



Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767

Lawton Chiles, Governor

Carol M. Browner, Secretary

Permittee:
Ogden Martin Systems of Lake, Inc.
40 Lane Road
Fairfield, NJ 07007-2615

Attention: Gary K. Crane, Ph.D.,
Exec. V.P.

I. D. Number:
Permit/Certification
Number: A035-193817
Date of Issue:
Expiration Date: October 25, 1996
County: Lake
Latitude/Longitude:
28°44'22"N/81°53'23"W
UTM: 17-413.12 KmE; 3179.21 KmN
Project: Waste to Energy Facility
Units No. 1 and 2

This permit is issued under the provisions of Chapter(s) 403, Florida Statutes, and Florida Administrative Code Rule(s) 17-2. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents attached hereto or on file with the department and made a part hereof and specifically described as follows:

The permittee can operate two 288 ton-per-day Combustors which are fueled by wood chips and municipal solid waste.

The facility is rated for a maximum of 15.7 megawatts of energy production.

These sources are located at 3830 Rogers Industrial Park Road in Okahumpka, Lake County, Florida.

General Conditions are attached to be distributed to the permittee only.

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SPECIFIC CONDITIONS:

OPERATING CONDITIONS

1. Municipal Waste Combustor

- a. The maximum individual MWC throughput shall not exceed 288 tons per day, 120 million Btu per hour and 69,000 pounds steam per hour, (3-hour average).
- b. The design furnace mean temperature at the fully mixed zone of the combustor shall be no less than 1800° for a combustion gas residence time of at least one second.
- c. The MWC shall be fueled with wood chips or municipal solid waste. Radioactive waste may not be burned unless the combustor has been issued a permit for such burning or the waste is such quantity to be exempt in accordance with Department of Health and Rehabilitative Services (HRS) Rule 10D-91 or 10D-104.003, F.A.C. Hazardous waste may not be burned unless the combustor has been issued a permit for such burning or the waste is of such quantity to be exempt in accordance with Department Rule 17-30, F.A.C. Other wastes and special wastes shall not be burned without specific prior written approval of the Florida DER.
- d. Auxiliary fuel burners shall be fueled only with distillate fuel oil or gas (e.g., natural or propane). The annual capacity factor for fuel oil or gas shall be less than 10%, as determined by 40 CFR 60.43b(d). If the annual capacity factor for fuel oil or gas is greater than 10%, the facility shall be subject to 40 CFR 60.44b, standards for nitrogen oxides.
- e. Auxiliary fuel burner(s) shall be used at start up during the introduction of MSW fuel until design furnace gas temperature is achieved. All air pollution control and continuous emission monitoring equipment shall be operational and functioning properly prior to the incineration or ignition of waste and until all the wastes are incinerated. During shut down, the combustion chamber temperature requirement shall be maintained using auxiliary burners until wastes are complete combusted.

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- f. The facility may operate continuously (8760 hrs/yr).
- g. The combustor shall be fed so as to prevent opening the combustor to the room environment.

2. Air Pollution Control Equipment Design

- a. Each MWC shall be equipped with a particulate emission control device.
- b. Each MWC shall be equipped with an acid gas control device designed to remove at least 90% of acid gases and 70% sulfur dioxide emissions.
- c. The acid gas emission control system shall be designed to be capable of cooling flue gases to an average temperature not exceeding 300°F (3-hour rolling average).

3. Continuous Emission Monitoring

Continuous emission monitors for opacity, oxygen, carbon monoxide, carbon dioxide, and sulfur dioxide shall be installed, calibrated, maintained and operated for each unit.

- a. Each continuous emission monitoring system (CEMS) shall meet performance specifications of 40 CFR 60, Appendix B. The SO₂ CEMS sample point shall be located downstream of control devices for each unit.
- b. CEMS data shall be recorded during periods of startup, shutdown and malfunction but shall be excluded from emission averaging calculations for CO, SO₂, and opacity.
- c. A malfunction means any sudden and unavoidable failure of air pollution control equipment or process equipment to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
- d. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation and operation of all CEMS.

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- e. Opacity monitoring system data shall be reduced to 6-minute averages, based on 36 or more data points, and gaseous CEMS data shall be reduced to 1-hour averages, based on 4 or more data points, in accordance with 40 CFR 60.13(h).
- f. Average CO and SO₂ emission concentrations corrected for CO₂, shall be computed in accordance with the appropriate averaging time periods included in Condition No. 3.
- g. For purposes of reports required under this permit, excess emissions are defined as any calculated average emission concentration, as determined pursuant to Condition No. 3 herein, which exceeds the applicable emission limit in Condition No. 7.

4. Operations Monitoring

- a. Devices are to be used to continuously monitor and record steam production, furnace exit gas temperature (FEGT) and flue gas temperature at the exit of the acid gas control equipment. An FEGT to combustion zone correlation shall be established to relate furnace temperature at the temperature monitor location to furnace temperature in the overfire air fully mixed zone. This correlation shall be continuously available for inspection at the site.
 - b. The furnace heat load shall be maintained between 80% and 100% of the design rated capacity during normal operations. The lower limit may be extended provided compliance with the carbon monoxide emissions limit and the FEGT within this permit at the extended turndown rate are achieved.
5. Any change in the method of operation, fuels, equipment or operating hours shall be submitted for prior approval to DER's Central District office.
6. In order for the burning of biohazardous waste to be incorporated into the operation permit, the Department must receive reasonable assurance including but not limited to:
- a. Particulate matter emissions shall not exceed 0.020 grains per dry standard cubic foot of flue gas, corrected to 7% O₂. (See Table 700-1)
 - b. Hydrochloric acid (HCL) emissions shall not exceed 50 parts per million by volume, dry basis, corrected to 7% O₂ on a three hour average basis or shall be reduced by 90% by weight on an hourly average basis. (See Table 700-1)

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- c. This facility is subject to the following design, operating, monitoring and operator training requirements.
1. The source shall be designed to provide for a residence time of at least of at least one second in the combustion zone, at no less than 1800°F for the combustion gases.
 2. Mechanically fed facilities shall incorporate an air lock system to prevent opening the source to the room environment. The volume of the loading system shall be designed to prevent overcharging thereby assuring complete combustion of the waste. The feed chute design provides an air lock.
 3. Carbon monoxide (CO) emissions shall not exceed 100 parts per million by volume, dry basis, corrected to 7% O₂ on an hourly basis. (See Table 700-1)
 4. Incineration or ignition of waste shall not begin until the combustion chamber temperature requirement is attained. All control equipment shall be operational and functioning properly prior to the incineration or ignition of waste and until all the wastes are incinerated. During shutdown, the combustion chamber temperature requirement shall be maintained using auxiliary burners until the wastes are completely combusted.
 5. Radioactive waste may not be burned unless the source has been issued a permit or the waste is of such quantity to be exempt in accordance with Rule 10D-91 or 10D104.003, F.A.C.
 6. Hazardous waste may not be burned unless the source has been issued a permit or the waste is of such quantity to be exempt in accordance with Rule 17-30, F.A.C.
 7. All biological waste combustor operators shall be trained by the equipment manufacturer's representatives or another qualified organization as to proper operating practices and procedures. The content of the training program shall be submitted to the Department for approval. The applicant shall submit a copy of a certificate verifying the satisfactory completion of a department approved training program prior to issuance or renewal of the operating permit. The applicant shall not operate the source unless it is operated by an operator who has satisfactorily completed the required training program.

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- d. Each owner or operator of biological waste incineration facility shall install, operate, and maintain in accordance with the manufacturer's instructions continuous emission monitoring equipment.
- (1) The monitors shall record combustion chamber exit temperature and oxygen.
- (2) Any owner or operator subject to the provisions of Rule 17-2.710(5), F.A.C. shall maintain a complete file of all measurements, including continuous emissions monitoring system, monitoring device, and performance testing measurements; all continuous emissions monitoring system or monitoring device, calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required, recorded in a permanent legible form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports and records.
- e. Biohazardous waste may be incinerated by the applicant for the purpose of stack testing to demonstrate reasonable assurance and compliance with the regulations, and for a period not to exceed 90 days for report submittal and Department review. The compliance test must provide the Department with reasonable assurance that the biohazardous standards are met and must be conducted no later than 5 days after the incineration of biohazardous waste begins. The test must be conducted while combusting the maximum desired rate of biohazardous waste and this rate must be determined during the test.

EMISSION LIMITS

7. Flue gas emissions from each unit shall not exceed the following:
- a. Particulate: 0.0150 grains/dscf corrected to 12% CO₂, or 0.020 grains/dscf corrected to 7% O₂, whichever is less
- b. Sulfur Dioxide: 60 ppmdv corrected to 12% CO₂, 6-hour rolling average;

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or,
70% reduction of uncontrolled SO₂
emissions, 6-hour rolling average.
Not to exceed 120 ppm_{dv} corrected to
12% CO₂, 6-hr rolling average.

- c. Nitrogen Oxides: 385 ppm_{dv} corrected to 12% CO₂.
- d. Carbon Monoxide: 100 ppm_{dv} corrected to 7% O₂ on an hourly-average basis.
- e. Volatile Organic Compounds: 70 ppm_{dv} as carbon corrected to 12% CO₂.
- f. Lead: 3.1×10^{-4} gr/dscf corrected to 12% CO₂.
- g. Fluoride: 1.5×10^{-3} gr/dscf corrected to 12% CO₂.
- h. Beryllium: 2.0×10^{-7} gr/dscf corrected to 12% CO₂.
- i. Mercury: 3.4×10^{-4} gr/dscf corrected to 12% CO₂.
- j. Visible emissions: Opacity of MWC emissions shall not exceed 15% opacity (6-min. average), except for one 6-min. period per hour of not more than 20% opacity. Excess emissions resulting from startup, shut down, or malfunction shall be permitted provided that best operational practices to minimize emissions are adhered to, and the duration of excess emissions are minimized.
- k. Hydrochloric Acid: 50 ppm_{dv}, corrected to 7% O₂ on a three hour average basis; or shall be reduced by 90% by weight on an hourly average basis.

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For each pollutant for which a continuous emissions monitoring system is required in Condition No. 3, the emission averaging time specified above shall be used to establish operating limits and reportable excess emissions.

Compliance with the permit emission limits shall be determined by EPA reference methods tests included in 40 CFR Parts 60 and 61 and listed in Conditions No. 8 of this permit or by equivalent methods approved by Florida DER.

COMPLIANCE

8. Compliance tests

- a. Annual compliance tests shall be conducted at yearly intervals from the date of January 15, 1991 for particulate matter, nitrogen oxides, carbon monoxide, and HCL.
- b. Annual compliance tests for the opacity standard shall be conducted at yearly intervals from the date of January 15, 1991 in accordance with 40 CFR 60.11(b) and (e).
- c. At least 90 days prior to permit expiration date, the applicant must demonstrate compliance with each permitted emission limit in Specific Condition #7.
- d. Compliance with the requirement for 70% control of sulfur dioxide emissions will be determined by using the test methods listed below or a continuous emission monitoring system for SO₂ emissions before and after the air pollution control equipment which meet the requirements of Performance Specification 2 of 40 CFR 60, Appendix B.
- e. The compliance tests shall be conducted at the maximum capacity and at the maximum firing rate.
- f. The following test methods and procedures of 40 CFR Parts 60 and 61 or equivalent methods shall be used for compliance testing:
 - (1) Method 1 for selection of sample site and sample traverses.

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- (2) Method 2 for determining stack gas flow rate.
- (3) Method 3 or 3A for gas analysis for calculation of percent O₂ and CO₂.
- (4) Method 4 for determining stack gas moisture content to convert the flow rate from actual standard cubic feet to dry standard cubic feet.
- (5) Method 5 or Method 17 for concentration of particulate matter.
- (6) Method 9 for visible determination of the opacity of emissions as required in this permit in accordance with 40 CFR 60.11.
- (7) Method 6, 6C, or 8 for concentration of SO₂.
- (8) Method 7, 7A, 7B, 7C, 7D, or 7E for concentration of nitrogen oxides.
- (9) Method 10 for determination of CO concentration.
- (10) Method 12 for determination of lead concentration.
- (11) Method 13B for determination of fluoride concentration.
- (12) Method 25 or 25A for determination of VOC concentration.
- (13) Method 101A for determination of mercury emission rate.
- (14) Method 104 for determination of beryllium emission rate.
- (15) Method 26 for determination of hydrogen chloride emission rate.

REPORTS

9. Reporting

- a. Fifteen (15) days prior notification in writing of compliance tests shall be given to the Florida DER district office.

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- b. The results of compliance test shall be submitted to the Central District office within 45 days after completion of the test.
- c. The owner or operator shall submit excess emission reports for any calendar quarter during which there are excess emissions from the facility. If there are no excess emissions during the calendar quarter, the owner or operator shall submit a report semiannually stating that no excess emissions occurred during the semiannual reporting period. The report shall include the following:
 - (1) The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each period of excess emissions (60.7(c)(1)).
 - (2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the furnace boiler system. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted (60.7(c)(2)).
 - (3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks, and the nature of the system repairs or adjustments (60.7(c)(3)).
 - (4) When no excess emissions have occurred or the continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be stated in the report (60.7(c)(4)).
 - (5) The owner or operator shall maintain a file of all measurements, including continuous monitoring systems performance evaluations; monitoring systems or monitoring device calibration; checks; adjustments and maintenance performed on these systems or devices; and all other information required by this permit recorded in a permanent form suitable for inspection (60.7(d)).
- d. Each calendar year on or before March 1, submit for each source, an Annual Operations Report DER Form 17-1.202(6) for the preceding calendar year.

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EXPIRATION DATE

10. An operation permit renewal must be submitted at least 60 days prior to the expiration date of this permit (Rule 17-4.09, F.A.C.).

ISSUED

1-29-92

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION



A. Alexander, District Director
3319 Maguire Boulevard, Suite 232
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