HDR

December 1, 1997

Mr. Hamilton S. Oven, Jr., Administrator
Florida DEP Office of Siting Coordination, Mail Station 48
2600 Blair Stone Road, Twin Towers Office Building
Tallahassee, FL 32399-2400

RE: Site Certification, Pinellas County Resource Recovery Facility Units 1-3
Certification No. PA 78-11 and PA 83-18

Dear Mr. Oven:

In our September 15th letter to you concerning modifications to the Pinellas County Resource Recovery Facility (PCRRF) retrofit project, we mentioned that we would also be applying to modify the PPSA Conditions of Certification in accordance with the U.S. EPA Direct Final Rule (DFR) published in the August 25, 1997 Federal Register (62 FR 45115) for large Municipal Waste Combustor (MWC) units. The August 25, 1997 publication amends and revises the 40 CFR 60 Subpart Cb Emission Guidelines (EG) consistent with the March 1997 remand by the United States Court of Appeals for the District of Columbia (see Davis County Solid Waste Management and Energy Recovery Special Service District, et al. v. U.S. EPA, Case 95-1611). With the following exceptions, nearly all of the requirements in the original December 19, 1995 Subpart Cb EG (60 FR 65387) for large MWC plants were retained in the August 25, 1997 DFR for large MWC units.

Pollutant	December 19, 1995 Emission Limitation	August 25, 1997 Emission Limitation
Lead (Pb)	490 ug/dscm at 7% O_2	440 ug/dscm at 7% O_2
Sulfur dioxide (SO_2)	31 ppmdv at 7% O_2 or 75% control	29 ppmdv at 7% O_2 or 75% control
Hydrogen chloride (HCl)	31 ppmdv at 7% O_2 or 95% control	29 ppmdv at 7% O_2 or 95% control
Nitrogen Oxides (NO_x)	200 ppmdv at 7% O_2	205 ppmdv at 7% O_2[a]

As can be seen, the new EG emission limits are more stringent for Pb, SO_2, and HCl and less stringent (for mass burn waterwall combustors) for NO_x.

[a]For mass burn waterwall combustors like the PCRRF units.

HDR Engineering, Inc.
Suite 300
5100 W. Kennedy Boulevard
Tampa, Florida
33609-1840
Telephone
813 287-1960

Compliance with the August 25, 1997 Pb, SO_2, and HCl limits based on the U.S. EPA schedule must be achieved by August 26, 2002 or three years after approval of a State plan implementing these revised limits, whichever occurs first. For NO_x, U.S. EPA will approve State plans that include the less restrictive NO_x limit prior to the effective date of the August 25, 1997 EG. The Florida State plan revisions for the December 19, 1995 EG emission limits was approved by U.S. EPA on November 13, 1997 (62 FR 60785), so compliance with these EG emission limits for Pb, SO_2, and HCl (as well as all other pollutants) must be achieved by November 14, 2000.

As part of the current permitting action, we are therefore requesting additional revisions to the PPSA Conditions of Certification consistent with the August 25, 1997 DFR. Attached are these additional requested revisions to the PPSA Conditions of Certification, as well as the revisions requested in our September 15th letter. We are proposing to retain the originally promulgated December 19, 1995 EG emission limits for Pb, SO_2, and HCl until the effective date of the August 25, 1997 EG emission limits for these pollutants.

In addition, we would like to respond to the outstanding agency comment concerning this permit application (see October 15, 1997 memorandum to Buck Oven from Syed Arif through A. A. Linero). In that memo, it noted that contemporaneous emissions increases from the auxiliary boiler, together with the proposed increase in auxiliary burner emissions, would exceed 40 tons/year for NO_x. However, this calculation fails to recognize the substantial contemporaneous decrease in facility NO_x emissions which will occur as a result of adding selective non-catalytic reduction (SNCR) systems to the main facility combustors. Stack tests[b] for the two most recent years averaged 260 ppmdv corrected to 7% O_2. The August 25, 1997 EG specify a NO_x emission limit of 205 ppmdv corrected to 7% O_2, which represents a decrease in combustor NO_x emissions of more than 20%. The last two years of facility operating data[c] show the three units average about 7000 hours/unit/year of operation. Thus, the contemporaneous decrease in actual annual NO_x emissions due to installation of SNCR systems are as follows:

$$\frac{(260 - 205)\ parts}{1000000} \times \frac{87396\ dscf}{mins} \times \frac{46\ lbs}{mole} \times \frac{0.0025956\ moles}{dscf}$$

$$\times \frac{60\ mins}{hour} \times \frac{7000\ hours}{unit \cdot year} \times \frac{ton}{2000\ lbs} \times 3\ units = \frac{362\ tons}{year}$$

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[b]The past two years of stack tests for Unit 3 (the only unit with NO_x compliance tests) showed NO_x emissions of 272 ppmdv at 74,606 dscfm during the March 11-13, 1997 tests and 248 ppmdv at 100,185 dscfm during the March 11-15, 1996 tests (all concentrations and flowrates corrected to 7% O_2). Since Units 1 and 2 are identical to Unit 3, actual average NO_x emissions are expected to be 260 ppmdv for an average flowrate of 87,396 dscfm corrected to 7% O_2 for all three units.

[c]As presented in the annual emission statements, the hours of operations for Units 1, 2, and 3 were 6533, 6888, and 7458 hours in 1996 and 6416, 6983, and 7710 hours in 1995, respectively. Thus, average hours of operation were 6960 and 7036 hours/unit/year in 1996 and 1995, respectively.

The contemporaneous decrease in actual facility NO_x emissions due to installation of the SNCR systems is far greater than any contemporaneous increases due to the addition of the auxiliary boiler and the auxiliary burners. Thus, the overall impact of the PCRRF retrofit project and the auxiliary boiler will be a substantial decrease in actual facility NO_x emissions, which would be expected for a pollution control project.

If you have any questions, please feel free to contact me at 813/464-7527 or William E. Corbin of RTP Environmental Associates at 732/968-9600.

Sincerely,

HDR Engineering, Inc.

RP Stasis

R. Peter Stasis, P.E.
Florida Registration Number 46220
Vice President

Attachments

cc: M.Rudd
R.Menke
P.Talley
D.Dee
L.Koon(2)
D.Elias/W.Corbin
HDR(2)
PINCO Solid Waste(2)
M.Hewitt/S.Arif/A.A.Linero

CERTIFICATE OF SERVICE

I HEREBY CERTIFY this 8th day of December 1997, that a true and correct copy of the foregoing has been sent by Certified Mail to the following listed persons:

Hamilton S. Oven, Jr., P.E., Administrator
FDEP Office of Siting Coordination
Mail Station 48
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, FL 32399-2400

Brian Beals
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, GA 30365

Pinellas County Department of
Environmental Management
315 Court Street
Clearwater, FL 34616

Pinellas County Building Trades Council
c/o G. Wallace
2165 Country Club Court North
St. Petersburg, FL 33710

Paul Darst
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399

Plumbers and Pipe Fitters Local Union No. 111
c/o Fred Stiles
4020 80th Avenue North
Pinellas Park, FL 33565

Sonny Vergara, Executive Director
SWFWMD
2379 Broad Street
Brooksville, FL 34609-6899

Bob Elias, Esquire
Office of General Council
Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

City of Pinellas Park
Edward Foreman & Associates
City Attorney
100 Second Avenue North
Suite 300
St. Petersburg, FL 33701

Roger Tucker
Tampa Bay Regional Planning Council
9455 Koger Boulevard, Suite 219
St. Petersburg, FL 33702-2491

Mayor Cecil Bradbury
City of Pinellas Park
Post Office Box 1100
Pinellas Park, FL 34664-1100

Jim Antista
FG&FWFC
620 South Meridian Street
Tallahassee, FL 32399

R. Peter Stasis

R. Peter Stasis, P.E.
HDR Engineering Inc.
5100 West Kennedy Blvd., Suite 300
Tampa, FL 33609
(813)464-7527

Revisions for 8/25/97 Direct Final Rule (DFR)

(a) Sulfur dioxide (SO_2) emissions shall not exceed 31 parts per million by dry volume (ppmdv) corrected to 7% O_2 (24-hour daily geometric mean)** or achieve 75% removal efficiency as a geometric mean value, whichever is less restrictive, with a not-to-exceed cap of 122 ppmdv corrected to 7% O_2; 0.372 lbs/MMBTU, 170.0 lbs/hr/unit, and 744.6 tons/yr/unit.

**Insert
[29 ppmdv corrected to 7% O_2 (24-hour daily geometric mean) after the effective date of the August 25, 1997 EG limits]

(b) Hydrogen chloride (HCl) emissions shall not exceed 31 ppmdv corrected to 7% O_2,** or achieve 95% removal efficiency, whichever is less restrictive, with a not-to-exceed cap of 100 ppmdv corrected to 7% O_2; 0.174 lbs/MMBTU, 79.8 lbs/hr/unit, and 349.5 tons/yr/unit.

**Insert
[29 ppmdv corrected to 7% O_2 after the effective date of the August 25, 1997 EG limits]

(4) Carbon monoxide (CO) emissions shall not exceed 100 ppmdv corrected to 7% O_2 (4-hour arithmetic block average); 0.133 lbs/MMBTU, 61.0 lbs/hr/unit, and 267.2 tons/yr/unit.

(5) MWC Metals

(a) Mercury (Hg) emissions shall not exceed 70 micrograms/dry standard cubic meter (g/dscm) corrected to 7% O_2 or achieve 85% control, whichever is less restrictive, with a not-to-exceed cap of 100 μg/dscm corrected to 7% O_2, 1.2×10^{-4} lb/MMBTU, 5.24×10^{-2} lbs/hr/unit, and 0.23 tons/yr/unit.

(b) Lead (Pb) emissions shall not exceed 490 μg/dscm corrected to 7% O_2; 5.6×10^{-4} lbs/MMBTU, 0.257 lbs/hr/unit, and 1.13 tons/yr/unit.**

**Insert
After the effective date of the August 25, 1997 EG limits, Pb emissions shall not exceed 440 ug/dscm correct to 7% O_2, 5.0×10^{-4} lbs/MMBTU, 0.230 lbs/hr/unit, and 1.01 tons/yr/unit.

(c) Cadmium (Cd) emissions shall not exceed 40 μg/dscm corrected to 7% O_2; 4.6×10^{-5} lbs/MMBTU, 0.021 lbs/hr/unit, and 0.092 tons/yr/unit.

(6) MWC Organics

The polychlorinated dibenzo-p-dioxin (PCDD) and polychlorinated dibenzo-furans (PCDF) emissions shall not exceed 30 nanograms per dry standard cubic meter (ng/dscm) total mass corrected to 7% O_2; 3.44×10^{-4} lbs total mass/MMBTU, 1.6×10^{-5} lbs/hr/unit and 6.9×10^{-5} tons/yr/unit.

(7) Nitrogen oxides emissions (measured as NO_2) shall not exceed ~~200~~ 205 ppmdv corrected to 7% O_2; or ~~0.430~~ 0.450 lb/MMBTU, ~~200.3~~ 205.3 lb/hr/unit, and ~~877.3~~ 899.2 tons/yr/unit. The permittee may request authorization from the Department to conduct nitrogen oxides emissions averaging pursuant to 40 CFR 60.33b.

Revision for 8/25/97 DFR

(8) The opacity level in the stack shall not exceed 10% (six minute block average).

(9) The emission limitations for the modified Facility are based on the compliance methods specified for each pollutant. Any change in the specified compliance method for any pollutant may result in appropriate changes to the emission limitation for the pollutant.

b. Emissions Limitations for Minor Sources, after the retrofit is complete, are as follows:

(1) Visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) shall not occur in excess of 5 percent of the observation period (i.e., 9 minutes per 3-hour period). This visible emissions limitation shall not apply during maintenance and repair of the ash conveying system.

(2) The particulate matter emissions shall not exceed 0.005 gr/dscf from the outlets of the baghouses at the lime storage silo and two activated carbon storage silos ~~and the fly ash storage silo~~. Pursuant to Section 62-297.620(4), FAC, the particulate matter compliance test requirements are waived for these minor sources and an alternate standard of 5% opacity shall apply. A visible emission reading

Revisions to delete flyash silo

greater than 5% opacity does not create a presumption that the emission limit (i.e., in gr/dscf) is being violated, but would require the permittee to perform a particulate stack test in accordance with EPA Methods contained in 40 CFR 60, Appendix A.

(3) The particulate matter emissions shall not exceed 0.0102 gr/dscf from the outlet of the cyclone/wet scrubber system at the metals recovery system. Pursuant to Section 62-297.620(4), FAC, the particulate matter compliance test requirements are waived for this minor source and an alternate standard of 5% opacity shall apply. A visible emission reading greater than 5% opacity does not create a presumption that the emission limit (i.e., in gr/dscf) is being violated, but would require the permittee to perform a particulate stack test in accordance with EPA Methods contained in 40 CFR 60, Appendix A.

(4) The particulate matter emissions shall not exceed 0.03 gr/dscf from the outlet of the wet scrubber system at the ash conditioning building. Pursuant to Section 62-297.620(4), FAC, the particulate matter compliance test requirements are waived for this minor source and an alternative standard of 5% opacity shall apply. A visible emission reading greater than 5% opacity does not create a presumption that the emission limit (i.e., in gr/dscf) is being violated, but would require the permittee to perform a particulate stack test in accordance with EPA Methods contained in 40 CFR 60, Appendix A.

c. Operating Standards

(1) After the modifications to the Resource Recovery Facility are complete, the height of the boiler stack shall not be less than 165 feet above the ground level at the base of the stack.

(2) Each MWC unit shall be allowed to operate up to 110% of the unit's maximum demonstrated load capacity, as achieved during the most recent dioxin/furan compliance test. Maximum capacity shall be based on the steam (or feedwater) flow rate, which shall be continuously monitored according to the American Society of Mechanical Engineers (ASME) Power Test Code (PTC) for Steam Generating Units (PTC 4.1 and PTC 19.5) or as required by USEPA and/or FDEP regulations.

(3) The incinerator boilers shall have a metal name plate affixed in a conspicuous place on the shell showing manufacturer, model number, type waste, rated capacity and certification number.

(4) A Facility-specific maximum flue gas temperature at

emission concentration with the CEM system during each 24-hour daily period corrected to 7% O_2, measured between 12:00 midnight and the following midnight. At least two data points shall be used to calculate the one-hour arithmetic average. The CEM installation, evaluation, and operation shall follow the procedures set forth in 40 CFR 60.13. The CEM shall be operated according to Performance Specification 2 in 40 CFR 60, Appendix B. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 in 40 CFR 60, Appendix F. The initial evaluation shall be completed within 180 days of the initial start-up

(7) Hydrogen Chloride

Revision for HCl test method

Compliance with hydrogen chloride (HCl) emission limits shall be determined by USEPA Method 26 or 26A. The minimum sampling time shall be one hour. A minimum of three test runs shall be conducted under representative full load operating conditions. The average of these test runs shall be used to determine compliance. Oxygen measurement shall be obtained simultaneously with each test run. Initial compliance tests shall be conducted within 60 days after achieving maximum operating capacity, but no later than 180 days after start-up. Thereafter, annual performance tests shall be conducted to verify compliance.

(8) Dioxins/Furans

Compliance with emission limits for dioxin/furan shall be determined by USEPA Method 23. The minimum sample time for each test run shall be four hours. Oxygen measurement shall be obtained simultaneously with each test run. A minimum of three test runs shall be conducted under representative full load operating conditions. The average of these test runs shall be used to determine compliance. The initial compliance test shall be conducted within 60 days after achieving maximum operating capacity, but no later than 180 days after

Florida Department of
Environmental Protection

Memorandum

TO: Buck Oven, Siting Coordination Office

THRU: A. A. Linero. P.E. Administrator 10/15

FROM: Syed Arif. Review Engineer SA

DATE: October 15, 1997

SUBJECT: Pinellas County Resource Recovery Facility Units 1-3, PA 78-11 and PA 83-18, Module 8021 Modification

The Bureau of Air Regulation has found the permit application to revise the PPSA Conditions of Certification for the retrofit project as stated in their letter dated September 15, 1997, to be insufficient. The facility needs to explain why the auxiliary boiler's NO_x emissions (39.20 TPY) were not included in the contemporaneous emissions changes, thus making the auxiliary burners for the incinerators PSD significant. This was suggested to the facility in our letter of July 2, 1996 when the auxiliary boiler was being permitted. A copy of the letter is being attached.

The Bureau will review the above request after receiving the response for the above mentioned query.

SA/a

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

July 2, 1996

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Russell Menke, Project Facilitator
Pinellas County Resource Recovery Facility
Air Pollution Control Retrofit Project
14 South Fort Harrison Avenue, Fifth Floor
Clearwater, Florida 34616

Re: Auxiliary Boiler - Pinellas County Resource Recovery Facility
PA 78-11 and PA 83-18

Dear Mr. Menke:

This is to acknowledge that the Department has reviewed your application dated April 1 for the auxiliary boiler and determined that a PSD permit is not necessary and that the existing PSD permits do not need to be revised. This is because the emissions are less than significant with respect to PSD applicability. Additionally the unit is a minor source at a certified site. Therefore preconstruction review can be accomplished during the course of the site certification modification.

At this time, we are reviewing a draft Final Order prepared by the Power Plant Site Certification Office. We are incorporating some conditions in the Final Order to insure the emissions limits for the auxiliary boiler are enforceable to insure PSD does not apply. Approval of the Final Order will constitute issuance of the necessary authorizations with respect to preconstruction review for a minor source.

If there are future increases in emissions due to other projects, the increases from the auxiliary boiler would need to be considered in a netting calculation for contemporaneous emissions changes. At that time, the auxiliary boiler would need to be included in a PSD permit if the net contemporaneous emissions are significant.

If you have any questions regarding this matter, please call Syed Arif at (904)488-1344.

Sincerely,

A. A. Linero, P.E Administrator
New Source review Section

AAL/aal/l

cc: H. Oven, DEP
P. Hessling, PCDEM
D. Dee, L&P

(1) SA
(2) Kim - Pinellas RRF file

PINELLAS COUNTY RESOURCE RECOVERY FACILITY
AIR POLLUTION CONTROL RETROFIT PROJECT
14 S. FORT HARRISON AVE. 5TH FLOOR
CLEARWATER, FL ~~34616~~ 33756
PHONE: (813) 464-4913
FAX: (813) 464-~~3944~~ 3020

October 10, 1997

RECEIVED
OCT 13 1997
BUREAU OF
AIR REGULATION

Winston Smith
Director, Division of Air, Pesticides and Toxics Management
United States Environmental Protection Agency
345 Courtland Avenue, NE
Atlanta, Georgia 30365

RE: Pinellas County Resource Recovery Facility

Dear Mr. Smith:

Enclosed for your information is a Quarterly Report on project progress. Should you desire any additional information, please contact me at your convenience.

Sincerely,

Russell Menke
Project Administrator

Enclosure

cc: Brian Beals, USEPA
Scott Davis, USEPA
Fred Porter, USEPA
Walt Stevenson, USEPA
Clair Fancy, FDEP
Andrew Nguyen, FDEP
Bill Thomas, FDEP
Pick Talley, Utilities Administration
Mike Rudd, Solid Waste Operations
Julie Yard, Senior Assistant County Attorney
David Dee, Landers & Parsons
Pete Stasis, HDR Engineering
Stu Broom, Verner, Liipfert et al
Luke Koon, Wheelabrator Pinellas Inc.
Phil Castellano, Stone & Webster

On-Site Construction of the Retrofit - During the reporting period, one additional contractor mobilized on site (structural steel erection), and two contractors have demobilized (MRS demolition and augered cast piles).

Relocation of underground utilities has been nearly completed, and the installation of piling for Phase I has been completed (715 piles for the Unit #3 SDA/FF, Unit #3 ID fan, stack, contact water tank, ash conditioning building, MCC/Compressor building and common equipment). Foundations have been completed for the Unit #3 SDA and the stack. Foundation work is underway on the Unit #3 Fabric Filter and the contact water tank. Sheet piling for the contact water sump has been installed, and dewatering is underway.

Structural steel to support the Unit #3 SDA has been erected, and the cone and bottom ring of the Unit #3 SDA has been field assembled.

Actions Scheduled During the Next Reporting Period

During the next reporting period, efforts will be concentrated on design of the retrofit, fabrication and delivery of air pollution control equipment, modifications to boiler Unit #1, and onsite construction activities. Monthly meetings are being held to monitor progress and review specifications and plans for the Retrofit as those documents are being prepared. Weekly on-site construction meetings are being held with contractors to monitor and coordinate activities.

The following activities are expected to be completed during the next reporting period:

- Construction of contact water sump
- Completion of most concrete work for Unit #3, including pile caps, footings and floor slab under fabric filter area
- Erection of #3 SDA
- Erection of #3 Fabric Filter support steel and modules
- Erection of inlet ductwork from #3 boiler to SDA
- Erection of contact water storage tank
- Completion of Unit #1 boiler modifications
- Installation of new 480V and 4160V transformers.

Respectfully Submitted,

Russell Menke
Retrofit Project Administrator