



# RTP ENVIRONMENTAL ASSOCIATES INC.®

AIR · WATER · SOLID WASTE CONSULTANTS

239 U.S. Highway 22 East  
Green Brook, New Jersey 08812-1909  
(www.rtpenv.com)

(732) 968-9600  
Fax (732) 968-9603

September 19, 2000

Ms. Patty Adams  
Assistant Planner  
Division of Air Resources Management  
Florida Dept. of Environmental Protection  
111 S. Magnolia  
Tallahassee, FL 32301

Dear Ms. Adams:

Attached please find check #10139 in the amount of \$250.00. In accordance with my conversation today with Mr. Joseph Kahn, the check covers the application fee for the letter application for the Pinellas County Resource Recovery Facility dated August 30, 2000.

If you have any questions, please feel free to contact me at 732/968-9600.

Sincerely,

RTP ENVIRONMENTAL ASSOCIATES, INC.®

Donald F. Elias, Principal

DFE/WEC/wec

Attachment

cc: R.Larsen  
W.Corbin  
D.De, Esq.  
PCRRF4 Proj.File

**RECEIVED**  
SEP 20 2000  
BUREAU OF AIR REGULATION



RTP ENVIRONMENTAL ASSOCIATES INC.

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239 U.S. Highway 22 East • Green Brook, New Jersey 08812

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LETTER OF TRANSMITTAL

TO Ms. Patty Adams
Florida Dept. of Environmental Protection
111 South Magnolia
Tallahassee, FL 32301

Date: 09-19-00 Proj. ID: PCRRF-206

WE ARE SENDING YOU: [XX] Attached [ ] Under separate cover
VIA: [ ] 1st Class Mail [XX] Federal Express [ ] Hand Delivery [ ] Other
THE FOLLOWING ITEMS: a.m. delivery

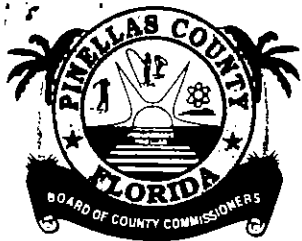
Table with 4 columns: Copies, Date, No., Description. Includes a 'RECEIVED' stamp from the Bureau of Air Regulation dated SEP 20 2000.

THESE ARE TRANSMITTED AS CHECKED BELOW:
[ ] For approval [ ] For review and comment [ ] Resubmit \_\_\_ copies for approval
[X] For your use [ ] Copies returned after loan [ ] For signature
[ ] As requested [ ] Returned for corrections

REMARKS: Patty, Here is the check for the Pinellas County MWC application as requested by Joe Kalin. Please call if any questions. Thanks.

COPY TO:
SIGNED: [Signature]

If enclosures are not as noted, kindly notify us at once.



"Serving You Every Day"

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PINELLAS COUNTY UTILITIES  
 PO BOX 1780  
 CLEARWATER, FLORIDA 33757

RECEIVED

SEP 01 2000

BUREAU OF AIR REGULATION

CERTIFIED MAIL

August 30, 2000

Mr. Clair H. Fancy, P.E.  
 Chief, Bureau of Air Regulation  
 Florida Dept. of Environmental Protection  
 Twin Towers Office Building  
 2600 Blair Stone Road  
 Tallahassee, FL 32399-2400

Dear Mr. Fancy:

As you are aware, Pinellas County owns a nominal 3150 ton/day Resource Recovery Facility (RRF) which is operated by Wheelabrator Pinellas Inc. Pinellas County is submitting this letter application for an amendment to PSD Permits PSD-FL-011(A) and PSD-FL-098(A) for the Capital Replacement Project (CRP) as was agreed upon in your July 7, 2000 meeting with the County representatives.

Project Overview/Description

Upgrades to comply with the USEPA Emission Guidelines (EG) in 40 CFR 60 Subpart Cb have recently been completed at the facility. The Capital Replacement Project (CRP) will complete the necessary facility improvements begun with the EG upgrades. The CRP can be grouped into seven areas as shown in the attached description: boiler refurbishment, crane refurbishment, cooling tower refurbishment, instrumentation and control upgrades, feedwater pump refurbishment or replacement, tipping floor improvements, and water treatment system replacement. Only the boiler refurbishment affects the parts of the facility responsible for air emissions and is regulated directly by the Clean Air Act. The portions of the facility affected by the CRP and considered to be part of the Municipal Waste Combustors (MWC) for the New Source Performance Standard (NSPS) reconstruction purposes as described below include the boilers, cranes, and feedwater pumps.



Mr. Clair H. Fancy, P.E.  
August 30, 2000  
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Commencement of the CRP project is currently expected to take place in 2001. Construction activities are expected to take up to four months on each unit. Including time for acceptance testing and depending on the scheduling of unit downtimes, overall facility construction will require approximately three years.

#### NSPS Regulatory Applicability

The CRP will not increase the physical capacity of the facility so maximum actual short-term (i.e., lb/hr) emission rates will remain at the EG levels. Therefore, the CRP is not a "modification" for (NSPS) purposes since short-term emissions will not be increased (see 40 CFR 60.1 and 60.14).

The CRP also does not constitute a "reconstruction" for NSPS purposes. The "physical boundaries" of the municipal waste combustors (MWC, the regulated "facility" for NSPS purposes) start at the waste pit and extend through the economizer outlet as outlined at 40 CFR 60.51b and further defined by USEPA Region IV in their August 20 and December 30, 1996 letters for the City of Tampa McKay Bay RRF. The estimated capital cost of \$35 million (year 2000 dollars) for the CRP for the regulated portions of the MWC is very much less than the original facility bonds of approximately \$450 million (year 2000 dollars). Based on a generic USEPA formula (59 FR 48240), total new construction costs for the regulated portions of the MWCs would be \$290 million (year 2000 dollars). Thus, the CRP represents approximately 12% of the total cost for new construction of the regulated portions of the facility.

Since the Pinellas County RRF began operation in 1984, capital maintenance costs on the regulated portions of the MWC units, excluding EG improvements, have been about \$31.5 million (year 2000 dollars). Including these historic capital maintenance costs with the CRP costs as discussed by USEPA Region IV in their August 20 and December 30, 1996 letters for the City of Tampa McKay Bay RRF gives total capital costs of \$66.5 million, which is only 23% of new construction costs for regulated portions of the MWCs (year 2000 dollars). The CRP improvements are thus neither a "modification" under 40 CFR 60.14 nor a "reconstruction" under 40 CFR 60.15. Therefore, the CRP would not subject the facility to NSPS requirements. The facility will continue to comply with the EG requirements in 40 CFR Subpart Cb, which are reflected in the draft Title V permit.

#### PSD Regulatory Applicability

Since the CRP will not increase the physical capacity of the facility, no Prevention of Significant Deterioration (PSD) significant increase in actual long-term (i.e., ton per year, or tpy) emissions are expected as a result of the CRP improvements. As the CRP improvements represent like-kind replacements, the facility will be allowed to use an "actual-to-actual" test similar to the WEPCO exemption to demonstrate there is no PSD significant increase in actual emissions as was discussed in your July 7 meeting with the County representatives.

Mr. Clair H. Fancy, P.E.

August 30, 2000

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Past actual emissions for most of the "contemporaneous" period (i.e., the past five years) reflect facility emissions with electrostatic precipitator (ESP) control of particulate matter (PM) only. The recent air pollution control (APC) improvements required by the EG replaced the ESPs with spray dry absorbers (SDA) for acid gas control, fabric filter (FF) baghouses for improved PM control, selective noncatalytic reduction (SNCR) systems for NO<sub>x</sub> control, and powdered activated carbon injection systems (PACIS) for mercury control. This has resulted in a significant reduction in actual emissions of all PSD pollutants other than uncontrolled combustion-related pollutants like CO<sup>a</sup>.

The amount of actual facility emissions data reflecting the current SDA/FF/SNCR/PACIS configuration on all three MWCs is extremely limited since the final MWC (Unit No. 1) only recently completed the initial EG compliance test with the new APC equipment in late May 2000. Attached are the most recent CEM data for NO<sub>x</sub>, SO<sub>2</sub>, and CO which average to 191.4, 6.9, and 19.0 ppm<sub>dv</sub> corrected to 7% O<sub>2</sub>, respectively, for all three MWC units. The CEM data represent the first two full months (June 1-July 31) of facility operation with all three MWCs simultaneously operating under the EG standards. Using the average flow rate of 104,233 dscfm corrected to 7% O<sub>2</sub> for the most recent dioxin tests<sup>b</sup> and the overall unit average availability of 1315.1 hours/unit during the period of CEM data, equivalent long-term ton/year emissions were calculated as shown on the attached table. Similarly, available stack test measurements for the current APC configuration were reviewed and equivalent tpy emissions were calculated, again based on the unit availability during the period of CEM data. Due to the extremely limited amount of data, worst-case stack test averages (in lb/hr) were used. These PM, lead, mercury, PCDD/F, and MWC acid gas (HCl) measurements of current actual facility emissions are included on the attached table.

Based on the current actual emissions data and the PSD significance levels, future actual emissions will be limited to the annual emission levels shown on the attached table. At this time, the calculation of future emissions on the attached table does not consider allowable emissions increases due to demand growth. As can be seen, the pollutant with the smallest percentage increase in allowable actual emissions is NO<sub>x</sub>. This pollutant is expected to be "controlling" in terms of being the most restrictive to future operations. By comparison, the PSD significance levels for SO<sub>2</sub>, CO, and Pb are a large fraction of current actual emissions and compliance is readily expected with future allowable actual emission levels. Since the CRP improvements will take time to implement, current actual emission estimates may be refined based on future information. After the CRP improvements are constructed, future actual emissions will be tracked for up to five years to document that no increase in actual emissions greater than the PSD significance levels occurred.

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<sup>a</sup>Since the EG improvements were mostly adding pollution control equipment, no change in uncontrolled combustion-related pollutant emissions would be expected.

<sup>b</sup>Dioxin stack tests are used to establish MWC operating loads for future operations and are generally the longest overall stack tests in length of time, providing the most representative flow rate measurements for calculating emission rates.

Mr. Clair H. Fancy, P.E.

August 30, 2000

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We hope this information fulfills the requirements discussed in your July 7 meeting with the County representatives. Should you have any questions, please feel free to contact Donald F. Elias of RTP Environmental Associates at 732/968-9600.

Sincerely,

PINELLAS COUNTY UTILITIES



Pick Talley  
Director of Utilities

cc: P. Stasis/R. Larson/D. Dee, Esq./W. Smith/R. Henson/S. Reinhart/M. Killeen/T. Porter

*B. Thomas, SWD*  
*EPA*  
*NPS*

PINELLAS COUNTY RESOURCE RECOVERY FACILITY  
CAPITAL REPLACEMENT PROJECT

1. Boiler Refurbishment

The three (3) existing resource recovery boilers at the PCRFF each consist of a Martin grate system and waterwall electric-steam generating boiler which were originally supplied by D. B. Riley, Inc. These boilers, National Board Numbers NB-2603, NB-2624, and NB-2655 for Units 1, 2, and 3, respectively, were installed in 1982, 1983, and 1985. The planned project consists of replacement in kind of boiler tubes, headers, attachments and trim parts from the furnace gas exit to the economizer exit. Associated boiler gas side cleaning equipment consisting of soot blowers and rappers are also being replaced and/or relocated. Existing furnace, grate and steam drums will be retained. Casing elements and hoppers are being refurbished and/or replaced, as appropriate.

2. Refuse Crane Refurbishment

The existing refuse crane system at the PCRFF consists of three (3) independently operated overhead grapple cranes supplied by Harnishfager (P&H). The existing crane electrical and mechanical systems will be replaced with functionally similar equipment.

3. Cooling Tower Refurbishment

The existing cooling tower consists of five (5) forced draft cells constructed of wood. In order to maintain structural integrity and design performance parameters, the cooling tower will be cleaned, inspected and refurbished including installation of new fill, distribution system, replacement of mechanical equipment, fan deck, and structural framing.

4. Instrumentation and Control Upgrades

The existing plant Instrumentation and Control (I&C) systems, consisting primarily of 1970's vintage equipment, are obsolete. Upgrades to the I&C systems will consist of modernization of the Martin grate control systems and the balance of plant instrumentation and controls. Pneumatically operated control equipment will be replaced with modern digital based controls.

5. Feedwater Pumps

The existing motor and turbine driven boiler feedwater were installed in 1982 and 1985, and will be replaced and/or refurbished with functionally equivalent equipment.

6. Tipping Floor

In order to enhance safety and operability, certain improvements to minimize traffic delays and facilitate safer unloading of refuse vehicles will be undertaken. The primary means to achieve this will be additional ingress and egress provisions for vehicles to be used during peak and/or congested periods of arriving traffic.

7. Water Treatment

The existing boiler water treatment equipment consists of three (3) trains of anion and cation demineralizers. The equipment will be replaced with two (2) trains of functionally equivalent demineralizers.

### CALCULATIONS OF ACTUAL FACILITY EMISSIONS

<b>Pollutant</b>	<b>Current Actual Emissions (tpy)</b>	<b>PSD Significance Levels (tpy)</b>	<b>Trigger Level for Future Actual Emissions (tpy)</b>
NO <sub>x</sub>	1687	40	1727
SO <sub>2</sub>	85	40	125
CO	102	100	202
PM/PM <sub>10</sub>	47	25/15	72/62
Pb	0.25	0.6	0.85
Hg	0.23	0.1	0.33
MWC Organics (Total PCDD/F)	9.8e-05	3.5e-06	1.0e-04
MWC Acid Gases (HCl+SO <sub>2</sub> )	239	40	279





**WHEELABRATOR PINELLAS INC.**  
A WASTE MANAGEMENT COMPANY

3001 110th Avenue N.  
St. Petersburg, FL 33716-2002  
(727) 572-9163  
(727) 572-4370 Fax

August 16, 2000

Donald Elias  
RTP Environmental  
239 US Highway 22 East  
Green Brook, New Jersey 08812

Dear Don:

The following table summarizes the average steam flow, NOx, CO, and SO<sub>2</sub> at the Pinellas County Resource Recovery Facility (PCRRF) for all three boilers (Unit 1, 2, and 3):

Boiler	Steam Flow (klbs/hour)	Unit On Line (minutes)	NOx (ppmdv @ 7% O <sub>2</sub> )	SO <sub>2</sub> (ppmdv @ 7% O <sub>2</sub> )	CO (ppmdv @ 7% O <sub>2</sub> )
Unit 1	203.8	83,561.7	190.55	10.3	35.1
Unit 2	192.6	73,865.2	192.18	6.28	12.1
Unit 3	197.5	79,282.7	191.36	4.19	9.7

Please note these averages are from 00:00 on 6/1/00 to 23:59 on 7/31/00 CEMS time at the PCRRF (CEMS time remains at Eastern Standard Time). This information is from the ESC computer system. All of which are from the 24-hour report channels.

If you require any further information or have any questions, please feel free to give me a call at (727) 572-9163 x25.

Sincerely,

Steve Reinhart  
EH&S Director

Cc: Ron Larson; HDR  
Tim Porter, Matt Killeen, Robert Henson; Wheelabrator