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Hillsborough County
Solid Waste Management Group
601 E. Kennedy Boulevard
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Authorized Representative:
Ms. Patricia V. Berry, Interim Manager

Draft Permit No. 0570261-013-AC/PSD-FL-369C
Air Construction Permit Revision -
Revisions to Mercury (Hg) Continuous Emission Monitoring System (CEMS) Provisions for Unit 4

Hillsborough County Resource Recovery Facility
Hillsborough County, Florida

PROJECT

This is the final air construction permit, which revises Permit No. 0570261-010-AC/PSD-FL-369B for Unit 4. The revised permit conditions are related to Hg CEMS provisions. This existing plant is a mass-burn municipal waste combustor (MWC) plant categorized under Standard Industrial Classification No. 4953. This existing plant is located in Hillsborough County at 350 North Falkenburg Road in Tampa, Florida. The UTM Coordinates are: Zone 17, 368.2 km East and 3092.7 km North; Latitude: 27° 57' 14" North and Longitude: 82° 40' 22" West.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions). [(if applicable) As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.]

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida
For the Division of Air Resource Management

(Draft)

_____ _____
(Signature) (Date)

_____
(Printed Name of Above Designee)

JFK/jkh/sms

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit Revision) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on _____ *(Draft)* _____ to the persons listed below.

Ms. Patricia V. Berry, Hillsborough County: berryp@hillsboroughcounty.org
Mr. Glenn Hoag, Covanta Hillsborough: ghoag@covantaenergy.com
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Ms. Barbara Friday, DEP OPC: barbara.friday@dep.state.fl.us (for posting with U.S. EPA, Region 4)
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us (for reading file)

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

(Draft)

_____ _____
Clerk Date

FACILITY DESCRIPTION

This existing facility consists of: four municipal solid waste combustors (Unit Nos. 1, 2, 3 and 4) with auxiliary burners; lime storage and processing facilities; ash storage and processing facilities; cooling towers; and, ancillary support equipment.

The total capacity of the Hillsborough County Resource Recovery Facility is 1,800 tons/day (TPD) of municipal solid waste fuel with an average heating value of 4,500 Btu/lb. The gross nominal electric generating capacity of the facility is 47 megawatts (MW).

The facility is owned by Hillsborough County and is currently operated by Covanta Hillsborough, Inc. a subsidiary of Covanta Energy Corporation.

FACILITY REGULATORY CLASSIFICATION

- This facility is a major source of hazardous air pollutants (HAP).
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.

PROPOSED PROJECT

As part of the project for the Title V air operation permit revision (Project No. 0570261-012-AV), the applicant requested a concurrent air construction permit revision to change several underlying construction permit conditions related to Hg CEMS provisions for Unit 4.

The following permit conditions are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight in the electronic document.

Permit Being Modified: Permit No. 0570261-010-AC/PSD-FL-369B
Affected Emissions Units: Municipal Waste Combustor & Auxiliary Burners - Unit 4 (E.U. ID No. 107)

The affected Specific Condition Nos. 3.B.19., 26., 30., 32., 33. and 35. from Permit No. 0570261-010-AC/PSD-FL-369B are hereby changed as follows (the remainder of the permit remains unchanged as a result of this permitting action):

19. Mercury (Hg): Emissions of Hg shall not exceed 28 µg/dscm or an emissions reduction of 85 percent shall be achieved as demonstrated during the required annual stack test. During the first ~~two~~three years of operation, emissions of Hg shall not exceed 0.022 lb/hr as measured during quarterly stack tests to provide reasonable assurance that 12-month emissions are less than the applicable PSD threshold of 200 lb/yr.

    After the certification of the Hg-CEMS as described in **Specific Condition 35.,** the owner or operator may demonstrate compliance with all Hg limits in this permit with data collected during an annual stack test or from the Hg-CEMS.

{Permitting Note: If the Hg-CEMS is certified prior to the end of the first ~~two~~three years of operation, the permittee may use the CEMS in lieu of the remaining quarterly tests.}

26. Subsequent Compliance Testing: Annual compliance stack tests for NO_X, CO, SO_2, HCl, PM/PM_{10}, lead, cadmium, dioxins/furans, and ammonia shall be conducted during each federal fiscal year (October 1st to September 30th). Data collected from the reference method during the required RATA tests for CO, NO_X, and SO_2 may be used to satisfy the annual testing requirement provided the notification requirements and emission testing requirements for performance and compliance tests of this permit are satisfied.

    Prior to the certification of the Hg-CEMS as described in **Specific Condition 35.**, performance tests for Hg emissions shall be conducted quarterly during the first ~~two~~three years of operation then on a calendar year basis to demonstrate compliance with the concentration/reduction standards.

    After the certification of the Hg-CEMS as described in **Specific Condition 35.,** the owner or operator may demonstrate compliance with all Hg limits in this permit with data collected from the Hg-CEMS.

[Rules 62-297.310(7)(a) and (b), and 62-296.416, F.A.C., and 40 CFR 60.8 and 60.58b]

30. CEM Systems: The permittee shall install, calibrate, maintain, and operate continuous emission monitoring systems (CEMS) to measure and record the emissions of CO, NO_X, Hg and SO_2 from Unit 4 in a manner sufficient to demonstrate continuous compliance with the CEMS emission standards of this subsection. All continuous monitoring systems other than the Hg CEMS shall be installed and functioning within the required performance specifications by the time of the initial performance tests. The Hg CEMS shall be installed and functioning within the required performance specifications by the end of the ~~second~~third year of operation as specified in **Specific Condition 35**.

    a. *CO Monitor:* The CO monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 4 or 4A and shall comply with all requirements of 40 CFR 60.58b. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The required RATA tests shall be performed using EPA Method 10 in Appendix A of 40 CFR 60 and shall be based on a continuous sampling train. The CO monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.

b. *NO_X Monitor:* The NO_X monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2 and shall comply with all requirements of 40 CFR 60.58b. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F, and the Data Assessment Report of Section 7 shall be made each calendar quarter, and reported semiannually to the Compliance Authority. The required RATA tests shall be performed using EPA Method 7E in Appendix A of 40 CFR 60. The NO_X monitor span values shall be set appropriately, considering the allowable methods of operation and corresponding emission standards.

c. *SO_2 Monitor:* The SO_2 monitor shall be certified pursuant to 40 CFR 60, Appendix B, Performance Specification 2 and shall comply with all requirements of 40 CFR 60.58b. Quality assurance procedures shall conform to the requirements of 40 CFR 60, Appendix F. The required RATA tests shall be performed using EPA Method 6C in Appendix A of 40 CFR 60. The SO_2 monitor span values shall be set appropriately, considering the expected range of emissions and corresponding emission standards.

d. *Diluent Monitor:* A continuous emission monitoring system for measuring the oxygen content of the flue gas at each location where carbon monoxide, sulfur dioxide, nitrogen oxides emissions are monitored shall be installed, calibrated, maintained, and operated in accordance with the requirements of 40 CFR 60.58b.

e. *Mercury Monitor:* A mercury monitor (Hg CEMS) shall be installed, certified and operated as described in **Specific Condition 35.** below.

32. CEMS/COMS Certification and Initial Startup: Each CEMS/COMS, other than the Hg CEMS, required by this permit shall be installed prior to startup. Within 60 calendar days of achieving the maximum production rate, but no later than 180 calendar days after initial startup, the owner or operator shall certify each CEMS/COMS. Upon certification of each CEMS/COMS, the owner or operator shall demonstrate compliance with all applicable standards as specified in this permit. The Hg CEMS shall be installed and functioning within the required performance specifications within the first ~~two~~three years of operation as specified in **Specific Condition 35**. [Rules 62-4.070(3), 62-210.800, 62-210.200(BACT) and 62-297.520, F.A.C.; 40 CFR 60.7(a), 60.13(b), and 60.58b, and Appendix B]

33. CEMS Data Requirements: The CEMS shall express the results in the units of the applicable standard and in accordance with 40 CFR 60 subparts A, and Eb.

a. *Data Exclusion*: Except for monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments, each CEMS shall monitor and record emissions during all operations including episodes of startups, shutdowns, and malfunctions. Limited amounts of CEMS emissions data (other than mercury data) recorded during some of these episodes may be excluded from the corresponding compliance demonstration subject to the provisions of **Specific Conditions 28. and 29.** in this subsection. The permittee shall minimize the duration of data excluded for such episodes to the extent practicable.

b. *Availability*: Monitor availability for each CEMS used to demonstrate compliance shall be 95% or greater in any calendar quarter. Monitor availability shall be reported in the quarterly excess emissions report. In the event 95% availability is not achieved, the permittee shall provide the Department with a report identifying the problems in achieving 95% availability and a plan of corrective actions that will be taken to achieve 95% availability. The permittee shall implement the reported corrective actions within the next calendar quarter. Failure to take corrective actions or continued failure to achieve the minimum monitor availability shall be violations of this permit, except as otherwise authorized by the Compliance Authority. The monitor availability requirements of this condition do not apply to the Hg CEMS for the first two years of operation of the CEM system. (This is consistent with the Hg CEMS availability requirement of subpart Eb.) For the Hg CEMS, the monitor availability for the 3rd year of operation of

the Hg CEMS shall be 80% annually and for the 4th year of operation of the Hg CEMS shall be 90% annually, with a goal to achieve 95% annually afterwards unless, the Hg CEMS is requested by the permittee to be used for compliance under 40 CFR 60, Subpart Eb. If the Hg CEMS is used for compliance under 40 CFR 60, Subpart Eb then the applicable % monitor availability from 40 CFR 60, Subparts Eb must be met.

35. Mercury Continuous Emissions Monitoring System (Hg-CEMS): Within ~~24~~36 months of commencing operation, the owner or operator shall install and certify a mercury CEMS demonstrated to meet the requirements in Performance Specification 12A (PS-12A), "Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Monitoring Systems in Stationary Sources," or that has passed verification tests conducted under the auspices of the U.S. Environmental Protection Agency's (EPA) Environmental Technology Verification (ETV) Program. If the vendor provides to the Department verification of certification difficulties such that the CEMS cannot be certified by the certification deadline, and every reasonable effort has been made to do so, the Department shall grant a reasonable extension of time to certify the CEMS. After certification the owner or operator will begin reporting Hg mass emissions data. The owner or operator shall adhere to the calibration drift and quarterly performance evaluation procedures and ongoing data quality assurance procedures in 40 CFR Part 60, Appendix F or 40 CFR Part 75, Appendix B. The mass emissions shall be estimated based on the actual data collected no later than 10 days following the end of the month. The mercury monitoring data results shall be submitted quarterly. The CEMS shall only be used as the method of compliance if the owner or operator, at a minimum, meets the requirements of 40 CFR 60.58b(n). Prior to use of the Hg-CEMS as the method to demonstrate compliance, the owner or operator shall submit written notice to the Department, and receive approval for missing data substitution and a data calculation approach plans.

Hg CEMS Field Test and Success Criteria. The permittee shall field test the application of a Hg CEMS on Unit 4 for 1-year. The criteria for judging the success of the field test are defined as follows:

1. The Hg CEMS shall accurately measure the Hg concentrations in the stack emissions. The permittee shall submit a quality assurance/quality control (QA/QC) plan for the Hg CEMS to be field tested to the Office of Permitting & Compliance in Tallahassee for review and approval; and,

2. The data availability over a 12-month period shall be at least 70%. The permittee shall maintain a log of the Hg CEMS downtime along with the reason(s) why and shall make it available upon request by the Department.

Hg emissions data shall be made available upon request by the Department.

The permittee shall track and report on a monthly basis the man-hours for operation & maintenance (O&M) of the Hg CEMS during the field test. The monthly O&M man-hours shall be reported to the Office of Permitting & Compliance in Tallahassee within 14 days after the end of each month.

Both criteria (1. and 2.) shall be met in order for the Hg CEMS field test to be considered a success.

Within 60 days of the conclusion of the field test period, the permittee shall submit a Field Test Report for the Hg CEMS which addresses criteria 1. and 2.

As part of the Field Test Report the permittee shall prepare and submit an updated cost estimation for the commercial application of a Hg CEMS on HCRRF Unit 4. The costing estimate techniques from U.S. EPA (similar to what had been provided in Attachment A) shall be used. The permittee shall include documentation from the vendor to support Hg CEMS purchase prices. Actual O&M costs like Hg CEMS labor tracked during the field testing of the Hg CEMS shall be used in estimating the projected O&M costs for the Hg CEMS.

In the Field Test Report the permittee shall provide its conclusions and recommendations regarding Hg CEMS suitability for commercial application on HCRRF Unit 4. The Field Test Report shall be certified by

the responsible official (R.O.) and by a Florida professional engineer (P.E.) using the certification statements from DEP Form No. 62-210.900(1). The completed R.O. and P.E. certification statements shall be included with the Field Test Report. The complete Field Test Report shall be submitted to the Office of Permitting & Compliance in Tallahassee for review and approval.

Should the field test of the Hg CEMS be determined not to be a success, the permittee shall submit an alternative Hg monitoring plan using an Hg continuous sorbent trap monitoring system to the Office of Permitting & Compliance in Tallahassee for review and approval within 120 days of the conclusion of the Hg CEMS field test period.

The Compliance Authority shall be copied on all reports.

[Rules 62-4.070(1) and (3), and 62-210.200(BACT), F.A.C., 40 CFR 60.58b, and, Hillsborough County Environmental Protection Commission Local Ordinance 1-3.53.1(f), *Municipal Solid Waste Incinerators* (for Hg monitoring)]