

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
SOUTHCENTRAL REGION - FIELD OPERATIONS  
AIR QUALITY PROGRAM

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PLAN APPROVAL

Approval No: 36-02013  
Lancaster County Solid Waste  
Owner: Management Authority  
1299 Harrisburg Pike  
Address: PO Box 4425  
Lancaster, PA 17604

Source & Air  
Cleaning Device: Lancaster County Resource

Recovery Facility  
(See Attached)

Attention: Mr. James Warner  
Executive Director

Location: Route 441  
Conoy Township, Lancaster County

In accordance with provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and with Chapter 127 of the rules and regulations of the Department of Environmental Protection, the Department on ~~JUN 9 1998~~ approved plans for implementation of the oxides of nitrogen (NO<sub>x</sub>) Reasonably Available Control Technology (RACT) and 40 CFR, Part 60, Subpart Cb guidelines for the above indicated facility.

This PLAN APPROVAL expires ~~October 1, 1999~~, except as noted below in Condition 4.

The plan approved is subject to the following conditions:

1. The NO<sub>x</sub> RACT plan and 40 CFR, Part 60, Subpart Cb guidelines for the above facility are to be implemented in accordance with the plans submitted with the application (as herein approved).
2. See attached.

Notify the person noted below when the installation is completed so that the source can be inspected for issuance of an OPERATING PERMIT.

NOTE: Mr. Rick Millard  
Air Pollution Control Engineer  
909 Elmerton Avenue  
Harrisburg, PA 17110  
717-705-4879

  
\_\_\_\_\_  
Program Manager

Southcentral Region 36-02013  
Lancaster District  
Permits

PLAN APPROVALAPPROVAL NO. 36-02013LANCASTER COUNTY SOLID WASTE MANAGEMENT AUTHORITYSource, Continued

<u>Source</u>	<u>Manufacturer</u>
Three Mass Burn Waterwall Combustion Units	Ogden Martin
Each controlled by a Lime Injection System, Spray Dryer Scrubber, Selective Noncatalytic Reduction, and Activated Carbon Injection System, in Series with a fabric collector.	
Emergency Diesel Fire Pump	Cummins (or Equivalent)

Conditions, Continued

2. This Plan Approval authorizes temporary operation of the source(s) covered by this Plan Approval provided the following conditions are met:
  - a. The Department must receive written notice from Lancaster County Solid Waste Management Authority of the completion of construction of the SNCR and the activated carbon injection system and Lancaster County Solid Waste Management Authority's intent to commence operation at least five working days prior to the completion of construction. The notice must state when construction of the SNCR and the activated carbon injection system will be completed and when Lancaster County Solid Waste Management Authority expects to commence operation.
  - b. Operation is authorized only to facilitate the start-up and shake-down of sources and air cleaning devices, to permit operations pending the issuance of an Operating Permit or to permit the evaluation of the source(s) for compliance with all applicable regulations and requirements.
  - c. This condition authorizes temporary operation of the source(s) for a period of 180 days from the date of commencement of operation, provided the Department receives notice from Lancaster County Solid Waste Management Authority pursuant to subpart a., above.
  - d. The notice submitted by Lancaster County Solid Waste Management Authority pursuant to subpart a., above, prior to the expiration of this Plan Approval, shall modify the plan approval expiration date. The new plan approval expiration date shall be 180 days from the date of the commencement of operation.

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Conditions. Continued

General Conditions

- ~~3. The permittee shall comply with all applicable requirements in 40 CFR Part 60, Subpart Cb (relating to Emission Guidelines and Compliance Times for large Municipal Waste Combustors that are constructed on or before September 20, 1994), and 40 CFR Part 60, Subpart Db, except those emission limits, terms, and conditions as specified in this plan approval. The applicable requirements include definitions, emission limitations, operational practices, operator training and certification, fugitive ash emissions, compliance and performance testing, monitoring, recordkeeping and reporting requirements, and compliance schedule, except those emission limits, terms, and conditions as specified in this plan approval.~~
- ~~4. The terms and conditions in this permit relating to 40 CFR Part 60, Subpart Cb are nonexpiring and shall continue in full force and effect until modified by the Department and approved by the EPA as a 111(d)/129 plan revision.~~

Increments of Progress and Compliance Schedule

- ~~5. The permittee shall comply with the mercury and dioxins/furans emission limits specified in condition #7(h) and #7(o) within one year following the issuance of this RACT/FESOP plan approval. The cadmium and lead emission limits specified in condition #7(o) applies upon issuance of this RACT/FESOP plan approval.~~
- ~~6. The following emission limits for lead and sulfur dioxide shall be achieved no later than August 26, 2002 or 3 years after the approval of the State Plan by the EPA, whichever comes first:~~

Lead	00.44 mg/dscm	(at 7% O <sub>2</sub> , dry basis)
Sulfur Dioxide	29.00 ppmv	(at 7% O <sub>2</sub> , dry basis)

Emission Standards

- ~~7. Upon issuance of this plan approval, the following allowable emission rates and test methods for specific pollutants on a per combustor basis shall apply, except for (h) and (j).~~
  - ~~a. Particulate Matter Emissions (TSP) - 0.012 gr/dscf corrected to 7% O<sub>2</sub>, dry basis as determined by EPA Method 5.~~
  - ~~b. Particulate Matter Emissions (PM<sub>10</sub>) - 0.010 gr/dscf corrected to 7% O<sub>2</sub>, dry basis as determined by EPA Method 201A.~~



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- ~~c.~~ Particulate matter emissions from exhausts of fabric collectors associated with ~~hydrated lime storage, pebble lime storage, the ash handling building, and the activated carbon injection system storage silo~~ shall not exceed 0.02 gr/dscf.
- ~~d.~~ Hydrochloric Acid (HCL) - emissions shall not exceed 25 ppmv, ~~24-hour arithmetic mean, corrected to 7% O<sub>2</sub> on a dry basis; or, shall be reduced 95% (by volume) on a 24-hour arithmetic mean, according to test methods as approved by the Department, or according to the certified continuous emissions monitoring results.~~

~~In the demonstration of the 95% reduction of HCL emissions, a credit of 20% shall be given for the control of HCL emissions when the dry lime injection system is operating at a minimum dry lime feed rate of 665 lbs/hr with a minimum blower discharge pressure of 2.0 psig.~~

- ~~e.~~ Sulfur Dioxide (SO<sub>2</sub>) - 30 ppmv (at 7% O<sub>2</sub>, dry basis) on an hourly basis and 29 ppmv on a three-hour block basis or 90% control on an hourly basis ~~(by volume) according to the test methods as approved by the Department or according to the certified continuous emissions monitor results.~~

~~In the demonstration of the 90% reduction of SO<sub>2</sub> emissions, a credit of 40% shall be given for the control of SO<sub>2</sub> emissions when the dry lime injection system is operating at a minimum dry lime feed rate of 665 lbs/hr with a minimum blower discharge pressure of 2.0 psig.~~

- ~~f.~~ Carbon Monoxide (CO) - 100 ppmv at 7% O<sub>2</sub>, dry basis on a four-hour block average, according to the test method referenced in the Department's Source Testing Manual or ~~according to the certified continuous emissions monitor results.~~
- ~~g.~~ PCDD and PCDF (expressed as 2, 3, 7, 8 TCDD equivalents and calculated according to the PA DEP-approved method) shall be limited to ~~2.0 ng/nm<sup>3</sup>~~ (at 7% O<sub>2</sub>, dry basis) according to ~~test methods approved by the Department.~~
- ~~h.~~ In conformance with 40 CFR Section 60.33b(c)(1)(ii), upon operation of the ~~activated carbon injection system, the stack emissions of PCDD and PCDF from the facility shall be limited to 30 ng/dscm (total mass), corrected to 7% O<sub>2</sub>, but not later than one year from the date of this plan approval.~~
- i. Nitrogen Oxides (NO<sub>x</sub>) - 300 ppmv (at 7% O<sub>2</sub>, dry basis) daily average according to test methods approved by the Department or according to the certified continuous emissions monitor results, until May 31, 1998.

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Conditions. Continued

- j. Effective June 1, 1998, NO<sub>x</sub> emissions for each combustor, shall be equal to or less than 180 ppmv (at 7% O<sub>2</sub>, dry basis) on a 24-hour average according to the test methods approved by the Department, or according to the certified continuous emissions monitoring results.
- k. The carbon monoxide and nitrogen oxide emission limits apply at all times when the municipal wastes/refuse derived fuel are combusted, except during periods of start-up and shutdown. Provided, however, that the duration of start-up or shutdown shall not exceed three (3) hours per occurrence.

Note: Start-up period commences with the introduction of municipal waste to the empty combustor and does not include any warm-up period when the combustor is combusting only a fossil fuel or any other auxiliary fuel, and no municipal waste is being combusted.

Shutdown period commences with the cessation of charging municipal waste, for the express purpose of shutting down the combustor.

- ~~l. Visible air contaminants shall not equal or exceed 10% opacity for more than three minutes in any one hour period and must never equal or exceed 30% opacity as determined by a certified observer or as measured by the continuous emissions monitor.~~
- ~~m. The temperature in the combustors shall be maintained at a minimum temperature of 1,800°F, on an hourly average, during the combustion of municipal waste or other waste approved by the Department.~~
- ~~n. Using the stack emission rates for the facility and the exhaust parameters from each stack test specified in this plan approval and the modeling techniques used in the application and approved by the Department, the annual ambient concentrations from the facility shall not exceed the following levels:~~

<u>Contaminant</u>	<u>Ambient Concentration</u> <u>µg/m<sup>3</sup></u>
PCDD and PCDF expressed as 2, 3, 7, 8 TCDD equivalents	0.30 x 10 <sup>-7</sup>
Arsenic and Compounds	0.23 x 10 <sup>-3</sup>
Beryllium and Compounds	0.42 x 10 <sup>-3</sup>
Cadmium and Compounds	0.56 x 10 <sup>-3</sup>
Nickel and Compounds	0.33 x 10 <sup>-2</sup>
Hexavalent Chromium and Compounds	0.83 x 10 <sup>-4</sup>
Lead and Compounds	0.50
Mercury and Compounds	0.08



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<del>Cadmium</del>	<del>0.040 mg/dscm (at 7% O<sub>2</sub>, dry basis)</del>
<del>Lead</del>	<del>0.490 mg/dscm (at 7% O<sub>2</sub>, dry basis)</del>
<del>Mercury</del>	<del>0.080 mg/dscm or 85% reduction (by weight at 7% O<sub>2</sub>, dry basis)</del>

Operating Practices

- ~~8. In conformance with 40 CFR Section 60.53b(b), no person may permit the facility to operate at a load level greater than 110% of the maximum demonstrated municipal waste combustor unit load as defined in 40 CFR Section 60.51b, except as specified in 40 CFR Sections 60.53b(b)(1) and (b)(2). The steam flow shall be calculated in four-hour block arithmetic averages.~~
- ~~9. In conformance with 40 CFR Section 60.53b(c), no person may permit the operation of the facility at a temperature, measured at the fabric collector inlet in excess of 17°C above the maximum demonstrated fabric collector temperature as defined in 40 CFR Section 60.51b, except as specified in 40 CFR Sections 60.51b(c)(1) and (c)(2). The temperature shall be calculated in four-hour block arithmetic averages.~~
10. Start-up/standby fuel shall be propane gas.
- ~~11. The auxiliary burners shall be placed in service if the combustion gas temperature drops below 1,800°F. The compliance with the temperature requirement shall be demonstrated in correlation with the roof furnace temperature.~~
- ~~12. Excess oxygen (O<sub>2</sub>), as measured between the convection section of the boiler and the economizer or any other suitable location approved by the Department, shall be maintained at or above 3.0% (wet basis), on an hourly average.~~
- ~~13. Wastes may not be introduced into the combustors until an operating temperature of 1,800°F has been reached and maintained.~~
- ~~14. When the combustors are in operation, the tipping area shall be maintained at a negative air pressure. The tipping floor air shall be used as primary combustion air.~~
15. The diesel internal combustion engine shall be operated less than 500 hours in a consecutive 12-month period. The source shall also be operated and maintained in accordance with good air pollution control practice.

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- ~~16.~~ Municipal waste as defined in the Department's "BAT Criteria for Municipal Waste Incineration", of November 9, 1987, and as further defined in ~~25 Pa. Code Section 75.260(a)~~, or previously approved waste, shall be accepted for processing by the facility.
- ~~17.~~ The charging of waste shall cease in the event that any of the following conditions exist:
- ~~a.~~ The operating temperature drops below 1,600°F for a 15-minute period.
  - ~~b.~~ The flue gas oxygen level drops below three percent (wet basis) for a 15-minute period.
  - ~~c.~~ The opacity of the visible emissions is equal to or greater than 10% for a 15-minute period.
  - ~~d.~~ The baghouse inlet temperature exceeds 500°F for a 15-minute period.
  - ~~e.~~ Either the forced draft or the induced draft fan fails.
- ~~18.~~ The lime slurry feed system and/or the lime injection system shall be automatically modulated by interfacing with the continuous emissions monitors to maintain compliance with permit conditions #7(d) and #7(e). The dry lime feed rate and the blower discharge pressure shall be simultaneously monitored on a continuous basis with readings taken every 15 minutes, on a one hour average, with ~~95% data~~ availability.
19. A preventative maintenance plan and schedule for those facility components which potentially impact atmospheric emissions, and a fully completed air pollution episode plan must be maintained, to represent facility modifications incorporating the SNCR and the activated carbon injection system. The plan shall identify a spare parts inventory to be maintained on-site.
- ~~20.~~ Unless otherwise approved by the Department, all waste deliveries shall be diverted no later than 72 hours into any down-time. In the event of an unscheduled down-time, the Department shall be notified within 24 hours. No later than 120 hours after the plant ceases operation in any down-time, the company shall commence shipment of all on-site waste to an approved alternate disposal site until normal operations resume.
- ~~21.~~ The tipping floor shall be cleared and cleaned at least once every seven days.
- ~~22.~~ Open topped refuse trucks must be appropriately covered. Any such truck not so equipped shall be denied access by the scale house operator. Notice of this requirement shall be conspicuously posted. Similarly all haulers of material exiting the site shall be required to tarp or otherwise cover their loads.
- ~~23.~~ The construction and operation of the facility must comply with all applicable regulations of 25 Pa. Code Sections 123.1 and 123.2 relating to prevention of fugitive emissions.



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24. Continuous emission monitors (CEMs) shall be installed, certified, operated, and maintained for the following pollutants and parameters in accordance with 25 Pa. Code Chapter 139 and the applicable performance testing provisions in 40 CFR § 60.58b to assure that the CEM requirements are at least as protective as the Subpart Cb requirements. Compliance with the data availability requirements in 25 Pa. Code § 139.111 assures compliance with data availability requirements of Subpart Cb.
- a. ~~Opacity~~
  - b. ~~SO<sub>2</sub>~~
  - c. ~~NO<sub>x</sub>~~
  - d. ~~HCl~~
  - e. ~~CO~~
  - f. ~~O<sub>2</sub>~~
  - g. ~~Furnace temperatures~~
  - h. ~~Steam load~~
25. The applicants/operator shall provide the Department with access to all CEM read-outs via telephone dial-up (modem) from the Department's computer(s). It will be the applicant's/operator's responsibility to provide all hardware, software, and funds required to provide this access. The Department shall specify the acquisition configuration.
26. The CEMs shall be used to determine compliance with the applicable limits.

Operator Training and Certification

- ~~27.~~ The permittee shall comply with the operator training and certification requirements specified in ~~40 CFR Section 60.54b~~ of Subpart Eb, and with the schedule specified in Section 60.39b(c)(4).

Fugitive Ash Emissions

- ~~28.~~ No person may permit visible emissions of combustion ash from an ash conveying system (including conveyor transfer points) into the outdoor atmosphere in excess of ~~five percent~~ of the observation period (i.e., ~~nine minutes per three-hour period~~), as determined by EPA reference Method 22, in conformance with 40 CFR Section 60.55b, except during ash conveying systems maintenance.

Compliance and Performance Testing Requirements

- ~~29.~~ The permittee shall comply with all the applicable performance testing and monitoring requirements set forth in 40 CFR Section 60.38b of Subpart Cb. ~~The permittee may elect to comply with the alternative performance testing schedule for dioxin/furans specified in Section 60.58b(g)(5)(iii).~~



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- ~~30. As specified in 40 CFR Section 60.58b, an average activated carbon mass feed rate in pounds per hour shall be estimated during the initial performance tests for mercury and dioxin/furan emissions. The carbon mass feed rate shall be equal to or greater than the estimated feed rate of carbon during the performance test.~~
- ~~31. Source tests shall be conducted for: (a) Particulate Matter (TSP and PM<sub>10</sub>), (b) Hydrochloric Acid, (c) Arsenic and Compounds (expressed as Arsenic), (d) Cadmium and Compounds (expressed as Cadmium), (e) Hexavalent Chromium and Compounds (expressed as Chromium), (f) Nickel and Compounds (expressed as Nickel), (g) Lead and Compounds (expressed as Lead), (h) Beryllium and Compounds (expressed as Beryllium), (i) Mercury and Compounds (expressed as Mercury), (j) Zinc and Compounds (expressed as Zinc), and (k) PCDD and PCDF (expressed as 2, 3, 7, 8 TCDD equivalents calculated according to the PA DEP approved method).~~
- ~~32. The owner or operator may be required to conduct source tests at any time or frequency as may be prescribed by the Department. At a minimum, source tests shall be conducted:~~
- ~~a. For all pollutants except PCDD/PCDF every six months.~~
- ~~b. For PCDD/PCDF - every year.~~
- ~~33. Particulate matter emission source test results shall be calculated in accordance with 40 CFR Part 60, Appendix A, Method 5. All other test results shall be calculated in accordance with the Department's Source Testing Manual referenced in 25 Pa. Code § 139.4. The performance testing requirements shall be at least as protective as the provisions in 40 CFR § 60.58b.~~
- ~~34. Test procedures, different from those previously approved, must be submitted to the EPA administrator for approval. Copies of the pretest protocol shall also be submitted to the Regional Air Quality Program Manager within 60 days prior to testing.~~

Reporting and Recordkeeping Requirements

- ~~35. The permittee shall comply with the applicable reporting and recordkeeping requirements set forth in 40 CFR Section 60.39b of Subpart Cb.~~
- ~~36. The permittee shall submit reports and notification pursuant to 40 CFR Part 60, Subpart Cb to:~~
- ~~a. Regional Air Quality Program Manager  
PA Department of Environmental Protection  
909 Elmerton Avenue  
Harrisburg, PA 17110-8200~~

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b. Director  
Air Protection Division  
U.S. EPA, Region III  
841 Chestnut Building  
Philadelphia, PA 19107

- ~~37. Data gathered for the continuous monitoring of the dry lime feed rate and the blower discharge pressure shall be submitted to the Regional Air Quality Program Manager on a quarterly basis. These reports are due by the last day of the month following the end of the calendar quarter. The data shall be retained for at least five years following the date of the record and shall be made available to the Department upon request.~~
38. Continuous emission/parameter data gathered from the certified monitors shall be submitted to the Department quarterly. These reports are due by the last day of the month following the end of the calendar quarter. The data shall be retained for at least five years following the date of record and shall be made available to the Department during facility inspections. The quarterly CEM data report shall be submitted to the EPA by the Department.
- ~~39. The following information shall also be included for each combustor unit in the quarterly submission of reports:~~
- a. The weight of activated carbon delivered to the plant.
  - b. The hourly average feed rate of carbon per hour during the initial mercury performance test and all subsequent annual performance tests with supporting calculations.
  - c. The hourly average feed rate of carbon per hour during the initial dioxin/furan performance test and all subsequent annual performance tests with supporting calculations.
  - d. The total carbon usage and hours of operation for the calendar quarter.
  - e. Identification of the calendar dates when the recorded hourly average carbon mass feed rates in pounds per hour were less than carbon feed rates estimated during the performance tests for mercury and dioxin/furan emissions.