB limit.



## Nitrogen Oxides, Carbon Monoxide, Volatile Organic Compounds

The two primary variables that affect the formation of NO<sub>x</sub> are the temperature and the concentration of oxygen in the combustion zone. The proposed BACT for NO<sub>x</sub> emissions is boiler design and good combustion practices. Proposed combustion controls include use of low excess air, limiting peak combustion temperature, and good air/fuel mixing in the combustion chamber. The DER determined that a NO<sub>x</sub> emission rate of 5.0 lb/ton (0.5 lb/10<sup>6</sup> Btu) represents BACT for the proposed facility. We agree with the DER that the proposed combustion controls represent BACT. However, based on information presented in the CARB report, combustion controls can reduce NO<sub>x</sub> emissions to between 0.28 to 0.4 lb/10<sup>6</sup> Btu. We recommend a limit in this range be specified as BACT for the proposed facility.

CO and VOC emissions result primarily from incomplete combustion. Collier County is proposing as BACT a combustion control system that will insure sufficient mixing of the solid waste fuel and air so that the emissions of products of incomplete combustion are minimized. We agree with the DER that the proposed combustion controls represent BACT for emission of CO and VOC from the proposed facility.

## Other Pollutants

Other pollutants emitted from the proposed facility that require BACT review include, Pb, F, Be, Hg, H<sub>2</sub>SO<sub>4</sub> and As. In addition, although presently not a regulated pollutant, significant amounts of hydrogen chloride (HCl) can be emitted from municipal incinerators and should be minimized.

Lead, Be, and As are emitted in the solid phase. Therefore, the ESPs or baghouses proposed to control PM emissions will also control these pollutants. We agree that the proposed ESPs or baghouses represent BACT for these pollutants.

Fluorides, H<sub>2</sub>SO<sub>4</sub>, HCl, and mercury are emitted primarily in the gaseous phase. Collier County did not propose additional controls for these pollutants. However, the DER determined that installation of a flue gas scrubbing system or similar technology is BACT for acid gas removal. We agree with the DER that such a system represents BACT for these pollutants.

## General

We have two additional comments on the draft permit conditions for the Collier County facility. First, in specific condition 1 the hours of operation should be limited to 8,245 "hours per year" not "hours per day" as listed in the permit. Also, specific condition 4.b lists the sulfur dioxide emissions as "2.8 lb/ton or 9.65 lb/hr 30 day rolling average". Assuming 425 tons per day (specific condition 3) 2.8 lb/ton equals a 49.6 lb/hr 30 day rolling average, not the 9.65 lb/hr 30 day rolling average rate listed.

### AIR QUALITY ANALYSIS

The ISCST model was used to predict maximum short and long-term air quality impacts in the vicinity of the proposed resource recovery project. The proposed project would add 7, 2 and 1 micrograms per cubic meters ( $\mu\text{g}/\text{m}^3$ ) of  $\text{SO}_2$  for the 3-hour, 24-hour, and annual averaging times to Everglades National Park for a total concentration of 176, 66 and 10  $\mu\text{g}/\text{m}^3$  respectively when added to the background levels. Concentration values were not reported for Big Cypress National Preserve. Any future applications in this area should include a detailed cumulative analysis in order to keep track of all available increment consumption. Accurate annual average concentration values are essential in assessing potential air quality impacts in Everglades National Park. The long-term analysis should consider sources in a screening area outside of the project's impact area. Large sources as far away as 50 kilometers outside the project's impact area may have significant impacts within the applicant's impact area and should be included in annual impact determinations. A level-1 visibility analysis was performed and indicated that the proposed project would not cause visibility impairment in Everglades National Park.

### AIR QUALITY RELATED VALUES ANALYSIS

The analysis of potential impacts of the proposed source on air quality related values (AQRVs) of Everglades National Park is inadequate. The preliminary determination mentions that since the maximum ground level concentrations predicted to occur for the criteria pollutants as a result of the proposed project, when combined with existing ambient concentrations, will be below all applicable ambient air quality standards, that there will not be a harmful impact on soils and vegetation. This is not necessarily true as there are adverse impacts on some species at pollutant concentrations below the National Ambient Air Quality Standards (NAAQS). In addition, there are no NAAQS for F, Be,  $\text{H}_2\text{SO}_4$ , HCl, As or Hg yet these pollutants can cause significant effects. Potential impacts on soils, vegetation and wildlife are not identified. The discussion should have included a description of the vegetation and soil types in the area and the sensitive plant and animal species. There also should have been a discussion of the effect of the proposed pollutant concentrations on the sensitive receptors.

Since the proposed project would be expected to significantly impact ambient air concentration levels in a class I area, a complete permit application should have contained the following additional information to fully assess the potential effects on the air quality related values: a) complete identification of flora and fauna in the subject area; b) vegetation/habitat maps of the subject area; c) listing of the federal and State endangered and threatened species; d) listing of soil types in the subject area; and e) water chemistry data of open water bodies in the subject area.

The applicant should have used this information for the following types of studies to determine the potential adverse impacts: a) examination of flora and fauna for sensitive species; b) examination of the flora and fauna for bioindicator species; c) field evaluation of the sensitive/bioindicator

species for presence of current injury symptoms; d) determination of locations of sensitive species in relation to the proposed air pollution source; e) determination of potential for injury to endangered and threatened species; f) determination of sensitivity of soil types; and g) calculations of loading of pollutants in the subject area in relation to natural inputs and buffering capacities of subject ecosystems.

There are numerous air quality related values (AQRVs) found in Everglades National Park. These include 14 Federally listed endangered and threatened species, and a number of unlisted rare and threatened species. There are also many species of epiphytes, including certain species of orchids, that are not found anywhere else in the National Park system and are uniquely sensitive to air pollution.

In addition to the resources of Everglades National Park, we are concerned about the effects of the proposed project on the resources of Big Cypress National Preserve. It is the responsibility of the National Park Service, under the Organic Act of 1916, to ensure that the unique resources of Everglades National Park and Big Cypress National Preserve are protected from degradation. Big Cypress contains 10 Federally threatened or endangered species and is famous for a high diversity of rare bromeliads and orchids. The effects, if any, of the proposed project on these Federally protected species needs to be addressed.

The discussion below on the sensitive resources of Everglades National Park and Big Cypress National Preserve is partially from testimony given by Jack Morehead, former Superintendent of Everglades National Park, outlining NPS concerns over air pollution effects on park resources from a Dade County power plant. Because of these concerns the NPS and Florida Power and Light have instituted some research projects that are not yet complete.

Dade County Slash Pine. This pine (*Pinus elliotti* var. *densa*) is a variety of slash pine that is biologically distinct from the slash pine that is found in other parts of the southeastern U.S. (Tomlinson, 1980). Originally including some 200,000 to 300,000 acres along a limestone ridge in southeast Florida, it has been seriously cut back by farming and urban development so that the only remaining contiguous population (approximately 20,000 acres) of this variety in the world is in Everglades National Park. The species is known to be sensitive to ozone: levels as low as 0.05 parts per million (ppm) for 18 weeks of exposure have been shown to depress photosynthesis nine percent (Barnes, 1972). Stands of this pine are very open, thus increasing the flux of pollutants to many individual trees. In addition, this species does not grow with only one annual ring per year as temperate pines do. Instead, this species can produce as many as five growth flushes a year, thus subjecting five new sets of needles to air pollutants. NPS is currently funding fumigation studies exposing the pine to both ozone and SO<sub>2</sub> because the likelihood of synergistic effects is high (pines are known to be highly sensitive to both pollutants (Smith, 1981). These studies, conducted by the Environmental Protection Agency Corvallis Environmental Research Laboratory, have shown that south Florida slash pine is extremely sensitive to a few episodes of acute SO<sub>2</sub> when ozone levels average only .04 - .05 ppm/7 hour daylight mean. One exposure to one hour of SO<sub>2</sub> at 534 ug/m<sup>3</sup> plus three exposures at 267 ug/m<sup>3</sup> throughout the growing season caused significant reductions in biomass and

size of seedling trees, even without the appearance of foliar injury symptoms. Permanent plots and potted seedlings of slash pine have been installed in Everglades National Park to monitor effects of these pollutants. So far, there have been reports of ozone-like symptoms on pines in Everglades National Park.

Lichens. Tropical hardwood trees in the hammocks in the park are typically covered with many species of foliose lichens. Lichens are extremely sensitive to low annual averages of  $\text{SO}_2$  (less than 0.01 ppm) and have been observed to disappear in areas where such concentrations are found (Skye, 1968; Richardson, D.H.S. et al., 1981; Manning, W.J. & W. A. Feder, 1980). Lichens are the food base for the unique and rare Liguus tree snails for which Everglades National Park serves as a significant portion of their remaining habitat and population (George, 1972). The effects of  $\text{SO}_2$  on these lichens could lead to irreversible loss of the tree snails. NPS is currently conducting studies of the  $\text{SO}_2$  sensitivities of lichens in Everglades National Park. Of the lichens studied, one, Ramalina denticulata, appears to be sensitive to  $\text{SO}_2$  levels at 100  $\mu\text{g}/\text{m}^3$  for six hours a week for 10 weeks. This lichen is in a genus that is known to die out at  $\text{SO}_2$  annual average concentrations between 5 and 30  $\mu\text{g}/\text{m}^3$ . Since the predicted total annual average is 10  $\mu\text{g}/\text{m}^3$ , it is possible that this lichen could be affected by the additional  $\text{SO}_2$  from this source.

Epiphytes. The park is famous for numerous species of orchids and bromeliads, species of vascular plants that grow on branches of trees in hammocks and pinelands. The epiphytes depend on the branches for support and some nutrients, but they depend entirely on precipitation for water and most nutrients. These species have a unique susceptibility to acid precipitation and dry deposition of  $\text{SO}_2$  and metals on their foliage. A review of the literature has shown that anatomically, physiologically, and ecologically they are uniquely sensitive to air pollution (Benzing, 1981). A study on the sensitivity of epiphytes in Everglades National Park to air pollution ( $\text{SO}_2$  and  $\text{O}_3$ ) was initiated this year. In addition, these epiphytes and the sensitive lichen species have been placed in biomonitoring plots in the parks and other areas of south Florida. They will be studied and sampled every year for air pollution effects.

Other pollutants emitted by the proposed facility deserve special attention in the AQRV analysis. Fluoride is much more phytotoxic than  $\text{SO}_2$ , and lichens and orchids are hypersensitive to it at the parts per billion level. Concentrations of this pollutant should be predicted and analyzed for Everglades National Park and Big Cypress National Park for this permit. In addition, elevated levels of Hg and As have been found in invertebrates in the park (Ogden et al. 1974), raising concern about their emissions from the proposed sources. These two pollutants should also be predicted and analyzed for the two National Park Service units.

There are measurements in the park of the acidity of the rain conducted under the National Atmospheric Deposition Program (NADP). Precipitation with a pH below 5.7 is considered to be acid precipitation. There are recorded episodes in Everglades National Park with pH values of 3.51 and 4.1. Therefore, we would like to see an analysis by the applicant of the effect their  $\text{SO}_2$ ,  $\text{NO}_x$ ,  $\text{H}_2\text{SO}_4$ , and HCl emissions would have on the pH of the rainfall.

## SUMMARY AND RECOMMENDATIONS

Our review of this permit application has identified deficiencies in the proposed control technology and the air quality related values (AQRVs) analysis. We recommend that the permit not be issued as drafted because the emission limitations do not represent best available control technology (BACT). The BACT, as described in our review above, is considered BACT in the States of Maine and California and should be used as BACT in Florida.

In addition, and more importantly, our review has noted serious deficiencies in the applicant's AQRV analysis. Section 165 (e)(3) of the Clean Air Act requires that the State or the permit applicant conduct "an analysis of the... terrain, soils and vegetation...at the site of the proposed major emitting facility and in the area potentially affected by the emissions from such facility..." Such an analysis is not included in the permit application, nor were we provided sufficient time to obtain the necessary information. Because of the lack of information on AQRV effects, we cannot support the DER's conclusion that the proposed facility will not adversely impact the AQRVs of Everglades National Park.

The Clean Air Act gives the Federal Land Manager (FLM) an affirmative responsibility to protect AQRVs. Congress has directed that: "In case of doubt, the land manager should err on the side of protecting the air quality related values for future generations." Senate Rep. No. 95-127, 95th Cong., 1st Sess., p. 36 (1977). Therefore, we recommend that the additional information listed in the AQRV analysis section of our review be gathered and analyzed before a final permit is issued. We would be happy to work with you in designing and conducting these analyses.

Finally, we would appreciate being provided with a written response to each of our comments. Specifically, the DER should address the comments on; the emission limits for particulate matter, sulfur dioxide and nitrogen oxides; the draft permit conditions; acid precipitation; and threatened and endangered species. If the DER decides to issue the permit for this facility, we request that our comments on the proposed control technology and AQRV analysis be addressed in the final permit and that we be provided with a copy of the final permit for this project.

## LITERATURE CITED

- Barnes, R.L. 1972. Effects of chronic exposure to ozone on photosynthesis and respiration of pines. *Environ. Pollut.* 3: 133-138.
- Benzing, David H. 1981. The Potential for the Impact of Acid Rain and Other Potential Air-borne Toxins on Epiphytic Vegetation on Everglades National Park. Report to the National Park Service, Air Quality Division, Denver, Colorado.
- George, J.C. 1972. Everglades Wildguide. National Park Service, Office of Publications.
- Manning, W.J. & W.A. Feder. 1980. Biomonitoring Air Pollutants with Plants. Applied Science Publishers, London.
- Ogden, J.C. et al. 1974. Pesticides, polychlorinated byphenols and heavy metals in upper food chain levels, Everglades National Park and vicinity. Final Report. Everglades National Park. NTIS # PB -235 359.
- Richardson, D.H.S. & E. Nieboer. 1981. Lichens and Pollution Monitoring. *Endeavor* 5: 127-133.
- Skye, E. 1968. *Acta Phytogeo. Suecica*. 52 Uppsala.
- Smith, W.H. 1981. Air Pollution and Forests. Springer-Verlag, New York.
- Tomlinson, P.B. 1980. The Biology of Trees Native to Tropical Florida. Harvard Univ. Printing Office, Allston, Mass.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

REF: 4APT-AP

**FEB 24 1986**  
Mr. Clair B. Fancy, P. E., Deputy Chief  
Bureau of Air Quality Management  
Florida Department of  
Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32301

RE: PSD-FL-111, Collier County Solid Waste Energy Recovery  
Facility

Dear Mr. Fancy:

This is an addendum to our letter of February 12, 1986, regarding our review of the PSD preliminary determination for the above referenced facility to be located in Naples, Florida.

The following comments were verbally transmitted to Mr. Ed Svec of your staff on February 14, 1986.

1. Although the draft permit constitutes compliance with New Source Performance Standards for Incinerators, there is no specific permit condition requiring the record keeping of daily charge rates and hours of operation.
2. The permit specifically states that the source must obtain an operating permit prior to the expiration of the construction permit, and must demonstrate compliance with permit conditions to obtain an operating permit. However, the permit does not specify the time frame in which compliance tests must take place in accordance with 40 CFR 60.8(a).
3. Continuous opacity monitors are required for opacity and carbon monoxide, yet there are no record keeping or reporting requirements in the draft permit. It is recommended that such requirements be added as permit conditions using 40 CFR 60.7(c)&(d) as guidelines.

If you have any comments regarding this letter, please contact me or Mr. Dick Schutt, Acting Team Leader, Planning Support Unit at 404/347-4901.

Sincerely yours,

*Bruce P. Miller*

Bruce P. Miller  
Acting Chief  
Air Programs Branch  
Air, Pesticides, & Toxics  
Management Branch

DER

FEB 24 1986

BAQM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET  
ATLANTA, GEORGIA 30365

FEB 12 1986

REF: 4APT-AP

Mr. Clair H. Fancy, P. E., Deputy Chief  
Bureau of Air Quality Management  
Florida Department of  
Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32301

DER  
FEB 17 1986  
BAQM

RE: PSD-FL-111, Collier County Solid Waste Energy Recovery  
Facility

Dear Mr. Fancy:

This is to acknowledge receipt of your January 10, 1986, PSD preliminary determination for the above referenced facility to be located in Naples, Florida. We have determined that this determination will be subject to the Region IV Overview of State Programs Policy.

We have reviewed your determination and find some of the conclusions in the BACT determination, the permit, and the applicant's selection of pollution control equipment to be in conflict. These items include the control of acid gas and lead emissions (discussed below). Other items which appear to be deficient are the notification of the Federal Land Manager of the Everglades National Park, an error in Specific Condition No. 1 for both units regarding hours of operation, and an error in the citation of the test method for testing of mercury emissions in Specific Condition No. 7 for both units.

The lead emission factors used in the application, modeling, and BACT determination differ from those used in the preliminary determination and permit. If an emission factor of 0.3 lbs. per ton of municipal solid waste (MSW) is used, the modeling analysis indicates the need for preconstruction monitoring. However, if the permitted rate of 0.015 lbs. per ton of MSW is the applicable limit, the BACT determination and the modeling should reflect this emission limit. In any case, we suggest the department use the same lead emission factor for all resource recovery plants, unless a different factor can be documented. Both factors mentioned above differ significantly from the emission limit being considered for the Hillsborough County facility.

The applicant does not appear to agree with the BACT determination for 90% control of acid gas emissions through the use of fluidized bed technology and a baghouse. Is there correspondence indicating their acceptance, and if so, how will the fluidized bed technology achieve acid gas control?



Please provide us with your resolution of the above issues prior to your issuance of the permits for this facility so that we may follow up on any areas requiring consensus.

Sincerely yours,

*Bruce P. Miller*

Bruce P. Miller  
Acting Chief  
Air Programs Branch  
Air, Pesticides, & Toxics  
Management Division

EdSuec -

lead to answer asap  
per our discussions  
on Friday.

Clam

REF: 4APT-AP

Mr. Clair H. Fancy, P. E., Deputy Chief  
Bureau of Air Quality Management  
Florida Department of  
Environmental Regulation  
2600 Blair Stone Road  
Tallahassee, FL 32301

RE: PSD-FL-111, Collier County Solid Waste Energy Recovery  
Facility

Dear Mr. Fancy:

This is to acknowledge receipt of your January 10, 1986, PSD preliminary determination for the above referenced facility to be located in Naples, Florida. We have determined that this determination will be subject to the Region IV Overview of State Programs Policy.

We have reviewed your determination and find some of the conclusions in the BACT determination, the permit, and the applicant's selection of pollution control equipment to be in conflict. These items include the control of acid gas and lead emissions (discussed below). Other items which appear to be deficient are the notification of the Federal Land Manager of the Everglades National Park, an error in Specific Condition No. 1 for both units regarding hours of operation, and an error in the citation of the test method for testing of mercury emissions in Specific Condition No. 7 for both units.

The lead emission factors used in the application, modeling, and BACT determination differ from those used in the preliminary determination and permit. If an emission factor of 0.3 lbs. per ton of municipal solid waste (MSW) is used, the modeling analysis indicates the need for preconstruction monitoring. However, if the permitted rate of 0.015 lbs. per ton of MSW is the applicable limit, the BACT determination and the modeling should reflect this emission limit. In any case, we suggest the department use the same lead emission factor for all resource recovery plants, unless a different factor can be documented. Both factors mentioned above differ significantly from the emission limit being considered for the Hillsborough County facility.

The applicant does not appear to agree with the BACT determination for 90% control of acid gas emissions through the use of fluidized bed technology and a baghouse. Is there correspondence indicating their acceptance, and if so, how will the fluidized bed technology achieve acid gas control?

Please provide us with your resolution of the above issues prior to your issuance of the permits for this facility so that we may follow up on any areas requiring consensus.

Sincerely yours,

Bruce P. Miller  
Acting Chief  
Air Programs Branch  
Air, Pesticides, & Toxics  
Management Division

BRANDON:clh:x4901:2-10-86 BRANDON's DISK PFAFF SCHUTT MILLER

--More--

Bruce P. Miller, Acting Chief

A

P 408 533 652

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

|                                                               |    |
|---------------------------------------------------------------|----|
| Sent to<br>Mr. Robert E. Fahey                                |    |
| Street and No.                                                |    |
| P.O., State and ZIP Code                                      |    |
| Postage                                                       | \$ |
| Certified Fee                                                 |    |
| Special Delivery Fee                                          |    |
| Restricted Delivery Fee                                       |    |
| Return Receipt Showing to whom and Date Delivered             |    |
| Return Receipt Showing to whom, Date, and Address of Delivery |    |
| TOTAL Postage and Fees                                        | \$ |
| Postmark or Date<br><br>1/10/86                               |    |

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

**SENDER: Complete items 1, 2, 3 and 4.**

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1.  Show to whom, date and address of delivery.  
2.  Restricted Delivery.

3. Article Addressed to:  
Mr. Robert E. Fahey, Director  
Solid Waste Dept.  
3301 Tamiami Trail East  
Naples, Florida 33962

|                                                                                                                                                                                             |                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 4. Type of Service:                                                                                                                                                                         | Article Number |
| <input type="checkbox"/> Registered <input type="checkbox"/> Insured<br><input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD<br><input type="checkbox"/> Express Mail | P 408 533 652  |

Always obtain signature of addressee or agent and **DATE DELIVERED.**

5. Signature - Addressee  
X *Robert E. Fahey*

6. Signature - Agent  
X

7. Date of Delivery

8. Addressee's Address (ONLY if requested and fee paid)

DOMESTIC RETURN RECEIPT