

PCRRF AIR POLLUTION CONTROL RETROFIT PROJECT

3095 - 114TH AVENUE NORTH

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Joe Ju
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Kim (Pinellas Files)

RECEIVED

July 15, 1998

JUL 15 1998

Winston Smith
Director, Division of Air, Pesticides and Toxics Management
United States Environmental Protection Agency
61 Forsyth Street SW
Atlanta, Georgia 30303

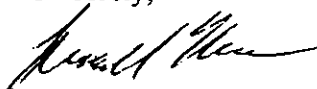
BUREAU OF
AIR REGULATION

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
Chris Staubus, Utilities Administration
Mike Rudd, Solid Waste Operations
Pete Stasis, Utilities Engineering
Julie Yard, Senior Assistant County Attorney
David Dee, Landers & Parsons
Ron Larson, HDR Engineering
Stu Broom, Verner, Liipfert et al
Luke Koon, Wheelabrator Pinellas Inc.
Phil Castellano, Stone & Webster

**Pinellas County Resource Recovery Facility
Air Pollution Control Retrofit Project**

**Quarterly Report on Project Progress for the Second Quarter, 1998
Submitted July 15, 1998**

Overview

This Quarterly Report for the retrofit of the Pinellas County Resource Recovery Facility covers the County's activities during the second calendar quarter of 1998 on the retrofit project. In general, the County's overall progress with the retrofit activities have been in accordance with the schedule. Detailed descriptions of the efforts completed, underway and scheduled for the next quarter are presented in the following paragraphs.

Actions Taken During Reporting Period

Water Washing of Boilers - Historically, water washing of boilers had been done on approximately a ten week schedule. Since August of 1995, these washes have been done on approximately an eight week schedule.

Stack Testing of Dioxin Emissions - Dioxin testing has been performed on an annual basis for the past few years in conjunction with annual compliance tests. During the week of March 9, dioxin testing was performed on Unit #1. This unit was chosen because it recently underwent major modifications as a part of the retrofit project. The results of this testing were submitted on May 12. The measured emissions were significantly lower than those previously measured on this unit, and were comparable to last year's measurements on unit #3.

Design of the Retrofit - Design work on the retrofit had previously been substantially completed. During the reporting period, design activities were limited to completion of the electrical and controls system design, completion of "punch list" items, and design modifications to accommodate field conditions and interferences.

Procurement of Equipment and Construction Contracts - During the reporting period, purchase orders were issued for 10 packages, for a cumulative of 77 purchase orders through the end of June. Purchase orders were issued during the reporting period for the following: lighting and communication equipment installation; fire protection system; steam pressure switches; boiler drum level switches; electrical demolition; submersible sump pump; boiler floor slab replacement; time and materials painting; field finish painting; and demolition of Unit #3 ESP. Purchase order commitments for balance of plant materials, equipment and services total approximately \$20.7 million.

On-Site Construction of the Retrofit - During the reporting period, the following construction activities were completed:

Concrete:

All remaining Unit #3 foundations
Sump under boiler area
Elevated slab in Flyash Conditioning Building
Replacement of floor slabs under boilers for Unit #3 and Unit #2

Structural/Mechanical Erection:

Set conveyors
Set SDA double slide gates
Erected outlet ductwork and supports
Erected I.D. fan
Set SNCR modules
Installed Unit #3 hydraulic skid and containment
Set potable, tertiary and service water pumps
Set I.D. fan lube skid
Erected Flyash Conditioning Building
Set flyash conditioning equipment
Installed fabric filter shaker drives
Set CEMS shelter
Erected windskirt steel
Installed outlet duct support guides
Installed grating and handrail in Flyash Conditioning Building
Set A/C unit on MCC/Compressor Building
Set louvers on MCC/Compressor Building

Piping:

Installation of an additional 10,901 lineal feet of piping on various systems, for a cumulative total of 11,940 lineal feet. Specific activities included:

Supports and piping to SNCR and phosphoric acid tanks
Set and piped pump alley sump pumps
Installed underground piping between contact water tank and lime preparation building
Installed instrument air lines to impactors
Completed 8" line to sump pumps
Installed underground piping for tertiary, service, dilution and contact water pumps
Contact water piping and supports
2" and 2 ½" underground connections to contact sump

Piping up SDA and within penthouse
SDA penthouse instrumentation and PACIS piping
Underground piping to I.D. fan
Erected supports for pipe and tray up boiler building

Electrical/Controls:

Installation of cable trays in MCC Rooms #1, #2 and #3 and in Compressor Building
Installation of conduit in MCC Rooms #2 and #3, and to I.D. fan
Set MCCs in MCC Room #3
Set DCS cabinets
Installed power feeds to pump alley sump pumps
Pulled fabric filter cable into MCC Room #3
Completed SDA penthouse electrical
Pulled high voltage cables

Lighting/Communications Systems:

Installed Lighting conduit in SDA and fabric filter
Installed power and distribution panels
Received light fixtures

Insulation/Lagging:

SDA sidewalls
SDA outlet duct to fabric filter
Man doors and equipment doors in MCC/Compressor Building

Masonry/Architectural:

Completed MCC/Compressor Building, including block work, roof decking and slab, EPDM roofing and painting

Fire Protection:

Obtained design drawing approval and permits

Painting:

Completed internal coatings of SDA
Mobilized field painting subcontractor

Fire Protection System:

Complete fire protection system

Field Painting:

Complete Phase 1 field painting

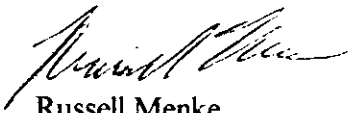
Demolition:

Initiate and complete demolition of Unit #3 ESP, Foundations and Stack

Site Progress Photograph

The previous progress report included an aerial photo of construction progress as of March 23, 1998. No aerial photos have been taken since that time because the previous photo showed all major structures and equipment included in the Phase 1 construction. After Phase 1 is completed (startup of Unit #3 and common equipment) and Phase 2 is underway (demolition of the old Unit #3 stack and ESP, and construction of the new APC train for Unit #2), additional photos will be taken.

Respectfully Submitted,



Russell Menke
Retrofit Project Administrator

Florida Department of
Environmental Protection

Memorandum

TO: Syed Arif
Scott Goorland

FROM: Buck Oven *BSO*

DATE: March 26, 1998

SUBJECT: Pinellas County RRF, PA 78-11/PA 83-18
Draft Order Modifying Conditions

RECEIVED
MAR 26 1998
BUREAU OF
AIR REGULATION

Please review the attached draft Order, mark corrections and return to me.

Attch:

cc: Al Linero

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In Re: Pinellas County)	
Resource Recovery Facility)	
(Units 1-3))	
Modification of Conditions)	DEP CASE NO.s PA 78-11C
of Certification)	PA 83-18
Pinellas County, Florida)	
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**FINAL ORDER MODIFYING
CONDITIONS OF CERTIFICATION**

On July 20, 1979 and March 20, 1984, the Governor and Cabinet, sitting as the Siting Board, issued a final orders approving certification of Units 1 & 2 and Unit 3 of the Pinellas County Resource Recovery Facility. Those certification order approved the construction and operation of a municipal solid waste-fired, resource recovery power plant and associated facilities located in Pinellas County, Florida. The certification has been previously modified by Department order on July 28, 1986, and July 29, 1996.

On September 15, and December 1, 1997, Pinellas County filed a request to amend the conditions of certification pursuant to Section 403.516(1)(b), Florida Statutes. Pinellas County requested that the conditions be modified to allow replacement of the flyash storage silo with two flyash surge bins; by adding EPA Method 26A for testing of hydrochloric acid emissions; by increasing the allowable size, NO_x emission factor, and permitted annual consumption of natural gas; and allowing construction of ventilation fans in ash handling and storage areas.

Copies of Pinellas County's proposed modifications were made available for public review on October 3, 1997, on which date a Proposed Modification of Power Plant Certification was also published in the Florida Administrative Weekly. On September 15, and December 8, 1997, all parties to the original proceeding were served by mail with copies of the intents to modify. The notice specified that a hearing would be held if a party to the original certification hearing objected within 45 days from receipt of the proposed modifications or if any other person, whose interests would be substantially affected, objected in writing within 30 days after issuance of the

public notice. No written objection to the proposed modifications has been received by the Department. Accordingly, in the absence of any timely objection,

IT IS ORDERED:

The proposed changes to the Pinellas County Resource Recovery Facility as described in its September 15, and December 1, 1997, requests for modification are APPROVED. Pursuant to Section 403.516(1)(b), F.S., the conditions of certification for the Pinellas County Resource Recovery Facility are **MODIFIED** as follows:

~~XIV.A.1. The emissions limitations and other requirements contained in this subsection shall apply until the electrostatic precipitators in the Resource Recovery Facility are replaced with new air pollution control (APC) systems and compliance testing is completed. Thereafter, the emissions limitations and other requirements contained in subsection 2., below, shall apply.~~

~~a. Stack emissions from Units 1 or 2 shall not exceed the following:~~

~~(1) Particulate matter: in grains per dry standard cubic foot corrected to 12% CO_2 = 0.08.~~

~~(2) SO_2 = 170 lbs/hr each unit~~

~~(3) Odor: there shall be no objectionable odor.~~

~~(4) Visible emissions: stack opacity shall be no greater than 20% except as provided for during start-up, shutdown, or malfunctions when the provisions of Section 62-210.700, FAC, shall apply.~~

~~b. Emissions from Unit 3 shall not exceed the following:~~

~~(1) Particulate matter: in grains per dry standard cubic foot corrected to 12% CO_2 = 0.03.~~

~~(2) SO_2 = 170 lbs/hr~~

~~(3) Nitrogen oxides = 254 lbs/hr.~~

~~(4) Carbon monoxide = 66 lbs/hr.~~

~~(5) Lead = 4.4 lbs/hr.~~

~~(6) Mercury = 3200 grams/day when more than 2205 lbs/day of municipal sludge is fired. Compliance shall be determined in accordance with 40 CFR 61 Method 101, Appendix~~

~~B.~~

~~(7) Odor - there shall be no objectionable odor.~~

~~(8) Visible emissions - stack opacity shall be no greater than 20% except as provided for during start-up, shutdown or malfunctions when the provisions of Section 62-210.700, FAC, shall apply.~~

~~c. The height of the boiler exhaust stacks shall not be less than 161 feet above grade.~~

~~d. The incinerator boilers shall not be loaded in excess of their rated capacity of 87,500 pounds of municipal solid waste per hour each.~~

~~e. 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.~~

~~f. Compliance with the limitations for particulates, opacity, sulfur oxides, nitrogen oxides, carbon monoxide, and lead shall be determined in accordance with Florida Administrative Code Rule 62-297, DEP Methods 1, 2, 3, 5, 6, 9, or 40 CFR Part 60, Appendix A, Methods 1-7, 9, 10, and 12. The stack test shall be performed at +10% of the maximum steam rate of 250,000 pounds per hour.~~

~~g. Electrostatic Precipitator~~

~~(1) For Unit 3 the three-field electrostatic precipitator shall be designed and constructed to achieve a maximum emission rate of 0.03 grains per dscf or allow the installation of a fourth field in the event that the three-field ESP fails to perform as specified, or if other parameters of the Facility's operation are subsequently modified, necessitating additional control.~~

~~(2) For Units 1 and 2 the three-field electrostatic precipitators shall be designed and constructed to allow the installation of a fourth field in the event that the three-field ESPs fail to perform as specified, or if other parameters of the Facility's operation are subsequently modified, necessitating additional control.~~

~~h. Air Monitoring Program~~

~~(1) The permittee shall install and operate continuously stack monitoring devices for oxygen and stack opacity. The monitoring devices shall meet the applicable requirements of Chapter 62-297, F.A.C., and 40 CFR 60.45, and 40 CFR 60.13, including certification of each device.~~

~~(2) The permittee shall provide sampling ports into the stack and shall provide access to the sampling ports in accordance with Chapter 62-297, FAC.~~

~~(3) The permittee shall have a sampling test of the stack emissions performed by a commercial testing firm within 90 days of the start of operation of the new boilers and annually from the date of testing thereafter.~~

~~(4) The permittee shall operate two continuous SO₂ monitors and one continuous wind direction and velocity monitor in the immediate vicinity of the site. The monitors shall be specifically located as designated by the DEP and shall conform to 40 CFR 53. Monitoring shall begin upon commencement of operation.~~

2. The emissions limitations and other requirements contained in this subsection shall apply after the electrostatic precipitators in the Resource Recovery Facility are replaced with new air pollution control (APC) systems and compliance testing is completed.

a. Emission limits for each boiler are as follows:

(1) Particulate matter (PM) emissions shall not exceed 0.012 grains/dry standard cubic feet (gr/dscf) corrected to 7% O₂, 14.4 lbs/hr/unit, and 63.1 tons/yr/unit.

(2) PM emissions less than 10 microns in diameter (PM₁₀) shall not exceed 0.012 gr/dscf corrected to 7% O₂, 14.4 lbs/hr/unit, and 63.1 tons/yr/unit.

(3) MWC Acid Gases

(a) Sulfur dioxide (SO₂) emissions shall not exceed ~~29~~ 31 parts per million by dry volume (ppmdv) corrected to 7% O₂ (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% O₂; 0.372 lbs/MMBTU, 170.0 lbs/hr/unit, and 744.6 tons/yr/unit.

(b) Hydrogen chloride (HCl) emissions shall not exceed ~~29~~ 31 ppmdv corrected to 7% O₂, or achieve 95% removal efficiency, whichever is less restrictive, with a not-to-exceed cap of 100 ppmdv corrected to 7% O₂; 0.174 lbs/MMBTU, 79.8 lbs/hr/unit, and 349.5 tons/yr/unit.

(4) Carbon monoxide (CO) emissions shall not exceed 100 ppmdv corrected to 7% O₂ (4-hour arithmetic block average); 0.133 lbs/MMBTU, 61.0 lbs/hr/unit, and 267.2 tons/yr/unit.

(5) MWC Metals

(a) No Change.

(b) Lead (Pb) emissions shall not exceed ~~440~~ 490 $\mu\text{g}/\text{dscm}$ corrected to 7% O_2 ; ~~5.0~~ 5.6×10^{-4} lbs/MMBTU, ~~0.230~~ 0.257 lbs/hr/unit, and ~~1.01~~ 1.13 tons/yr/unit.

(c) No Change.

(6) MWC Organics - No Change

(7) Nitrogen oxides emissions (measured as NO_x) shall not exceed ~~205~~ 200 ppmvd corrected to 7% O_2 ; or ~~0.450~~ 0.439 lb/MMBTU, ~~205.3~~ 200.3 lb/hr/unit, and ~~899.2~~ 877.3 tons/yr/unit. The permittee may request authorization from the Department to conduct nitrogen oxides emissions averaging pursuant to 40 CFR 60.33b.

(8) & (9) No Change.

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

(1) No Change

(2) The particulate matter emissions shall not exceed 0.005 gr/dscf from the outlets of the baghouses at the lime storage silos; and two activated carbon storage silos and the flyash storage silo. Pursuant to Section 62-297.620(4), F.A.C., the ---

(3) No Change

(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), F.A.C., 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% 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 stack test in accordance with EPA Methods contained in 40 CFR 60, Appendix A.

d. Operating Standards - No Change.

d. Compliance Requirements

(1-6) No Change.

(7) Hydrogen Chloride

Compliance with the hydrogen chloride (HCL) emission limits shall be determined

by USEPA Method 26 or 26A. The minimum sampling ---

(8) & (9) No change.

Any party to this Notice has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, M.S.35, Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fee with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date that this Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this _____ day of _____, 1998 in Tallahassee, Florida.

**STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL PROTECTION**

VIRGINIA B. WETHERELL
SECRETARY
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000