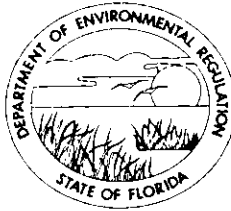


STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

January 20, 1982

MEMORANDUM

TO: Dale H. Twachtmann
Ralph L. Torrens
Dan Williams
Hooshang Boostani
Record Center

FROM: *JP* *pre.* H. Fancy, Deputy Chief, Bureau of Air
Quality Management

DATE: January 21, 1982

SUBJ: Preliminary Determination - McKay Bay Refuse-To-
Energy Project (AC 29-47277 and AC 29-47278)

Attached is one copy of the application, Technical Evaluation and Preliminary Determination, BACT and LAER Determinations, and proposed permit to rehabilitate the old municipal incinerator to a resource recovery facility and to construct another 1000 tons per day solid waste resource recovery facility at the existing site in Tampa.

Please submit any comments which you wish to have considered concerning this action in writing to Bill Thomas of the Bureau of Air Quality Management.

CF/bjm

Proposed Department Action

The Department intends to issue the requested permits to the City of Tampa for the rehabilitation of the old municipal incinerator to a resource recovery facility which will produce steam to generate electricity and for the construction of another 1000 ton per day solid waste resource recovery facility at the existing site in Hillsborough County.

Any person wanting to comment on this action may do so by submitting such comments in writing to:

Mr. Clair Fancy
Department of Environmental Regulation
Bureau of Air Quality Management
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Any comments received within thirty days after publication of this notice will be considered and noted in the Department's final determination.

Any person whose substantial interest would be affected by the issuance or denial of this permit may request an administrative hearing by filing a petition for hearing as set forth in Section 28-5.15 FAC (copy attached). Such petition must be filed within 14 days of the date of this notice with:

Ms. Martha Hall
Department of Environmental Regulation
Office of General Counsel
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Technical Evaluation
and
Preliminary Determination

McKay Bay Refuse-To-Energy Project

Permit Numbers

AC 29-47277
AC 29-47278

Florida Department of Environmental Regulation
Bureau of Air Quality Management
Central Air Permitting

January 19, 1982

I. PROJECT DESCRIPTION

A. Applicant

City of Tampa
306 East Jackson Street
Tampa, Florida 33602

B. Project and Location

The applicant's proposed project consists of rehabilitating the municipal incinerator into a 1000 ton per day solid waste resource recovery facility capable of generating electricity for sale to Tampa Electric Company. The second phase of the project consists of constructing a second 1000 ton per day solid waste resource recovery unit. The facility is to be located on a fourteen acre site adjacent to McKay Bay, south of Florida Route 60 in Tampa, Hillsborough County, Florida. The UTM coordinates are 360.0 km East and 3091.9 km North.

C. Process Description and Controls

The existing incinerator system consists of three mass burn combustion trains, without energy recovery, based upon the Volund technology. Each unit is rated at 250 ton per day. A fourth unit is to be added, thus increasing the design capacity of the facility to 1000 tons per day. The incinerator will be rehabilitated into a resource recovery facility by the addition of waste heat boilers, electrostatic precipitators and turbine generators. Ash produced by the combustion process will be handled by a wet system. The wet ash will be dewatered and loaded into trucks for subsequent disposal in the City's designated residue disposal site.

The second phase of the project is to construct another 1000 ton per day solid waste resource recovery facility. The facility will also be of the mass burn type, using either the rotary kiln or water wall technology.

II. RULE APPLICABILITY

The proposed project is located in the particulate and ozone nonattainment areas in Hillsborough County. For the remaining criteria pollutant, Hillsborough County is listed as unclassifiable for sulfur dioxide and attainment for carbon monoxide and nitrogen oxides. The project is also in the area of influence for the Pinellas County sulfur dioxide nonattainment area.

The uncontrolled emissions and the controlled emissions for the facility are:

Contaminant	Uncontrolled Tons per year	Controlled Tons per year
Particulate	27,350	226.0
Sulfur Dioxide	1,444	1,444
Nitrogen Oxides	1,233	1,233
Carbon Monoxide	258	258
VOC	64	64
Lead	27.2	27.2
Fluoride	36.8	36.8
Hydrogen Chloride	1,646	1,646
Mercury (vaporous)	3.6	3.6
Mercury (particulate)	0.13	0.13
Beryllium	0.0023	0.0023

The proposed project is a major emitting facility for the criteria pollutants, sulfur dioxide, nitrogen oxides, carbon monoxide, and particulate. Since the project will increase sulfur dioxide concentrations over the baseline, it is subject to the requirements of 17-2.04, FAC, prevention of significant deterioration (PSD). PSD review consists of a determination of best available control technology (BACT) and an air quality impact analysis to demonstrate that the project would not cause or contribute to a violation of Florida ambient air quality standards (FAAQS) or PSD increments. Since the project is a major emitting facility for nitrogen oxides and carbon monoxide, a BACT determination is required by 17-2.03, FAC, for those pollutants.

In addition, since construction is in the particulate (PM) and ozone nonattainment areas in Hillsborough County, the project is subject to the new source review (NSR) requirements of 17-2.17, FAC, for PM and VOC emissions. The nonattainment review consists of a determination of Lowest Achievable Emission Rate (LAER) for PM and VOC emissions, emission offsets for PM and VOC, and statewide compliance requirement for multiple facility ownership. Particulate emission offsets are exempted from immediate obtainment according to 17-2.17(3)1.c., FAC, since all available offsets have been secured and other sources of offsets are being explored.

In addition, the project is subject to emission limiting standards for PM under the adopted federal new source performance standards (NSPS) for incinerators (17-2.21(2)(a), FAC). The LAER determination must be at least as stringent as the applicable NSPS. The project is also subject to the requirements of 17-2.22, FAC, Emission Standards for Hazardous Air Pollutants. The hazardous air pollutant include Mercury, Beryllium, asbestos, and vinyl chloride.

Although, the project is in the area of influence of the Pinellas County sulfur dioxide nonattainment area, emission

modeling for SO₂ demonstrates that the SO₂ nonattainment area will not be significantly impacted by the project. Therefore, that the project is exempt from the NSR requirements (17-2.17, FAC) for the SO₂ nonattainment area.

III. SUMMARY OF EMISSIONS AND AIR QUALITY ANALYSIS

A. Emission Limitations

The emission limitations determined to be Lowest Achievable Emission Rate (LAER) are presented in Attachment A. The emission limitations determined to represent Best Available Control Technology are presented in Attachment B. The projected emissions from the facility are given below..

Facility 1

Pollutant	Emission Limitation	Maximum Hourly Rate (lb/hr)	Maximum Annual Rate (TPY)
Particulate	0.025 gr/dscf @ 12% CO ₂	30.4	133.3
Sulfur Dioxide	BACT	165.1	722.0
Nitrogen Oxides	BACT	206.4	903.0
Carbon Monoxide	BACT	13.3	58.0
VOC	LAER	7.3	32.0
Lead		3.1	13.6
Mercury (vaporous)		0.4	1.8
Mercury (particulate)		0.015	0.067
Beryllilum		0.00026	0.00116
Fluoride		4.2	18.4
Hydrogen Chloride		188.1	823.0

Facility 2.

Pollutant	Emission Limitation	Maximum Hourly Rate	Maximum Annual Rate
Particulate	0.025 gr/dscf @ 12% CO ₂	21.2	92.7
Sulfur Dioxide		165.1	722.0
Nitrogen Oxides		75.4	330.0
Carbon Monoxide		46.0	200.0
VOC		7.3	32.0

Lead	3.1	13.6
Mercury(vaporous)	0.4	1.8
Mercury(particulate)	0.015	0.067
Beryllium	0.00026	0.00116
Fluoride	4.2	18.4
Hydrogen Chloride	188.1	823.0

The emission information was based on data from Waste Management, Inc. the current Volund technology license. The data represent the highest values obtained from stack tests done worldwide.

B. Air Quality Impacts

The PSD increment and FAAQS analyses required for SO₂ depend on air quality modeling carried out in accordance with FDER-approved methods. Based on these required analyses, FDER has reasonable assurance that the resource recovery facilities, as described in this permit and subject to the conditions of approval proposed herein, will not cause or contribute to a violation of any PSD increment or ambient air quality standard. A discussion of the required analyses follows.

1. Modeling Methodology

The CRSTER atmospheric dispersion model, an FDER and EPA-approved model, was used to determine the maximum predicted annual and short-term impacts of the proposed project. The impacts of surrounding facilities were evaluated and added to the project's impact using monitoring and modeling data. Five years (1970-1974) of meteorological data collected by the National Weather Service Tampa office were used in the model. The monitoring data included four sites with measurements of sulfur dioxide and nitrogen dioxide.

2. Analysis of Existing Air Quality

Air quality monitors already existing in the immediate surroundings of the project site were used to assess the existing conditions. Maximum monitored concentrations of SO₂ are 25.6 ug/m³, annual average, 126 ug/m³ 24-hour average, and 597 ug/m³, 3-hour average. These values are not background values. They include the impact of existing major sources in the area. A highest quarterly average of 0.93 ug/m³ for lead has been monitored. A value of 68 ug/m³ for nitrogen dioxide has been recorded as the highest annual concentration. All of these values are well within the FAAQS.

3. PSD Increment Analysis

The Tampa resource recovery facilities are located in an area that is nonattainment for particulate and therefore not subject to PSD review for that pollutant. The area is designated Class II for SO₂. The nearest Class I area is the Chassahowitzka National Wilderness Area approximately 77 kilometers to the north-northwest.

All increment consuming sources that might have an impact in the project area were included in the analysis. As shown in the following table, the predicted maximum SO₂ increment consumption due to the new facilities plus all other increment consuming sources will not exceed allowable increments. The highest, second-highest short-term predicted concentrations are given in the table since five years of meteorological data were used in the analysis.

Maximum SO₂ PSD Increment Consumption (ug/m³)

	<u>Averaging Time</u>		
	<u>Annual</u>	<u>24-hour</u>	<u>3-hour</u>
Class II Increment Consumed	3.7	59	246
Allowable Class II Increment	20	91	512

The SO₂ significant impact area of the new facility is the area encompassing all predicted concentrations greater than 1 ug/m³ on an annual average. The greatest distance for which this occurs is approximately 10 kilometers. No significant impact on the nearest Class I area, 77 kilometer away, is expected as a result of the resource recovery facilities.

4. Ambient Air Quality Standards Analysis

State PSD regulations require the permit applicant to demonstrate that, given existing air quality in an area, a proposed emissions increase subject to PSD review will not cause or contribute to any violation of ambient air quality standards. As shown in the following table, predicted maximum ground-level concentrations of SO₂, NO₂ and CO resulting from emissions of the proposed facilities will be below the FAAQS. Also included is the predicted impact of lead for which there is both a state standard and a Federal standard of 1.5 ug/m³, 90-day average.

Maximum Predicted Concentrations¹(ug/m³)

	<u>Predicted Impact</u>	<u>FAAQS</u>
SO ₂		
Annual	29.3	60
24-hour	185	260
3-hour	843	1300
CO		
8-hour	2,518	10,000
1-hour	2,522	40,000
NO ₂		
Annual	71	100
Pb		
90-day	1.0	1.5

1. Includes existing air quality levels except for CO which includes background estimate of 2,500 ug/m³.

5. Impact on SO₂ Nonattainment Area

The proposed project is located approximately 40 kilometers from the boundary of the SO₂ nonattainment area in northwest Pinellas County. Because the maximum distance of the significant impact area extends only to 10 kilometers, no significant impact on the SO₂ nonattainment area is expected as a result of the proposed project.

IV Conclusions

The emission limitations stated previously are based upon the applicant's estimated combustion rates. The emission limitations proposed will not violate any ambient air quality standard, PSD increment, NSPS emission limitation or NESHAP limitation. All new source review requirements for nonattainment areas and all PSD requirements have been met in the application.

The General and Specific Conditions listed in the proposed permits will assure compliance with all applicable requirements of Chapter 17-2, FAC.

TECHNICAL ATTACHMENT A

LAER ANALYSIS

A determination of LAER for the two resource recovery facilities were made by the Department on December 18, 1981. A copy of the December 18, 1981, LAER determination follows.

Lowest Achievable Emission Rate (LAER) Determination

City of Tampa

Hillsborough County

The City of Tampa proposes to construct a facility to incinerate municipal solid waste and use the resulting heat energy to produce electricity as a saleable by-product. The facility is to be located at the site of a previous incinerator installation which has been inoperative since December 1979. This venture, known as the McKay Bay Refuse-to-Energy project, is a two phase plan.

Phase one is the renovation and conversion of the three existing mass burn combustion furnaces into a state-of-the-art resource recovery system. A fourth combustion furnace will be installed plus waste heat boilers, electrostatic precipitators and a condensing steam turbine electric generator. When phase one is completed the facility will have the capability to burn approximately 300,000 tons per year of solid waste and generate 21 megawatts of electricity.

Phase two is the installation of two new mass burn combustion furnaces, with heat recovery systems, and will be located adjacent to the renovated system. The new system will be capable of processing 1,000 tons per day of municipal solid waste and, in addition, to producing electricity will allow the recovery of recyclable materials, such as ferrous metals and aluminum.

The McKay Bay Refuse-to-Energy project, when completed, will be capable of processing 2,000 tons per day of solid waste. The land area needed for a landfill (dump) will be reduced approximately 90 percent. The residue (ash) to be disposed of in a landfill will be 15 percent of the mass but only 5 percent of the volume of waste collected and incinerated. The facility is scheduled to operate continuously with a 20 percent downtime allowable for maintenance.

Applicant's Estimated net increase in air emissions (tons/year):

Pollutant	Phase I	Phase II	Total
Particulates	160	109	269
SO ₂	722	420	1142
NO ₂	903	330	1233
CO ^x	58	200	258
HC	32	32	64

area requirements; B. eliminates a breeding ground for rodents; C. reduces possibility of ground water contamination; D. allows for the recovery of various metals for recycle.

3. Air pollution control technology is currently commercially available and capable of achieving the levels of control necessary to reduce most emissions from resource recovery facilities.
4. The construction of a new source, or modification, in a nonattainment area shall apply to the Department for a determination of the Lowest Achievable Emission Rate (LAER) that is applicable to the affected pollutant, which, in this case, the particulates and ozone (17-2.17(6)(a)FAC).

The Department has determined LAER for particulate matter to be 0.025 grains/DSCF, corrected to 12% CO₂. The emission limit is deemed to be achievable based on test data from a similar operating facility located in Nashville, Tennessee.

Resource recovery facilities have the potential to emit large amounts of hydrocarbons and carbon monoxide. Some of the main contributing factors are; the heterogeneous nature of municipal waste, a fuel feed system that does not maintain a constant firing rate and the use of unregulated combustion temperatures and air.

LAER is determined to be furnace design and combustion techniques that minimize HC and CO emissions without appreciatively increasing NO_x emission rates. A VOC emission rate of 9.13 pounds per hour per facility, as requested by the applicant, has been designated in order to determine and assign the VOC offsets required. The facility is to be located in an area designated unclassified for the pollutant sulfur dioxide. The emission limit for SO₂ will be determined by a Best Available Control Technology (BACT) evaluation.

The Refuse-to-Energy complex is located on a 14 acre site adjacent to McKay Bay, south of Route U.S. 60, which is in that portion of Hillsborough County classified nonattainment for the pollutants; particulate matter (17-2.13(1)(a)FAC) and ozone (17-2.16(1)(d)FAC). Therefore the emission limiting standards for the pollutants, particulate matter and ozone, will be subject to a Lowest Achievable Emission Rate (LAER) determination (17-2.17(6) (FAC).

LAER Determination Requested by the Applicant:

Pollutant	Emission Limit
Particulates	0.03 grains/DSCF at 50% excess air
Hydrocarbons	Facility Design

Date of Receipt of a LAER Application:

August 24, 1981

Review Group Members:

Carl Bock, BAQM New Source Review Section
John Svec, BAQM New Source Review Section
Tom Rogers, BAQM Air Modeling Section
Anthony Jones, Hillsborough County Environmental Protection Commission
Dan Williams, DFR Southwest District

Recommendations from the review group and other respondents were the basis for the final determination.

LAER Determination by DER:

Pollutant	Emission Limit
Particulates	0.025 grains/DSCF, corrected to 12% CO ₂
Hydrocarbons (VOC)	7.3 lb/hr per facility

Justification of DER Determination:

The LAER review group members in making the final determination had to cope with the following:

1. Resource recovery facilities have a high potential for severely and adversely affecting air quality. Pollutants of concern are SO₂, NO_x, particulates, HC(VOC), HCl and HF acid gases.
2. The thermal destruction of municipal waste is a recognized method of disposal, and, A. reduces landfill

Page Four

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, LAER Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:

Cliff James

tt Steve Smallwood, Chief, BAQM

Date:

12/16/81

Approved:

Victoria Tschinkel

Victoria Tschinkel, Secretary

Date:

12/18/81

SS:caa

TECHNICAL ATTACHMENT B.

BACT ANALYSIS

A determination of BACT for the two resource recovery facilities was made by the Department on December 18, 1981. A copy of the December 18, 1981, BACT determination follows.

Best Available Control Technology (BACT) Determination

City of Tampa

Hillsborough County

The City of Tampa proposes to construct a facility to incinerate municipal solid waste and use the resulting heat energy to produce electricity as a saleable by-product. The facility is to be located at the site of a previous incinerator installation which has been inoperative since December 1979. This venture, known as the McKay Bay Refuse-to-Energy project, is a two phase plan.

Phase one is the renovation and conversion of the three existing mass burn combustion furnaces into a state-of-the-art resource recovery system. A fourth combustion furnace will be installed plus waste heat boilers, electrostatic precipitators and a condensing steam turbine electric generator. When phase one is completed the facility will have the capability to burn approximately 300,000 tons per year of solid waste and generate 21 megawatts of electricity.

Phase two is the installation of two new mass burn combustion furnaces, with heat recovery systems, and will be located adjacent to the renovated system. The new system will be capable of processing 1,000 tons per day of municipal solid waste and, in addition, to producing electricity will allow the recovery of recyclable materials, such as ferrous metals and aluminum.

The McKay Bay Refuse-to-Energy project, when completed, will be capable of processing 2,000 tons per day of solid waste. The facility is scheduled to operate continuously with a 20 percent downtime allowance for maintenance.

Applicant's estimated net increase in air emissions (tons/year):

Pollutant	Phase I	Phase II	Total
Particulates	160	109	269
SO ₂	722	420	1142
NO _x	903	330	1233
CO ^x	58	200	258
HC	32	32	64

The Refuse-to-Energy complex is located on a 14 acre site adjacent to McKay Bay, south of Route U.S. 60, which is in that portion of Hillsborough County classified nonattainment for the pollutants: particulate matter (17-2.13(1)(a) FAC) and ozone (17-2.16(1)(d)FAC). This area is unclassified for the pollutant sulfur dioxide and classified attainment for the pollutant NO_x. Therefore the emission limiting standards for the pollutants, particulate matter and ozone, will be subject to a Lowest Achievable Emission Rate (LAER) determination (17-2.17(6)FAC), and a Best Available Control Technology (BACT) determination for the pollutants SO₂ and NO_x (17-2.04(6)(c)FAC).

BACT Determination Requested by the Applicant:

Pollutant	Emission Limit
SO ₂	Low sulfur content waste
NO _x	Boiler design and operating procedures

Date of Receipt of a BACT Application:

August 24, 1981

Date of Publication in the Florida Administrative Weekly:

September 4, 1981

Review Group Members:

Carl Bock, BAQM New Source Review Section
John Svec, BAQM New Source Review Section
Tom Rogers, BAQM Air Modeling Section
Anthony Jones, Hillsborough County Environmental Prot. Commission
Dan Williams, DER Southwest District

Recommendations from the review group and other respondents were the basis for the final determination.

BACT Determination by DER:

Pollutant	Emission Limit
SO ₂	330 pounds per hour
NO _x	Not specified at this time

Justification of DER Determination:

The BACT review group members in making the final determination

had to cope with the following:

- 1) Resource recovery facilities have a high potential for severely and adversely affecting air quality. Pollutants of concern are SO₂, NO_x, particulates, HC, HCL and HF acid gases.
- 2) The thermal destruction of municipal waste is a recognized method of disposal, and A. reduces landfill area requirements; B. eliminates a breeding ground for rodents; C. reduces possibility of ground water contamination; D. allows for the recovery of various metals for recycle.
- 3) Air pollution control technology is currently commercially available and capable of achieving the levels of control necessary to reduce most emissions from resource recovery facilities.
- 4) Calculation of sulfur dioxide emission factors for solid waste based upon the amount of SO₂ generated per million Btu of solid waste burned show the high value of the solid waste SO₂ emission to be slightly higher than the SO₂ emission factor for residue fuel oil containing 0.5 percent sulfur.
- 5) The technology for controlling NO_x emissions from resource recovery facilities is still in the experimental stage.
- 6) The land area needed for a landfill (dump) will be reduced approximately 90 percent. The residue (ash) to be disposed of in a landfill will be 15 percent of the mass but only 5 percent of the volume of waste collected and burned.

The BACT emission limit for SO₂ from a boiler in this size range is usually the use of fuel having a low sulfur content. The review group questioned how this would be implemented when burning municipal solid waste. The applicant stated the SO₂ emission would be 330 pounds per hour. Atmospheric dispersion modeling predicts no violation of the SO₂ increment at this level of SO₂ emissions. The SO₂ emission limit of 330 pounds per hour, is therefore, determined to be BACT.

The emission of NO_x is the result of two chemical processes that occur during combustion. In one case the heat of combustion causes the oxidation of nitrogen in the air, called thermal NO_x. The second case is when the nitrogen in the fuel

becomes oxidized, called fuel NO_x. Some of the factors influencing the amount of NO_x produced are flame temperature, nitrogen content of the fuel and the amount of excess air used.

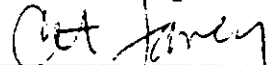
Several methods are being investigated to control NO_x emissions during the burning of the fuel or treatment of the flue gas. These methods are in the research and development stage and will require additional testing before being considered as BACT for the control of NO_x emissions from a resource recovery facility.

The applicant recommends as BACT the use of proper boiler design and operating procedures. The review group agrees that BACT for a NO_x emission limit not be specified at this time. The applicant's Operation and Maintenance (O&M) plan for the burner is determined as the BACT to minimize NO_x emission.

Details of the Analysis May be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended By:



Steve Smallwood, Chief, BAQM

Date:

12/16/81

Approved:



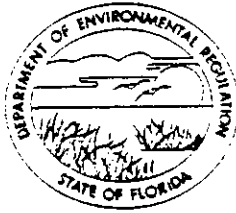
Victoria Tschinkel, Secretary

Date:

12/18/81

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT: City of Tampa
306 East Jackson Street
Tampa, Florida 33602

PERMIT/CERTIFICATION
NO. AC 29-47277

COUNTY: Hillsborough

PROJECT: McKay Bay Refuse-
to-Energy Facility No. 1

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2 and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and made a part hereof and specifically described as follows:

Rehabilitation of the three combustion chambers at the Tampa Municipal Incinerator and the construction of a fourth 250 TPD combustion chamber and the modification of the facility to a resource recovery facility.

Attachments:

1. McKay Bay Refuse-to-Energy Project, Application to Construct an Air Pollution Source, July, 1981.
2. McKay Bay Refuse-to-Energy Project, Application to Construct an Air Pollution Source, October, 1981.
3. Letter of Richard Garrity to Steve Smallwood, December 10, 1981, concerning effort to obtain emission offsets.

PERMIT NO.: AC 29-47277
APPLICANT: City of Tampa

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 29-47277
APPLICANT: City of Tampa

SPECIFIC CONDITIONS:

1. The maximum allowable emissions from the resource recovery facility No. 1 shall be:

Pollutant	Emission Limitation
Particulate	0.025 gr/dscf @12% CO ₂ 30.4 lb/hr
Sulfur dioxide	165.1 lb/hr
Nitrogen oxides	206.4 lb/hr
VOC	7.3 lb/hr
Lead	3.1 lb/hr
Carbon monoxide	13.3 lb/hr
Beryllium	5 grams/24 hr period 0.00026 lb/hr

2. Municipal waste only shall be burned in the facility. Wastewater treatment plant sludges or hazardous wastes shall not be incinerated.
3. Hours of operation for the facility shall be 24 hours per day, 7 days per week, 52 weeks per year.
4. Emission offsets for VOC shall be assigned from the New Source allowance available for Hillsborough County. Particulate emission offsets shall be obtained as soon as possible according to Section 17-2.17(3)(a)1.C., FAC.
5. An operation and maintenance plan as contained in 17-2.13(7), FAC, shall be submitted with the operating permit application and be made part of the operating permit.
6. Compliance testing for all criteria and NESHAPS pollutants shall be conducted in accordance with the methods contained in 40 CFR 60 and 61. A source testing plan shall be submitted to the Department for approval 90 days prior to testing. The Department shall be notified of compliance testing at least 30 days prior to the testing.
7. During the particulate compliance testing, a visible emission standard shall be established by 40 CFR 60, Appendix A, Method 9, as a surrogate compliance method as contained in 17-2.23(3), FAC, and be made a condition of the operating permit.
8. Prior to ninety days before the expiration of this permit, a complete application for an operating permit shall be submitted to the DER Southwest District Office or its designee.

PERMIT NO.: AC 29-47277
APPLICANT: City of Tampa

Expiration Date: September 30, 1984

Issued this _____ day of _____, 19_____.

_____ Pages Attached.

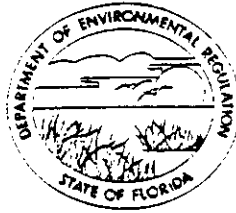
STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Signature

PAGE 4 OF 4

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

APPLICANT: City of Tampa
306 East Jackson Street
Tampa, Florida 33602

PERMIT/CERTIFICATION
NO. AC 29-47278

COUNTY: Hillsborough

PROJECT: McKay Bay
Refuse-To-Energy
Facility No. 2

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Chapter 17-2
and 17-4, Florida Administrative Code. The above named applicant, hereinafter called Permittee, is hereby authorized to
perform the work or operate the facility shown on the approved drawing(s), plans, documents, and specifications attached hereto and
made a part hereof and specifically described as follows:

Construction of two 500 TPD combustion chambers and associated
equipment of a resource recovery facility.

Attachments:

1. McKay Bay Refuse-to-Energy Project, Application to Construct
an Air Pollution Source, July, 1981.
2. McKay Bay Refuse-to-Energy Project, Application to Construct
an Air Pollution Source, October, 1981.
3. Letter of Richard Garrity to Steve Smallwood, December 10, 1981,
concerning effort to obtain emission offsets.

PERMIT NO.: AC 29-47278
APPLICANT: City of Tampa

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth herein are "Permit Conditions", and as such are binding upon the permittee and enforceable pursuant to the authority of Section 403.161(1), Florida Statutes. Permittee is hereby placed on notice that the department will review this permit periodically and may initiate court action for any violation of the "Permit Conditions" by the permittee, its agents, employees, servants or representatives.

2. This permit is valid only for the specific processes and operations indicated in the attached drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit shall constitute grounds for revocation and enforcement action by the department.

3. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately notify and provide the department with the following information: (a) a description of and cause of non-compliance; and (b) the period of non-compliance, including exact dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the department for penalties or revocation of this permit.

4. As provided in subsection 403.087(6), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

5. This permit is required to be posted in a conspicuous location at the work site or source during the entire period of construction or operation.

6. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Section 403.111, F.S.

7. In the case of an operation permit, permittee agrees to comply with changes in department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or department rules.

8. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, plant, or aquatic life or property and penalties therefore caused by the construction or operation of this permitted source, nor does it allow the permittee to cause pollution in contravention of Florida Statutes and department rules, except where specifically authorized by an order from the department granting a variance or exception from department rules or state statutes.

9. This permit is not transferable. Upon sale or legal transfer of the property or facility covered by this permit, the permittee shall notify the department within thirty (30) days. The new owner must apply for a permit transfer within thirty (30) days. The permittee shall be liable for any non-compliance of the permitted source until the transferee applies for and receives a transfer of permit.

10. The permittee, by acceptance of this permit, specifically agrees to allow access to permitted source at reasonable times by department personnel presenting credentials for the purposes of inspection and testing to determine compliance with this permit and department rules.

11. This permit does not indicate a waiver of or approval of any other department permit that may be required for other aspects of the total project.

12. This permit conveys no title to land or water, nor constitutes state recognition or acknowledgement of title, and does not constitute authority for the reclamation of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the state. Only the Trustees of the Internal Improvement Trust Fund may express state opinion as to title.

13. This permit also constitutes:

- Determination of Best Available Control Technology (BACT)
- Determination of Prevention of Significant Deterioration (PSD)
- Certification of Compliance with State Water Quality Standards (Section 401, PL 92-500)

PERMIT NO.: AC 29-47277
APPLICANT: City of Tampa

SPECIFIC CONDITIONS:

1. The maximum allowable emissions from the resource recovery facility shall be:

Pollutant	Emission Limitation	
Particulate	0.025 gr/dscf @ 12% CO ₂	21.2 lb/hr
Sulfur dioxide		165.1 lb/hr
Nitrogen oxide		75.4 lb/hr
VOC		7.3 lb/hr
Carbon monoxide		46.0 lb/hr
Lead		3.1 lb/hr
Beryllium	5 gram/24 hr. period	0.00026 lb/hr

2. Municipal waste only shall be burned in the facility. Wastewater treatment plant sludges or hazardous wastes shall not be incinerated.
3. Hours of operation for the facility shall be 24 hours per day, 7 days per week, 52 weeks per year.
4. Emission offsets for VOC shall be assigned from the New Source allowance available for Hillsborough County. Particulate emission offsets shall be obtained as soon as possible according to Section 17-2.17(3)(a)1.C., FAC.
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7. During the particulate compliance testing, a visible emission standard shall be established by 40 CFR 60, Appendix A, Method 9, as a surrogate compliance method as contained in 17-2.23(3), FAC, and be made a condition of the operating permit.
8. Prior to ninety days before the expiration of this permit, a complete application for an operating permit shall be submitted to the DER Southwest District Office or its designee.

PERMIT NO.: AC 29-47278
APPLICANT: City of Tampa

9. If construction has not commenced by eighteen months after issuance of this permit, information shall be submitted for the reassessment of the BACT/LAER emission limitations and these emission limitations shall be made as permit conditions.

Expiration Date: April 30, 1985

Issued this _____ day of _____, 19_____.

_____ Pages Attached.

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Signature



CITY OF TAMPA

Bob Martinez, Mayor

MCKAY BAY REFUSE-TO-ENERGY PROJECT

December 10, 1981

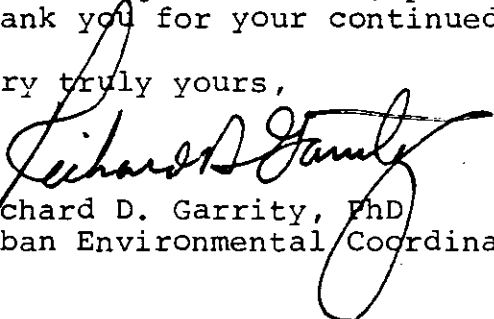
Mr. Steve Smallwood, Chief
Bureau of Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Smallwood:

The attached letters are responses to the City of Tampa's inquiries concerning available offsets for Total Suspended Particulate emissions from the proposed resource recovery facilities. The only remaining source of offsets which has not responded to our inquiries is Gardinier, Inc. We will be sending Gardinier a third letter of inquiry in the near future.

We hope these letters portray to you the continuing efforts of the City of Tampa to obtain offsets for our proposed resource recovery facilities. If you have questions concerning this issue, please contact me at (813) 223-8071. Thank you for your continued efforts on our behalf.

Very truly yours,


Richard D. Garrity, PhD
Urban Environmental Coordinator

RDG/dw

Attachments



POST OFFICE BOX 111 TAMPA, FLORIDA 33601 TELEPHONE (813) 879-4111

October 16, 1981

Dale H. Twachtmann, Administrator
Water Resources and Public Works
City of Tampa
City Hall Plaza
Tampa, FL 33602

Dear Mr. Twachtmann:

We have received your request for total suspended particulate (TSP) matter offsets in connection with the planned refuse-to-energy facilities at the Tampa Municipal Incinerator Site. As we have indicated in our discussions with Mr. Joe Murdoch, Tampa Electric Company, at this time, has no available TSP emission offsets from our facilities.

Should you have any questions concerning this matter, please contact Mr. John Ramil at 228-4338.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jerry L. Williams".

Jerry L. Williams
Manager,
Environmental Planning

cc: Joe Murdoch

General Portland Inc.



October 20, 1981

Mr. Joe Murdock
McKay Bay Refuse Project
City Hall Plaza
Tampa, Florida 33602

Re: Tampa's Request for Particulate Emission Offsets

Dear Mr. Murdock:

This is in response to your July 10, 1981 request for our company's assistance in providing the City of Tampa Particulate Emissions to offset and allow permitting a new refuse incinerator to generate heat and electricity. General Portland Inc. supports the City of Tampa in its continuing efforts to fund and build a refuse incinerator. We believe the facility could prove both cost effective and a better use of available resources than other concepts.

General Portland's Tampa plant has been proposed as a facility to "bubble" its emissions under recent U.S. Environmental Protection Agency policy and rule-making. We have proceeded with this plan to "bubble" our emissions and have received approvals, as of this date, from the Hillsborough County Environmental Protection Commission and the Florida Department of Environmental Regulation. The plan is presently in review and concurrence at EPA's Regional office in Atlanta. The package is expected to be finalized as a revision to Florida's State Implementation Plan late this year.

General Portland, while supporting the City in its efforts to produce electricity by waste incineration cannot, at this time, provide the offset emission assistance you request due to the ongoing review, approval and proposed rule-making process in which we are actively engaged. However, we wish you success in your efforts.

If we can be of assistance in other areas, please feel free to call on us.

Yours truly,

William H. Winders
Environmental Manager

WHW:ld