

BRIAN BAHOR  
Vice President  
Environmental Permitting

40 Lane Road  
Fairfield, NJ 07004  
973 882 7236  
Fax 973 882 4167  
E-mail [brian\\_bahor@ogden\\_energy.com](mailto:brian_bahor@ogden_energy.com)

February 29, 2000

Cindy L. Phillips, P.E.  
Bureau of Air Regulation  
State of Florida  
Department of Environmental Protection  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

**RECEIVED**

FEB 29 2000

BUREAU OF AIR REGULATION

Subject: Request for Additional Information  
Ogden Martin Systems of Lake, Inc.  
Lake County Resource Recovery Facility  
Air Construction Permit Application  
DEP File No. 0690046-002-AC

Dear Ms. Phillips;

The attached document has been prepared in response to your December 1, 1998 letter to Mr. Gary K. Crane of Ogden Energy Group, Inc. The schedule for submittal of these comments has been extended through several time extensions with the most recent extension having a submittal date of March 1, 2000. We believe that these responses are timely, complete and accurate.

In addition to the responses themselves, you have specified several other requirements including certification by a professional engineer registered in the State of Florida and a certification statement by an authorized representative or responsible official. Both of these requirements have been met with the necessary forms provided as Appendix D of the response document.

If you have any questions concerning this response, please call Jason Gorrie at 727-856-2917 or myself at 973-882-7236.

Sincerely,



Brian Bahor  
Vice President  
Environmental Permitting

Distribution

Jason Gorrie    Nancy Tammi    Cecil Boatwright    Steve Bass    Joe Treshler

Response to the December 1, 1998  
Request for Additional Information  
March 1, 2000

Ogden Martin Systems of Lake, Inc.  
3830 Rogers Industrial Road  
Okahumpka, FL 34762  
Lake County

Construction Permit No. PSD-FL-113

Air Construction Permit Application  
DEP File No. 0690046-002-AC

Comment No. 1

There is no description of how the facility will physically receive, store, handle and load the proposed daily quantity of biomedical waste (BMW). The Department of Health rule 16E-64 proscribes handling and storage requirements for BMW that are applicable to this facility. Please describe how you intend to comply with those requirements.

Response No. 1

A description of how the Facility physically receives, stores, handles and loads biomedical waste is described in the Biomedical Waste Operating Plan provided herein as Appendix A. These same plans, which were developed in conjunction with the Florida Department of Health ("DOH"), describe how the Facility meets the Department of Health requirements.

Please note that this Plan was prepared in response to the need to have a system that satisfied DOH requirements and that the system evolves as necessary to accommodate new ideas and operating requirements while maintaining the DOH requirements. The Plan is presently part of Facility operations and is not part of the air permit. We believe that this arrangement should be maintained.

Comment 2

Referring to section 2.3, page 3 of the narrative portion of the application, the 240 TPD maximum throughput of BMW occurs in the peak range of the stoker capacity diagram (Appendix G). In the stoker diagram, the maximum throughput in the normal operating range seems to be  $18.5 \times 10^3$  lb/hr, or 222 TPD, each unit. Please explain.

Response 2

The following response is being provided to the Department although the Facility is not proposing to process 10 TPH of biomedical waste. The ability of the Facility to process 10 TPH is only relevant when considering the Departments request to verify the throughput capacity of each MWC.

The maximum MWC throughput of 240 TPD, or 10 TPH, can be determined by the maximum heat input to each combustor. Unfortunately, the y-axis of the stoker capacity diagram was provided with the wrong engineering units, therefore the diagram was not clear in its application. The correct engineering unit for the y-axis is "btu/hr x  $10^6$ ". This is logical because the y-axis is the dependent variable and the heat input depends upon the quantity of waste processed (lb/hr) and the higher heating value (btu/lb) of the waste.

The maximum heat input of each combustor is  $120 \times 10^6$  btu/hr. The throughput rate of biomedical waste with a higher heating value of 6000 btu/hr therefore is 10 ton/hour or 240 TPD.

Comment No. 3

The proposal to burn such large amounts of BMW should be considered to be a change in the method of operation of the facility and should be evaluated for PSD applicability. It is assumed that Ogden Martin will attempt to operate the facility in the future at a higher capacity utilization in order to maximize the throughput of BMW and MSW and other solid wastes. An increase in capacity utilization would increase future potential emissions as compared with past actual emissions, even with no change in the waste combusted. The average of the last two years operating information should be used to establish capacity utilization for PSD purposes. If the actual to potential emissions comparison shows a PSD significant increase in emissions will occur as a result of increased utilization from the proposed change, Ogden will have to submit a PSD permit application and evaluate and apply top down BACT, which may or may not be the same as the emission guideline requirements or the NSPS (MACT) for MWCs or BMW combustors.

Response No. 3

The application proposed a total throughput of 240 TPD of biomedical waste per MWC in response to a request from the Department for such clarification. This response is provided to clarify Section 2.0 of the application and to respond to the Departments comment.

The Applicant maintains that the nameplate capacity is 240 TPD, however we are not proposing 240 TPD as the operating limit of each MWC. The Applicant requests a Facility synthetic operating limit of 2.15 TPH of biomedical waste where Unit 1 or Unit 2 can process biomedical waste however Unit 1 and Unit 2 shall not burn biomedical waste simultaneously. The total Facility throughput limit for biomedical waste would therefore be 2.15 TPH. This synthetic operating limit is consistent with the existing permit description and biomedical waste operating limits.

The December 10, 1990 air permit amendment (provided as Appendix B) issued by the Department included a revised project description that clarified that both units can be fueled by wood chips and municipal solid waste that by definition can include biohazardous (ie, biomedical) waste. The same December 10, 1990 amendment created air permit emission limits and conditions for both Unit 1 and Unit 2 that were required for the combustion of biomedical waste. In summary, both MWC units are permitted to receive biomedical waste and the existing air permit limits are appropriate for the combustion of biomedical waste.

The Facility is presently processing biomedical waste in Unit 1 with a maximum throughput of 2.15 TPH. The proposal to enable the processing of biomedical waste in either unit does not create an increase in the processing rate of biomedical waste. Biomedical waste will only be processed in one unit at a time; therefore there is not a change in the method of operation.

Comment No. 4

Ogden Martin's proposal to accept industrial process or manufacturing wastes and wastes generated by manufacturing, industrial, commercial or agricultural activities is not specific. The Department's previous permits required that such wastes must be substantively similar to items found in MSW and that acceptance of such wastes was subject to prior approval by the Department. Please submit more specific information and maximum proposed waste stream percentages of all segregated non-MSW waste to be burned.

Response No. 4

We have reviewed the Department's previous permits issued to MWCs as they pertain to the referenced wastes and have designed a response to manage nonhazardous solid waste in a manner similar to these other permits. Table 4.A includes four different waste categories that are;

- 1.0 Solid Waste Without a Throughput Limit
- 2.0 Waste Tires With a 3 % Throughput Limit
- 3.0 Solid Waste Contaminated With Oil With A 20 % Throughput Limit
- 4.0 Solid Waste With A 5 % Throughput Limit

Category 1.0 and Category 2.0 are the same as prior Department approvals. Category 3.0 reflects a permit amendment issued by the Department to the Facility in May, 1995 for the processing of solid waste contaminated with oil. (This permit amendment is provided herein as Appendix C). In order to be consistent with the Departments language in other permits, Category 3.0 also includes oil waste language from other permits. Category 4.0 is essentially the same as conditions issued to other MWCs for solid waste received as segregated loads with the exception of language related to Category 3.0.

The Department has determined that waste received as segregated loads shall not exceed 5 % by weight of the facility's total fuel with compliance being determined as a rolling 30-day average. We are not aware of a regulatory definition of segregated loads, however the Department has provided language in other permits that has established a segregated load as; 1) a load comprised of a single-item of discarded materials, or 2) a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visual observation. The Department has also included a permit condition that requires that segregated loads are either a) well mixed with solid waste in the refuse pit; or b) alternately charged with solid waste in the hopper. This mixing requirement is reportedly the Departments approach to assure that solid waste charged to a MWC is well mixed and that there is not a large quantity of one waste type that would introduce an upset condition in the MWC.

As further discussed in Table 4A, the Facility accepts the 5 % by weight limit of segregated loads and the mixing conditions specified by the Department in other permits. The Facility provides this type of mixing for both segregated and non-segregated loads.

The Facility will make the segregated vs. non-segregated determination by the waste information (specific weight of each waste on a truck) provided by the waste generator, broker or transporter. This information is typically available before the truck arrives at the Facility; therefore the Facility can determine if the waste is segregated and if it can be processed within the 5 % limit as a 30-day rolling average. If the information were not available at the time of delivery, the truck inventory would be visually inspected to determine if the load is to be managed as a segregated or non-segregated load. The total tonnage of the truck delivery will be available from the Facility's weigh scales.

Table 4.A  
Proposed Waste Classification and  
Throughput Limits for the Lake Facility

1.0 Solid Waste Without Process Limits

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm)
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste or otherwise prohibited at the facility. For the purpose of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods.
- (c) Wood pallets, clean wood, and land clearing debris
- (d) Packaging materials and containers
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves
- (f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings

2.0 Waste Tires with a 3 % Throughput Limit

Waste tires may be used as fuel with the total quantity not to exceed 3% by weight of the facility's total fuel as a 30-day rolling average.

3.0 Solid Waste Contaminated With Oil with a 20 % Throughput Limit

Article a below is an excerpt from the Departments amendment of Air Construction Permit PSD-FL-113 (AC 35-115379) dated May, 1995. Please refer to Appendix C for the complete amendment. Articles b, c and d are from prior approvals issued by the Department and are included here for consistency.

The firing of non-hazardous solid waste contaminated with virgin or used oil products is allowed according to the following conditions;

- a. The maximum percentage of oil-contaminated solid waste defined as oil spill cleanup debris and absorbing media, including oil filters, fired in the MWC shall be twenty (20) percent by weight of the total solid waste input, based on a 30-day rolling average. All "used oil" shall comply with the definition stated in 40 CFR 260.10 and shall not exceed the specification levels for arsenic, cadmium, chromium, lead, and total halogens contained in Table 1 of 40 CFR 279.11, or contain any hazardous waste as defined in 40 CFR 261.3. The used oil shall have a polychlorinated biphenyl (PCB) content of less than 50 ppm (wt.).
- b. Records shall be maintained showing the oil-contaminated waste generators certification that the waste is non-hazardous. Documentation requirements shall include a written description of the waste, a material characterization form (sample submitted with application), and the applicable material safety data sheets for the waste components. Tonnages of oil-contaminated solid waste fired shall be recorded and made available for inspection by the Department. These records shall be maintained for a period of two years.
- c. Quantities of used oil not commingled with solid waste may be burned provided that the oil has been generated entirely from internal operations of the OMS-Lake facility (i.e. no used oil in liquid form from outside generators). Records shall be maintained showing the tonnages of internally-generated used oil fired.
- d. The permittee shall comply with all applicable requirements of federal, state and local regulations including 40 CFR 261 (Federal Hazardous Waste Regulations), 40 CFR 279 (Federal Used Oil Management), Chapter 62-701, F.A.C. (Solid Waste Management

Facilities), Chapter 62-710 F.A.C. (Used Oil Management Regulations), Chapter 62-730 F.A.C. (Hazardous Waste Regulations).

- e. Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes and absorbents.
- f. Waste materials that contain oil from:
  - (1) the routine cleanup of industrial or commercial establishments and machinery; or
  - (2) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes and absorbents.
- g. Used oil and used oil filters. Used oil containing a PCB concentration equal to or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).

#### 4.0 Nonhazardous Solid Waste With a 5 % Throughput Limit

The following solid waste can be received and burned at the Facility with the total quantity not to exceed 5 % by weight of the facility's total fuel, based on a 30 day rolling average.

- (a) Construction and demolition debris
- (b) Items suitable for human, plant or domesticated animal use, consumption or application where the items shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
- (c) Consumer packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
- (d) Waste materials that:
  - (i) are generated in the manufacture of items in categories (b) or (c) above and are functionally or commercially useless (expired, rejected or spent); or
  - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
- (e) Waste materials generated by manufacturing, industrial or agricultural activities, provided these materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval by the Department



Comment No. 5

Section 4.2.1 requests the removal of the emission limit for VOC's. The emission guideline's CO limit and requirements for good combustion practices seem to be acceptable alternatives. However, the ability of the combustion units to properly burn BMW in the amounts requested must be evaluated. Please provide reasonable assurance that the units are capable of combusting the requested amount of BMW and meeting the emission limits of the emission guideline.

Response No. 5

The basis of this response is to provide reasonable assurance that each combustor can combust the specified amount of biomedical waste. As noted in prior responses, the Applicant is proposing a limit of 2.15 TPH of biomedical waste in either Unit 1 or 2. The basis of our reasonable assurance is the emission data from the most recent compliance test in January, 2000. Unit 1 was processing a nominal 2.15 TPH of biomedical waste whereas Unit 2 was not processing biomedical waste. The test results are presented below. Please note that this data has not yet been submitted to the Department as a complete test report due to the absence of a complete report from the test firm.

CO and VOC Emissions  
During January, 2000  
Test Program

Test Reference	Air Emission Data (ppmdV at 7 % O2)			
	CO		VOCs	
	Unit 1	Unit 2	Unit 1	Unit 2
Run 1	17.5	19.9	0.862	0.945
Run 2	13.1	14.8	0.741	0.689
Run 3	13.5	15.8	0.608	0.788
3 Run Average	14.7	16.8	0.737	0.807

An analysis of the data shows that both units were well below the permit limit and in both cases the 3-run averages for Unit 1 were comparable with the 3-run averages for Unit 2.

The Applicant maintains the request to remove the test requirement for VOCs as described in Article 4.2.1 of the original application. We believe that the above data satisfies the request for reasonable assurance and that the monitoring of CO is an acceptable alternative to VOC testing.

Comment No. 6

The request for removal of the emission limits for beryllium and fluorides should include an evaluation of the possibility that combustion of the requested quantity of BMW or proposed segregated wastes will increase emissions of those pollutants. No information on future potential emissions was provided. Fluorides are a PSD pollutant so please provide a past actual to future potential emission comparison. If combustion of the BMW or the proposed segregated wastes will increase emissions of fluorides, the possible capacity utilization increase must be evaluated.

Response No. 6

As explained in Response No. 3 of this application, the Applicant has defined the throughput limit of biomedical waste to be 2.15 TPH which is the same as the existing limit, therefore there is not an increase in the amount of BMW to be processed. Consequently, the Applicant maintains the original request set forth in Article 4.2.1 of the original application.

In regards to segregated waste, these materials will be evaluated to determine that combustion of such can occur while maintaining compliance with the air permit emission limit.

Comment No. 7

The maximum potential emissions calculations in Appendix F appear to be based on the existing permits, so these emissions do not reflect future potential emissions based on the emission limits of the emission guidelines. Please Provide.

Response No. 7

The emission calculations provided in Appendix F were prepared to represent the limits that will apply to the Facility until the State Implementation Plan (SIP) schedule triggers application of the emission guidelines as defined at 40 CFR Part 60.58. Our understanding of the SIP schedule is that compliance with the emission guidelines is required by November 13, 2000, therefore the calculations as provided were appropriate as of this date. We are providing as Appendix E of this response the Maximum Potential Emissions Calculations when using the Emission Guidelines for Large MWCs.

Appendix A  
Biomedical Waste Operating Plan

# OGDEN



## **OGDEN MARTIN SYSTEMS OF LAKE, INC.**

3830 Rogers Industrial Park Road  
Okahumpka, FL 34762

### BIOMEDICAL WASTE OPERATING PLAN

In Accordance with

STATE OF FLORIDA  
DEPARTMENT OF HEALTH  
Bureau of Environmental Health Programs  
Chapter 64-E-16, F.A.C.

OGDEN MARTIN SYSTEMS OF LAKE, INC  
BIOMEDICAL WASTE OPERATING PLAN

- 1.0 PURPOSE
- 2.0 SCOPE
- 3.0 DEFINITIONS
- 4.0 RESPONSIBILITIES OF OMSL AND THE GENERATOR/TRANSPORTER
- 5.0 SEGREGATION BY THE GENERATOR
- 6.0 CO-MIXING BY THE GENERATOR
- 7.0 PACKAGING REQUIREMENTS FOR BOXED BIOMEDICAL WASTE
- 8.0 PACKAGING REQUIREMENTS FOR BIOMEDICAL WASTE IN ROLL-OFF CONTAINERS
- 9.0 PACKAGING REQUIREMENTS FOR SHARPS
- 10.0 LABELING
- 11.0 GENERATOR STORAGE
- 12.0 TRANSPORTATION
- 13.0 BIOMEDICAL WASTE SPILL RESPONSE
- 14.0 TREATMENT OF BIOMEDICAL WASTE
- 15.0 TRAINING

## 1.0 PURPOSE

- 1.1 To establish policies, procedures and training to ensure the proper and safe handling, storage and treatment of biomedical waste.
- 1.2 To ensure that all practices are in compliance with applicable regulations:
  - 1.2.1 64-E-16, Florida Administrative Code; and
  - 1.2.2 29 CFR 1910.1200

## 2.0 SCOPE

- 2.1 This procedure shall apply to each person employed by Ogden Martin Systems of Lake, Inc. (OMSL) involved in the handling, storage and treatment of BMW.
- 2.2 This procedure shall also apply to Ogden Waste Solutions, Inc. (OWS) employees working at the OMSL facility when their job function requires the handling, storage and treatment of biomedical waste.
- 2.3 Untrained and temporary employees should not be assigned to jobs that require the handling, storage and treatment of biomedical waste. If temporary employees must be employed in any such job, this Operating Plan shall also apply to them.

## 3.0 DEFINITIONS

The definitions listed below are in Chapter 64E-16 Florida Administrative Code.

Biomedical waste (BMW) is any solid waste or liquid waste which may present a threat of infection to humans, including nonliquid human tissue, body parts, blood, blood products, and body fluids from humans and other primates; laboratory and veterinary waste which contain human disease-causing agents; and discarded sharps. The following are also included:

- (a) Used, absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with visible blood; and absorbent materials saturated with blood or blood products that have dried. Absorbent material includes items such as bandages, gauze and sponges.

(b) Non-absorbent disposable devices that have been contaminated with blood, body fluids or secretions or excretions visibly contaminated with blood, but have not been treated by an approved method.

Biomedical waste generator (generator) is a facility or person that produces biomedical waste. The term includes hospitals, skilled nursing or convalescent hospitals, intermediate care facilities, clinics, dialysis clinics, dental offices, health maintenance organizations, surgical clinics, medical buildings, physicians' offices, laboratories, veterinary clinics and funeral homes.

Body Fluids are those fluids which have the potential to harbor pathogens, such as human immunodeficiency virus and hepatitis B virus and include blood, blood products, lymph, semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids. In instances where identification of the fluid cannot be made, it shall be considered to be a regulated body fluid. Body secretions such as feces and secretions such as nasal discharges, saliva, sputum, sweat, tears, urine, and vomitus shall not be considered biomedical waste unless visibly contaminated with blood.

Boxed Biomedical Waste is BMW waste that is packaged in a BMW box that is lined with a minimum of one red BMW bag. Sealed sharps containers that are placed inside a minimum of one BMW red bag can then also be placed into a BMW box. Both the BMW box and bag must meet the requirements of Chapter 64E-16.004 F.A.C. The maximum weight of the box shall not exceed the box rating or 75 pounds, whichever is less.

Point of origin is defined as the room or area at which the BMW is generated,

Roll-Off Biomedical Waste is BMW that is packaged in a roll-off container. The BMW is mainly BMW red-bags and sealed sharps containers. A roll-off container is an acceptable Aouter container@ as long as it meets the requirements of Chapter 64E-16.004(e) F.A.C.

Sharps are objects capable of puncturing, lacerating, or otherwise penetrating the skin.



Treatment is any process, including steam, chemicals, microwave shredding, or incineration, which changes the character or composition of biomedical waste to render it noninfectious by disinfection or sterilization.

#### **4.0 RESPONSIBILITIES OF OMSL AND THE GENERATOR/TRANSPORTER**

Ogden Martin Systems of Lake, Inc.(OMSL) is permitted to treat up to 2.15 tons of BMW per hour via incineration, FL DEP Permit #AO35-193817. OMSL accepts BMW in fiberboard boxes and roll-off containers as long as the outer containers meet the requirements of Chapter 64E-16.004 F.A.C. OMSL relies on registered biomedical waste transporters to deliver BMW from the generator to OMSL. OMSL's partner in complete biomedical waste service is Ogden Waste Solutions, Inc. OWS is a State of Florida Department of Health registered biomedical waste transporter, registration #7294.

Although it is the responsibility of the biomedical waste generator to segregate, label, package, store BMW and the responsibility of the registered biomedical waste transporter to transport BMW, these aspects of biomedical waste management are included as part of OMSL's Operating Plan so that employees will be competent in the policies and procedures of a comprehensive biomedical waste operating plan.

#### **5.0 SEGREGATION BY THE GENERATOR**

BMW shall be identified and segregated from other waste at its point of origin into its proper container.

##### **5.1 Non-Sharp Biomedical Waste**

All non-sharp BMW must be segregated at the point of origin and placed into an impermeable, red biomedical bag, or, if the generator wishes, into a sharps container.

##### **5.2 Sharps Waste**

All sharps waste must be segregated at the point of origin and placed in a sharps container. The sharps container must be

ridged, leak and puncture resistant and designed for the containment of sharps.

### 5.3 Body Fluids

BMW that is in a liquid or semi-solid form may be disposed of in a sanitary sewer system, an on-site sewage treatment and disposal system, or other system approved to receive such waste by the Department of Environmental Protection or the Department of Health.

If body fluids are to be disposed of via incineration, the fluids must first be packaged in a container that is sealed and leak proof. That container can then be placed into a BMW box or roll-off container.

## 6.0 CO-MIXING BY THE GENERATOR

Chapter 64E-16 F.A.C. has established the proper management practices of BMW mixed with other types of wastes.

### 6.1 Biomedical Waste mixed with hazardous waste

BMW that is mixed with hazardous waste shall be managed as hazardous waste. If hazardous waste is mixed with BMW, OWS management shall be notified immediately and the procedures of OWS's Safety Procedure #32A shall be followed.

### 6.2 Biomedical Waste mixed with radioactive waste

BMW mixed with radioactive waste shall be managed in a manner that does not violate the provisions of Chapter 10D-91, F.A.C. After the radioactive component has decayed in storage as provided in Chapter 10D-91, F.A.C., the BMW waste can then be managed as untreated BMW. In the event that radioactive waste is detected, OWS management shall be notified immediately and the procedures of OWS's Safety Procedure #32A shall be followed.

## **7.0 PACKAGING REQUIREMENTS FOR BOXED BIOMEDICAL WASTE**

Prior to using a BMW box, the BMW box should be inspected for integrity and the bottom of the box must be taped.

All non-sharps BMW that is collected at the point of origin must be placed into a BMW box that is lined with a minimum of one red BMW bag. Both the BMW box and bag must meet the requirements of Chapter 64E-16 F.A.C. The bags and boxes that OWS supplies meet these requirements.

When the BMW box is filled, the liner bag that is placed into the BMW bag must be sealed or tied. The fiberboard box must be closed and sealed with tape. The maximum weight of the box shall not exceed the box rating or 75 pounds, whichever is less.

## **8.0 PACKAGING REQUIREMENTS FOR BIOMEDICAL WASTE IN ROLL-OFF CONTAINERS**

OWS offer roll-off containers to large BMW generators. The roll-off containers have six main access doors and one rear door. By utilizing all the doors in succession, from rear to front, the container can be easily loaded without having to throw@ the waste.

All non-sharps BMW that is collected at the point of origin must be placed into a minimum of one red BMW bag. The BMW bag must meet the requirements of Chapter 64E-16 F.A.C.

The generator must take care to insure that all BMW bags are sealed and that the bags do not bust, rupture or tear when loaded into the roll-off container.

## **9.0 PACKAGING REQUIREMENTS FOR SHARPS**

Sharps shall be discarded at the point of origin into a sharps container. Sharps, such as needles, blades, scalpels, razors, or contaminated broken glass/plastic, shall not be placed directly into a fiberboard BMW box. The sharps must first be placed into an approved sharps container.

A sharps container is considered full when materials placed into it reach the designated fill line, or, if a fill line is not designated, when additional materials cannot be placed into the container without cramming. When the sharps container is full, the container must be sealed properly. It can then be placed into a BMW box or directly into a roll-off container.

## **10.0 LABELING**

### **10.1 Labeling of Biomedical Waste Bags**

BMW bags that are 19" x 14" or larger shall be labeled with the international biological symbol that is at least six inches in diameter. For BMW bags that are smaller than 19" x 14", the symbol shall be at least one inch in diameter. One of the following phrases must accompany the international biological symbol: "BIOMEDICAL WASTE", "BIOHAZARDOUS WASTE", "BIOHAZARD", "INFECTIOUS WASTE" or "INFECTIOUS SUBSTANCE". The phrase is placed immediately below the international biological symbol (see below).



### **BIOMEDICAL WASTE**

The outermost BMW bag must be labeled with the generator's name and address. That is, if a BMW bag is placed into a larger bag prior to transport, only the exterior bag must have the generator's name and address.

### **10.2 Labeling of Biomedical Waste Sharps Containers**

BMW sharps containers that are 19" x 14" or larger shall be labeled with the international biological symbol that is at least six inches in diameter. For BMW sharps containers that are smaller than 19" x 14", the symbol shall be at least one inch in diameter.

If a BMW sharps container is placed into a BMW bag prior to transport, only the exterior bag must have the generator's name and address. If the BMW sharps container is to be shipped as the outer container, the container shall be labeled with generator's name and address in addition to the transporter's name, address, registration number and 24-hour telephone number.

### 10.3 Labeling of Biomedical Waste Boxes and Roll-off Containers

A BMW box and roll-off container are outer containers and therefore must be labeled with the transporters name, address, registration number and 24-hour telephone number. Below is the labeling that will be preprinted on OWS's BMW boxes and roll-off containers:

**OGDEN**  
■ ■ ■ ■ ■

**Ogden Waste Solutions, Inc.**

3830 Rogers Industrial Park Road, Suite 1000

Okahumpka, FL 34762

Registration # 7294

(888) USE-OWSI

(888) 873-6974

### 11.0 STORAGE

Storage of BMW at the generator's facility shall not exceed 30 days. The 30 day period begins when the first non-sharps item of BMW is placed into a red bag or sharps container. For sharps, the 30 day period begins when the sharps container, containing only sharps, is sealed.

OWS/OMSL is allowed an additional 30 day storage period. This 30 day storage period shall begin on the day the waste is collected from the generator.

### 11.1 Indoor Storage

Generator indoor storage areas shall have restricted access and must be designated in the generator's written operating plan. The storage location should be located away from pedestrian traffic, must be kept free of vermin and insects, and shall be maintained in a sanitary condition. The storage area must be constructed of smooth, easily cleanable materials that are impervious to liquids.

The BMW stored at the generator's facility must be maintained by the generator to prevent the generation of offensive odors. This can be accomplished by storing BMW in a controlled environment (air conditioning) or reducing the storage time prior to collection by OWS.

### 11.2 Outside Storage

Outside storage, including roll-off containers and trailers, shall meet the requirements of indoor storage. In addition, the outdoor storage area must be conspicuously marked with the international biological hazard symbol that is at least six inches in diameter.

The outside storage container, trailer, etc. must be secured against vandalism and unauthorized entry. To ensure this, OWS/OMSL shall provide locks for each storage container.

## 12.0 TRANSPORTATION

OMSL has not registered as a BMW transporter. OMSL relies on OWS and other registered BMW transporters to transport BMW from generator to OMSL. Prior to a registered BMW transporter's initial delivery to OMSL, authorization must be given by OMSL's Facility and Business Manager.

OWS/OMSL employees have the authority to reject any BMW containers which do not meet the packaging or labeling requirements or cannot be transported, treated or disposed of in a lawful manner or without risk to public health or the environment.

### **13.0 BIOMEDICAL WASTE SPILL RESPONSE**

Each OWS vehicle is equipped with a BMW spill kit and a copy of OWS's Spill Response Procedure. A complete spill kit is also maintained at OMSL's tipping floor. Each OWS/OMSL employee must be trained in the proper procedures for spill response including decontamination. These procedures are defined in OWS Safety Procedure # 44 -- Medical Waste Operations.

Other registered BMW transporters utilizing OMSL for their disposal needs, must have a copy of their spill response procedure available along with their contingency plans. Each BMW transport vehicle must also have a spill kit.

In the event that there is a spill at OMSL beyond the scope of OMSL's spill response procedure, contact:

American Compliance Technologies, Inc.  
1875 W. Main Street  
Bartow, FL 33830  
24-hour Phone: (941) 533-2000

### **14.0 TREATMENT OF BIOMEDICAL WASTE**

OMSL has been issued a Florida Department of Environmental Protection Permit (Permit No. AO35-193817), which allows the facility to process biomedical waste at a rate up to 2.15 tons/hour or 51.6 tons/day. The permit restrictions for allowable emissions from this facility are notably more stringent than the restrictions for medical waste incinerators. In addition, OMSL has an extensive operator training program that has met the specifications of the Florida Administrative Code, Part VI, 17-2.600(1)(d)4.g.

OMSL currently has three methods to feed BMW into the combustor unit while minimizing employee exposure and eliminating the co-mixing of BMW with MSW.

#### **14.1 Inclined Belt Conveyor for Boxed BMW procedure:**

The Scale Attendant or, if during non-business hours, the designated OMSL/OWS employee is to record the "weight in" weight of the vehicle as it crosses the scale.

An OWS/OMSL employee must inspect the Delivery Manifest that lists vehicle number and contents of boxes included in delivery. The inspection should also ensure that the manifest is complete and signed by the Generator and the Transporter.

Direct truck to tipping floor. Have driver back the vehicle to the unloading dock to unload boxes onto the inclined belt conveyor.

Sweep all dust and debris around the conveyor before conveying any BMW boxes.

Start the inclined belt conveyor.

Have the driver and/or helper load boxes so that the feed rate is steady and continuous, i.e., boxes placed on conveyor approximately every third flight.

NOTE: If any boxes are leaking, have driver and/or helper bag them before loading on the conveyor. Refer to OWS Safety Procedure #44 -- Medical Waste Operation for procedure for handling leaking BMW boxes.

The crane operator should feed small loads of MSW continuously with the boxes to ensure a good seal in the feed chute to the boiler and to help prevent the boxes from tumbling down the grate.

NOTE: Begin feeding medical waste only when the boiler is in a steady, stable firing condition. Should an upset occur during the loading of medical waste, stop feeding until firing conditions are stabilized.

Continue feeding boxes until all BMW boxes have been conveyed and loaded into the hopper.

When all boxes have been conveyed, inspect the charging floor and tipping floor area for spillage and if any is found, the area must be cleaned and disinfected. Refer to OWS Safety Procedure #40 -- Medical Waste Operations for procedure on spill response and disinfecting procedure.



Have the BMW vehicle drive back to the scale so that the scale attendant or OWS/OMSL employee can record the "weight out" weight on the scale ticket. Be sure "weight in" and "weight out" weights are recorded on the delivery report and delivered to the county the next business day if scale attendant is not present.

The driver and scale attendant must sign the delivery receipt during scale house operating hours.

A Medical Waste Delivery Report (see Appendix A) should be attached to all Manifests (see Appendix B). Before the driver leaves, the person accepting the manifest should check for signatures for the Generator and the Transporter and then sign the Manifest themselves.

#### 14.2 Roll-Off BMW Transfer System

The Scale Attendant or, if during non-business hours, the designated OMSL/OWS employee is to record the "weight in" weight of the vehicle as it crosses the scale.

An OWS/OMSL employee must inspect the Delivery Manifest that lists vehicle number and contents of the roll-off container. The inspection should also ensure that the manifest is complete and signed by the Generator and the Transporter.

Direct truck to the tipping floor where the BMW roll-off transfer system is located. The truck is backed into the "feed pan" to a set position. The driver parks the truck and either the driver or the medical waste operator dons proper PPE. The driver or the medical waste operator then unlatches the sealed rear door of the roll-off container and secures it open. The driver, if performing the procedure removes the PPE, returns to the cab and operates the tipping controls to lift the roll-off container.

The BMW slides into the pan as the roll-off container is raised. The driver pulls forward to a second preset location so that the dump end of the container is still located over the feed pan. Here the driver lowers the container and decontaminates the container. Refer to OWS Safety Procedure #44 on decontamination procedure for roll-off containers.

After decontamination, the container is lifted again so that liquids generated from the decontamination process exit the container onto the feed pan. The driver now returns to the scale house to weigh-out.

The feed pan that now contains the biomedical waste is hydraulically lifted. The hydraulic controls are operated by the "feed bucket operator", who is located above in the crane operators station, or by the OMSL employee located on the tipping floor. As the feed pan slowly tips, the biomedical waste slides from the feed pan to a transfer belt conveyor.

The transfer belt moves the biomedical waste over the refuse holding pit and into a seven cubic yard feed bucket. The transfer belt conveyor can be operated by the OMSL employee on the tipping floor, or by the "feed bucket" operator, who is located above in the crane operators station. When the biomedical waste reaches the fill line of the feed bucket, the transfer belt conveyor is stopped.

The feed bucket operator at the crane controls, lifts the bucket directly above the feed hopper of the combustion unit. The bucket is hydraulically pivoted to empty the biomedical waste into the feed hopper. The feed bucket is returned directly under the transfer conveyor and the process is repeated until the "feed pan is empty and has been decontaminated. Refer to OWS Safety Procedure #44 on decontamination procedure for the feed pan.

The roll-off truck with the containers must drive back to the scale so an OWS/OMSL employee or scale attendant can record the "weight out" weight on scale ticket. Be sure "weight in" and "weight out" weights are recorded on the delivery report and delivered to the county on the next business day if the scale attendant is not present.

The driver and scale attendant must sign delivery receipt during scale house operating hours.

A Medical Waste Delivery Report (see Appendix A) should be attached to all Manifests (see Appendix B). Before the driver leaves, the person accepting the manifest should check for signatures for the Generator and the Transporter and then sign the Manifest themselves.

Before the feed bucket is changed out with the grapple it must be decontaminated. Refer to OWS Safety Procedure #44 on decontamination procedure for feed bucket.

### 14.3 Bulk Conveyor System

OMSL may seek a permit to process biomedical waste in unit #2. If a permit is obtained, the bulk conveyor system may be used

along with the roll-off BMW transfer system to feed unit #2. At that time, specific operating procedures for the bulk transfer system will be developed for BMW.

#### 14.4 The Combustion Process

Once in the feed chute, the biomedical waste is mixed with municipal solid waste. Due to the different physical characteristics of BMW compared to MSW (mainly density and heating value -- see Appendix C) operators may have to adjust feed rates and other operating parameters to compensate for the significant differences in heating values and density of the two waste streams.

From the feed chute, the waste is forced down to the feed table. There, the waste is pushed by hydraulic ram feeders onto a stoker grate. The Martin Reverse-Reciprocating Stoker Grate is sloped downward and is composed of alternate rows of fixed and moving grate bars. The grate bars push upward against the natural downward movement of the waste bed. This constant movement ensures that the burning waste is continually agitated and pushed back to ignite freshly-fed waste. A forced draft fan supplies the primary combustion air underneath the grate. In addition, overfire air is injected through the front and rear, walls of the furnace. This combustion process generates temperatures in excess of 1,800 F for adequate combustion residence time.

Inside the steel tubes that form the furnace walls and the boiler, heat from the combustion process converts water to steam. The superheater further heats the steam before it is sent to a turbine generator to produce up to 14.5 megawatts of electricity. After passing through the boiler sections, the hot combustion gases are used to preheat boiler feedwater in the economizer.

While the combustion gases move through the boiler, the bottom ash slowly makes its way to the end of the grate where it falls into the water quench trough of the Martin Ash Discharger. From the boiler, the cooled gases enter the advanced air pollution control system. Activated carbon is added to reduce mercury and organics from the flue gas. Using lime slurry, the dry gas scrubber neutralizes any acid-forming gases, such as sulfur oxides and hydrogen chloride.

Next, particulates are captured by the baghouse. As the gas stream travels through these filter devices, more than 99 percent of particulate matter is removed. Captured fly ash particles fall into hoppers and are transported by an enclosed conveyor system to the Martin Ash Discharger where they are wetted to prevent dust, and mixed with the bottom ash from the grate. The ash residue is then conveyed to an enclosed building where it is loaded into covered, leak-proof trucks and taken to the Astatula Monfill. The Astatula Monofill, owned and operated by Lake County, is a lined, Class-1 cell designed to protect against groundwater contamination. Ash residue from the furnace can be processed for removal of recyclable scrap iron.

All aspects of the plant's operation, including emissions are monitored from a central control room 24 hours a day, seven days a week, 365 days a year. The continuous emissions monitoring system (CEM) employs dedicated equipment to sample, analyze, compute, transmit and store measured emissions such as sulfur oxides, carbon monoxide, carbon dioxide, oxygen and opacity.

## **15.0 TRAINING**

All OWS and OMSL employees who are involved in the BMW activities, including handling, transportation, treatment/disposal and management, shall receive OWS and OMSL's BMW Operating Plan training as well as OWS's Safety Procedure Training. Training shall take place prior to an employee beginning their job duties and annually thereafter. Documentation of this training which includes a training outline and list of attendees, must be maintained for a minimum of three years.

Below is OWS's Safety Procedures table of contents:

OGDEN WASTE SOLUTIONS, INC.  
OPERATING AT  
OGDEN MARTIN SYSTEMS OF LAKE, INC.  
SAFETY PROCEDURES

Table of Contents

<u>No.</u>	<u>Title</u>
S.P.1	Ogden Waste Solutions: A Total Health and Safety Philosophy
S.P.2	Procedures for Regulatory Inspection
<b>S.P.3</b>	<b>Hazard Communication Program</b>
<b>S.P.3A</b>	<b>Hazard Communication Program Training</b>
<b>S.P.3B</b>	<b>HAZCOM for Supplemental Waste</b>
S.P.4	Accident Prevention Program
S.P.4A	Internal Safety Audit
S.P.6	Medical Emergencies/First Aid
<b>S.P.7</b>	<b>Medical Surveillance Program</b>
<b>S.P.10</b>	<b>Eye Protection</b>
<b>S.P.11</b>	<b>Respiratory Protection</b>
<b>S.P.12</b>	<b>Hearing Conservation Program</b>
<b>S.P.15</b>	<b>Clearance and Lockout Program</b>
<b>S.P.17</b>	<b>Fire Prevention and Safety</b>
<b>S.P.23</b>	<b>Electrical Safety Program</b>
S.P.32	Tipping Floor Safety Procedures
S.P.32A	Identifying & Handling Hazardous Waste Substances in the Waste Stream
<b>S.P.40</b>	<b>Bloodborne Pathogens</b>
<b>S.P.40A</b>	<b>Bloodborne Pathogens Training</b>
S.P.42	Supplemental Waste Safety
<b>S.P.44</b>	<b>Biomedical Waste Operations</b>
<b>S.P.44A</b>	<b>Biomedical Waste Operations Training</b>

**BOLD TEXT DESIGNATES OSHA REQUIRED ANNUAL TRAINING**

Appendix B  
December 10, 1990  
Air Construction Permit Amendment  
AC 35-115379  
PSD-FL-113

12.1.4

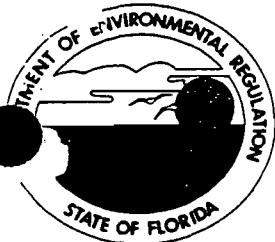
# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary



December 10, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gary K. Crane, Ph.D.  
Environmental Permitting  
Ogden Martin Systems, Inc.  
40 Lane Road  
Fairfield, New Jersey 07007-2615

RECEIVED

DEC 17 1990

ENVIRONMENTAL DEPT.

Dear Dr. Crane:

Re: Air Construction Permit Amendment  
AC 35-115379, PSD-FL-113  
Lake County WTE Facility

In order to clarify the definition of municipal solid waste to include biohazardous waste, and to include specific conditions of compliance for the burning of biohazardous waste, the referenced permit is hereby amended with the following changes:

FROM: EXISTING PROJECT DESCRIPTION - For the construction of two (2) 250 ton per day combustors which will be fueled by municipal solid waste and wood chips.

TO: REVISED PROJECT DESCRIPTION - For the construction of two 250 ton-per-day combustors which will be fueled by wood chips and municipal solid waste which can, by definition, include biohazardous waste. A specially designed conveyor is to be constructed to transport boxed biohazardous waste from tipping floor to combustor feed hopper so that biohazardous waste is not mixed with other municipal solid waste until it enters the feed hopper.

FROM: SPECIFIC CONDITION NO. 1.c. The design furnace mean temperature at the fully mixed zone of the combustor shall not be less than 1,800°F.

TO: SPECIFIC CONDITION NO. 1.c. The design furnace mean temperature at the fully mixed zone of the combustor shall be no less than 1800°F for a combustion gas residence time of at least one second.

Ogden Martin Systems, Inc.  
AC 35-115379, PSD-FL-113  
December 10, 1990  
Page 2 of 3

FROM: SPECIFIC CONDITION NO. 1.e. The MWC shall be fueled with municipal solid waste or wood chips. Other wastes shall not be burned without specific prior written approval of Florida DER.

TO: SPECIFIC CONDITION NO. 1.e. The MWC shall be fueled with wood chips or municipal solid waste which can include biohazardous waste. Radioactive waste may not be burned unless the combustor has been issued a permit 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 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.

FROM: SPECIFIC CONDITION NO. 1.g. Auxilliary fuel burner(s) shall be used at start up during the introduction of MSW fuel until design furnace gas temperature is achieved.

TO: SPECIFIC CONDITION NO. 1.g. Auxilliary fuel burner(s) shall be used at start up during the introduction of MSW fuel (other than biohazardous) until design furnace gas temperature is achieved. Incineration of biohazardous waste shall not begin until the combustion chamber temperature requirement of 1800°F is attained. 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 auxilliary burners until the wastes are completely combusted.

ADD: SPECIFIC CONDITION NO. 1.i. The combustor shall be fed so as to prevent opening the combustor to the room environment.

ADD: SPECIFIC CONDITION NO. 1.j. The applicant shall submit a copy of a certificate verifying the incinerator operators' satisfactory completion of a Department-approved training program prior to issuance of the operating permit.



Ogden Martin Systems, Inc.  
AC 35-115379, PSD-FL-113  
December 10, 1990  
Page 3 of 3

FROM: SPECIFIC CONDITION NO. 3.a. Particulate: 0.0150 grains/dscf corrected to 12% CO<sub>2</sub>.

TO: SPECIFIC CONDITION NO. 3.a. Particulate: 0.0150 grains/dscf corrected to 12% CO<sub>2</sub> or 0.020 grains/dscf corrected to 7% O<sub>2</sub>, whichever is less.

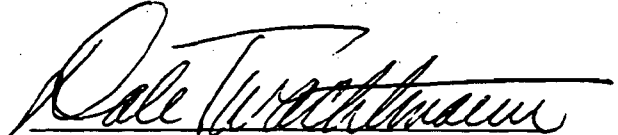
FROM: SPECIFIC CONDITION NO. 3.d. Carbon Monoxide: 200 ppm<sub>v</sub> corrected to 12% CO<sub>2</sub>, 4-hr rolling average.

TO: SPECIFIC CONDITION NO. 3.d. Carbon Monoxide: 100 ppm<sub>v</sub> corrected to 7% O<sub>2</sub> on an hourly-average basis.

ADD: SPECIFIC CONDITION NO. 3.k. Hydrochloric Acid: 50 ppm<sub>v</sub>, corrected to 7% O<sub>2</sub> on a three hour average basis; or shall be reduced by 90% by weight on an hourly average basis.

This letter or a copy of this letter must be attached to the permit and becomes a part of that permit. Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

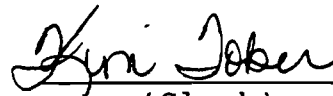


Dale Twachtmann  
Secretary

CERTIFICATE OF SERVICE

This is to certify that this PERMIT AMENDMENT and all copies were mailed before the close of business on December ~~10~~<sup>12</sup>, 1990 to the listed persons.

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to 120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

 12-12-90  
(Clerk) (Date)

DT/CP

c: C. Collins, CF District  
J. Harper, USEPA  
C. Shaver, NPS

Lake County Board of County Commissioners

Appendix C  
May, 1995 Change of Conditions  
(Approval to fire non-hazardous solid waste contaminated  
with virgin or used oil products)  
Permit No. AO35-193817

F



BEST AVAILABLE COPY  
Department of  
Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

Ogden Martin Systems, Incorporated  
40 Lane Road, CN 2615  
Fairfield, New Jersey 07007-2615

Attention: Brian Bahour, Assistant Vice President,  
Environmental Quality Management

Lake County - AP  
Waste to Energy Facility  
Units No. 1 and 2  
Permit No. AO35-193817  
Change of Conditions

Dear Mr. Bahour:

The conditions are changed as follows:

Condition

Specific Condition No. 1.c.

Add

1.c. The firing of non-hazardous solid waste contaminated with virgin or used oil products shall be allowed if the following conditions are met:

- A. The maximum percentage of oil contaminated solid waste defined as oil spill cleanup debris and absorbing media, including oil filters, fired in the MWC shall be a maximum of twenty (20) percent by weight of the total solid waste input, based on a rolling 30-day average. All "used oil" shall comply with the definition stated in 40 CFR 260.10 and shall not exceed the specification levels for arsenic, cadmium, chromium, lead, and the total halogens contained in Table 1 of 40 CFR 279.11, or contain any hazardous waste as defined in 40 CFR 261.3. The used oil shall have a polychlorinated biphenyl (PCB) content of less than 50 ppm (wt.).

## BEST AVAILABLE COPY

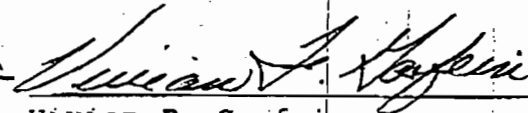
Ogden Martin Systems, Incorporated  
Change of Conditions  
Permit No. AO35-193817  
Page Two

- B. Records shall be maintained showing the oil-contaminated waste generator's written certification that the waste is non-hazardous. Documentation requirements shall include a written description of the waste, a material characterization form (sample submitted with application), and the applicable material safety data sheets for the waste components. Tonnages of oil-contaminated solid waste fired shall be recorded and made available for inspection by the Department. These records shall be maintained for a period of two years.
- C. Quantities of used oil not commingled with solid waste may be burned provided that the oil has been generated entirely from internal operations of the OMS-Lake facility (i.e. no used oil in liquid form from outside generators). Records shall be maintained showing the tonnages of internally-generated used oil fired.
- D. The permittee shall comply with all applicable requirements of federal, state and local regulations including 40 CFR 261 (Federal Hazardous Waste Regulations), 40 CFR 279 (Federal Used Oil Management), Chapter 62-701, F.A.C. (Solid Waste Management Facilities), Chapter 62-710, F.A.C. (Used Oil Management Regulations), Chapter 62-730, F.A.C. (Hazardous Waste Regulations).

All other conditions remain the same.

This letter must be attached to your permit and becomes a part of that permit.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

*cmc* 

Vivian F. Garfein  
Director of District Management

Date: August 8, 1995

  
VFG:jtt

copies furnished to:

local officials

Appendix D  
Forms and Certifications

**BEST AVAILABLE COPY**

**Application Processing Fee**

Check one :

Attached - Amount : \_\_\_\_\_  Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations :	
2. Projected or Actual Date of Commencement of Construction :	
3. Projected Date of Completion of Construction :	

**Professional Engineer Certification**

1. Professional Engineer Name : Jason M. Gorrie Registration Number : 55341	
2. Professional Engineer Mailing Address :  Organization/Firm : Ogden Martin Systems of Lake, Inc. Street Address : 3830 Rogers Industrial Park Rd City : Okahumpka State : FL Zip Code : 34762	
3. Professional Engineer Telephone Numbers : Telephone : (352)365-1611 Fax : (352)365-6359	

**BEST AVAILABLE COPY**

**4. Professional Engineer Statement :**

*I, the undersigned, hereby certify, except as particularly noted herein\*, that :*

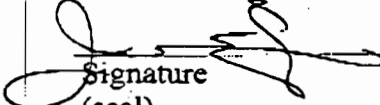
*(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollutant control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ ] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

  
Signature  
(seal)

2/25/00  
Date

I. Part 6 - 1

**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official:

Name: Leon Brasowski  
Vice President, Environmental Permitting

2. Owner or Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: Ogden Energy Group, Inc.  
Street Address: 40 Lane Road  
City: Fairfield  
State: NJ Zip Code: 07007-2615

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: (973)882-7285 Fax: (973)882-4167

4. Owner/Authorized Representative or Responsible Official Statement:

*I, the undersigned, am the owner or authorized representative\* of the Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions units.*



Signature

2-25-2000

Date

\*Attach letter of authorization if not currently on file.

I.Part 2 - 1

DEP Form No. 62-210.900(1) - Form  
Effective: 3-21-96



Appendix E  
Maximum Potential Emission Calculations  
When Using the Emission Guidelines

Maximum Potential Emissions Calculations  
 Subpart Cb Standards (Compliance Deadline 11/23/00)  
 Ogden Martin Systems of Lake, Inc.

Max. Flow Rate: 43,200 dscf/min (@9% O2) (See Form III. Part 7a-1)  
 Solid Waste Heat Content: 5000 Btu/lb  
 Solid Waste Throughput: 288 ton/day (per combustor, permit limit)  
 Hours of Operation: 8760 hr/yr (maximum potential)

Pollutant	Subpart Cb Emission Limit	Maximum Potential Emission	
		(lb/hr)	(ton/year)
PM/PM10	27 mg/dscm @ 7% O2	3.73	16.34
SO2	29 ppmdvc @ 7% O2	10.68	46.78
NOX	205 ppmdvc @ 7% O2	54.31	237.88
CO	100 ppmdvc @ 7% O2	16.13	70.65
Lead	0.04 mg/dscm @ 7% O2	0.00554014	0.03
Cadmium	0.49 mg/dscm @ 7% O2	0.06786668	0.30
HCl	29 ppmdvc @ 7% O2	6.18	27.07
PCDD/PCDF	30 ng/dscm @ 7% O2	4.1551E-06	1.82E-05
Mercury	70 ug/dscm @ 7% O2	9.695E-03	4.24E-02

lb/hr emissions calculated as follows:

For PM/PM10, Lead, and Cadmium corrected to 7% O2:

$$\text{lb/hr} = \text{mg/dscm} \times 1\text{m}^3/35.29 \text{ ft}^3 \times 1 \text{ lb}/4.54\text{E}+05 \text{ mg} \times 43,200 \text{ dscf/min} \times 60 \text{ min/hr} \\ \times (20.9-9\%O_2)/(20.9-7\% O_2))$$

For PCDD/PCDF corrected to 7% O2:

$$\text{lb/hr} = \text{mg/dscm} \times 1\text{m}^3/35.29 \text{ ft}^3 \times 1 \text{ lb}/4.54\text{E}+11 \text{ ng} \times 43,200 \text{ dscf/min} \times 60 \text{ min/hr} \\ \times (20.9-9\%O_2)/(20.9-7\% O_2))$$

For Mercury corrected to 7% O2:

$$\text{lb/hr} = \text{mg/dscm} \times 1\text{m}^3/35.29 \text{ ft}^3 \times 1 \text{ lb}/4.54\text{E}+08 \text{ ug} \times 43,200 \text{ dscf/min} \times 60 \text{ min/hr} \\ \times (20.9-9\%O_2)/(20.9-7\% O_2))$$

For SO2, NOx, CO, and HCl corrected to 7% O2:

$$\text{lb/hr} = \text{ppmdv} \times 1/10^6 \times 1 \text{ lb mol}/385.3 \text{ scf} \times \text{Mol. Wt lb/lb mol} \times 43,200 \text{ dscf/min} \\ \times 60 \text{ min/hr} \times (20.9-9\%O_2)/(20.9-7\% O_2))$$

Mol. Wt. as follows: SO2: 64 lb/lb mol  
 NOx: 46 (assumed all NO2) lb/lb mol  
 CO: 28 lb/lb mol  
 HCl: 37 lb/lb mol

The above calculations assume that exhaust from Units 1 and 2 average 9% O2.

ton/yr emissions calculated as ton/yr = lb/hr x 8760 hr/yr x ton/2000 lb

**RUDEN**  
**MCCLOSKEY**  
**SMITH**  
**SCHUSTER &**  
**RUSSELL, P.A.**  
**ATTORNEYS AT LAW**

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301

(850) 681-9027  
FAX: (850) 224-2032  
MFS@RUDEN.COM

April 20, 2000

**RECEIVED**

APR 20 2000

BUREAU OF AIR REGULATION

C.H. Fancy, P.E., Chief  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blair Stone Road, Twin Towers  
Tallahassee, Florida 32399-2400

Re: Ogden Martin Systems of Lake, Inc.  
DEP File No. 0690046-002-AC, PSD-FL-113A  
Notice of Withdrawal of Permit Application

Dear Clair:

Ogden Energy Group, Inc. is in receipt of the Department's Intent to Issue Air Construction Permit Modification in the above-referenced file. Ogden originally filed its application to modify the existing permit for the Lake County facility to clarify certain ambiguous language in the permit with regard to the source of fuels for the facility and to allow the processing of biohazardous waste in Unit 2.

After a review of the draft permit, Ogden has decided to formally withdraw the subject permit application. It is the company's intent to continue to operate under the terms and conditions of the existing permit, which is in full force and effect. Accordingly, the Public Notice of Intent to Issue Air Construction Permit Modification will not be published.

Please accept this as Ogden's Notice of Withdrawal of Permit Application.

Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.

*Mary F. Smallwood*

Mary F. Smallwood

MFS/

cc: Nancy Tammi  
Jason Gorrie  
Scott Sheplak  
Al Linero  
Len Kozlov ✓  
David Crowe  
Kathleen Thomas

cc: J. R. Clark  
E. Coulter  
R. Shine  
V. Fuchs  
R. Geber

EPA  
NPS

TAL:31168:1

FORT LAUDERDALE ■ MIAMI ■ NAPLES ■ ST. PETERSBURG ■ SARASOTA ■ TALLAHASSEE ■ TAMPA ■ WEST PALM BEACH

# INTEROFFICE MEMORANDUM

**Date:** 24-Nov-1998 05:46pm  
**From:** Edith\_Coulter  
Edith\_Coulter@doh.state.fl.us@PMDF@EPIC

66

**Dept:**  
**Tel No:**

**To:** fancy\_c ( fancy\_c@A1@DER )  
**CC:** phillips\_c ( phillips\_c@A1@DER )  
**CC:** kahn\_j ( kahn\_j@A1@DER )  
**CC:** clark\_jr ( clark\_jr@A1@DER )

**Subject:** biomedical waste storage condtions permit

**RE: Application to Amend Construction Permit No. PSD-FL-113**  
Ogden Martin Systems of Lake, Inc.

DOH, in accordance with the Interagency Agreement with DEP submits the following conditions for storage of biomedical waste at the above referenced facility.

1. Storage of biomedical waste shall not exceed 30 days.
2. Storage areas shall be designated in the written operating plan.
3. Storage areas shall be located away from pedestrian traffic.
4. Storage areas shall be constructed of smooth, easily cleanable materials that are impervious to liquids.
5. Storage areas be vermin and insect free, and shall be maintained in a sanitary condition.
3. Outdoor storage areas, including containers and trailers, shall, in addition to the above criteria, be conspicuously marked with the international biological hazard symbol as described in paragraph 64E-16.004(2)(b), F.A.C., and shall be secured against vandalism and unauthorized entry. The international biological hazard symbol on an outdoor storage area shall be a minimum of six inches in diameter.

Please feel free to call if you have questions regarding this.  
Edith Coulter (487-0004)

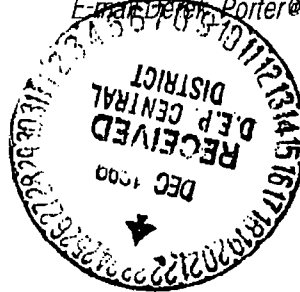
# OGDEN ENERGY GROUP, INC.

*John/Grady  
Caroline*

DEREK A. PORTER  
Vice President  
Environmental Quality Management

40 Lane Road  
Fairfield, NJ 07004  
973 882 7259  
Fax 973 882 4167  
E-mail: Derek.Porter@ogden-energy.com

*Fax copy to Leno  
File*



December 21, 1999

Ms. Vivian Garfein  
Director of District Management  
Department of Environmental Protection  
Central District  
3319 Maguire Boulevard, Suite 232  
Orlando, FL 32803-3767

Dear Ms. Garfein:

Attached is a simplistic diagram of the boiler train for the Lake County Facility. The carbon injection point and temperatures across the air pollution control devices are included on the diagram.

As requested, the following describes the changes made to the carbon injection system from the period of January 1, 1998 through June 1, 1999. There were no substantive changes made to the control devices or operating temperatures during this period.

- A) The carbon injection point was relocated further upstream, specifically it was moved from the inlet to the scrubber to the economizer outlet.
- B) A carbon distribution and mixing grid assembly was installed inside the duct.
- C) Pressure gauges were installed in the conveying line just before the distribution grid for monitoring of the conveying air pressure.

If there are any additional questions or classifications please contact me at (973) 882-7259.

Sincerely,

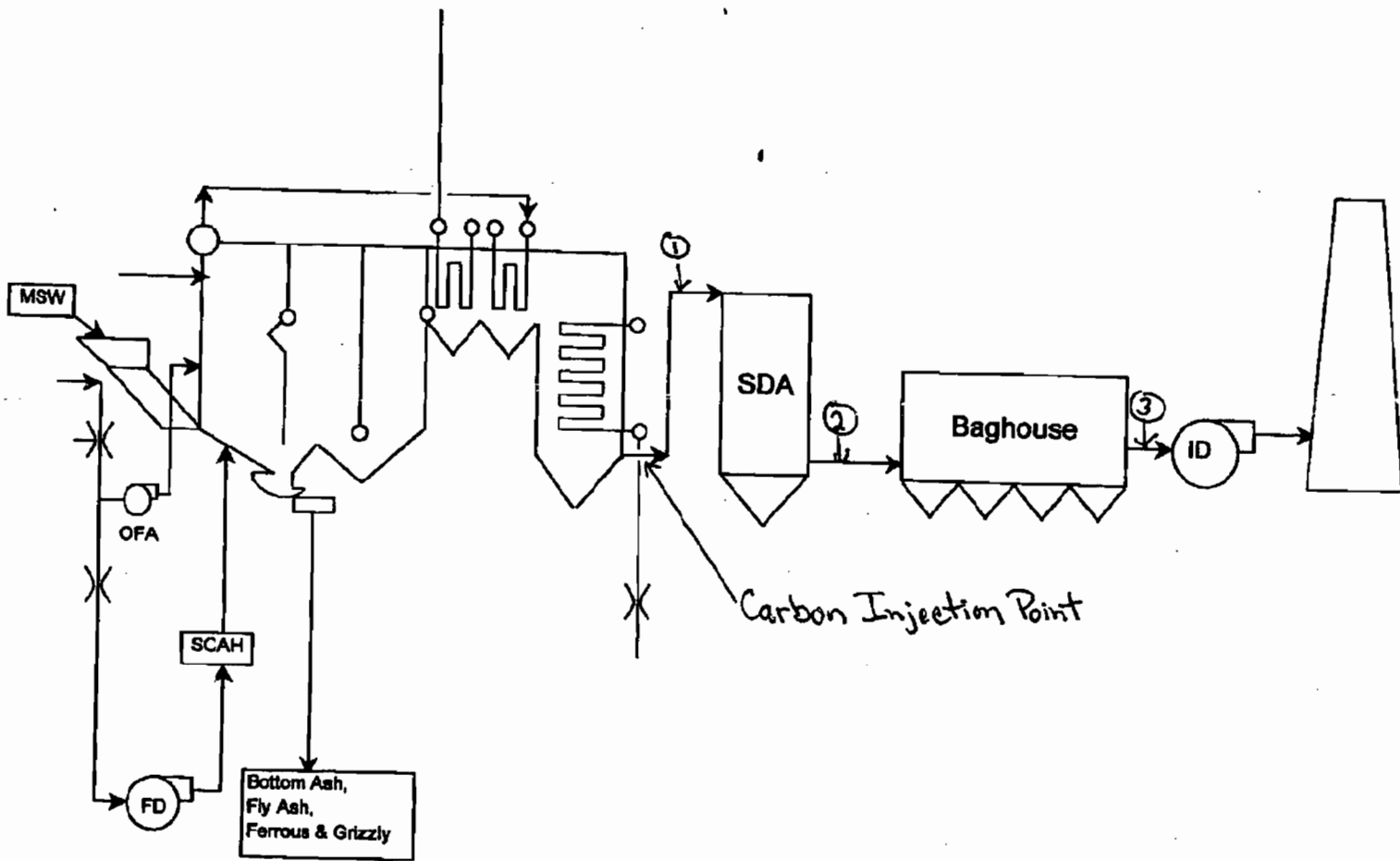
Derek A. Porter  
Vice President, Environmental Quality Management

DAP:rj

Enclosure

Post-it® Fax Note	7671	Date	12/27	# of pages	3
To	John L. Liverso	From	Leno Kozlov		
Co./Dept.	DEP	Co.			
Phone #		Phone #	SC 325-3332		
Fax #	SC 392-16979	Fax #	SC 342-5963		

- cc: Mary Smallwood, Esq.  
Kenneth Hayman, Esq., DEP  
Susan Whittle, Lake Co., County Manager  
Michael Hewitt, DEP  
Mike Harley, DEP



Best Available Copy

\*\*\* OMS OF LAKE GENESIS DAILY AVERAGES SUMMARY \*\*\*  
12/02/99 23:55:00

		BOILER 1	BOILER 2
<b>BOILER OPERATING PARAMETERS</b>			
TIME ONLINE	HRS	24.0	24.0
PERCENT TIME ONLINE	HRS/24	99.8	99.8
<b>STEAM PARAMETERS</b>			
FLOW	KLBS/HR	63.2	65.0
TEMPERATURE	DEG F	784.9	809.3
S/H OUTLET PRESSURE	PSIG	861.7	853.8
DRUM PRESSURE	PSIG	928.9	951.0
<b>FEDWATER PARAMETERS</b>			
FEDWATER FLOW	KLBS/HR	65.5	66.9
DRUM LEVEL	INCHES	-2.3	-0.0
<b>COMBUSTION AIR PARAMETERS</b>			
WET O2	PERCENT	9.16	8.66
UNDERFIRE AIR FLOW	KLBS/HR	56.7	58.1
OVERFIRE AIR FLOW	KLBS/HR	37.1	39.2
UNDERFIRE AIR SPLIT	%OFA	60.4	59.7
SCAH INLET TEMP	DEG F	72.0	71.0
SCAH EXIT TEMP	DEG F	161.9	193.2
<b>FURNACE GAS PARAMETERS</b>			
FURNACE PRESSURE	INWC	-0.26	-0.25
BAGHOUSE dP	INWC	8.1	10.1
AVERAGE ROOF TEMP	DEG F	1352.5	1331.0
BOTTOM 2ND PASS TEMP	DEG F	1263.5	1268.9
SEC SPRNTR INLET TEMP	DEG F	891.5	988.8
SEC SPRNTR EXIT TEMP	DEG F	768.8	869.0
PRI SPRNTR EXIT TEMP	DEG F	680.2	767.6
<del>CONDENSER EXIT TEMP</del>	<del>DEG F</del>	<del>290.5</del>	<del>288.4</del>
2 SCRUBBER EXIT TEMP	DEG F	290.5	288.4
3 BAGHOUSE EXIT TEMP	DEG F	277.0	276.6
<b>3 HOUR ROLLING AVERAGE MAXIMUMS</b>			
STEAM FLOW (69)	KLBS/HR	64.8	66.4
SCRUBBER EXIT TEMP (300)	DEG F	292.7	290.5
<b>OTHER PARAMETERS</b>			
CONDENSER VACUUM	INWGGA	2.0	
CONDENSER INLET TEMP	DEG F	69.0	
CONDENSER EXIT TEMP	DEG F	90.6	

		AVERAGE	LOW	HIGH
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	66.3	52.0	81.6
RELATIVE HUMIDITY	PERCENT	62.9	32.1	82.0
WIND SPEED	MPH	0.0	0.0	0.0
WET BULB		58.3		

\*\*\* END OF REPORT \*\*\*

**RUDEN**  
**MCCLOSKEY**  
**SMITH**  
**SCHUSTER &**  
**RUSSELL, P.A.**  
**ATTORNEYS AT LAW**

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301

(850) 681-9027  
FAX: (850) 224-2032  
MFS@RUDEN.COM

**RECEIVED**

**APR 28 2000**

April 28, 2000

VIA FACSIMILE and U.S. MAIL

BUREAU OF AIR REGULATION

Vivian Garfein, Director  
Central District  
Department of Environmental Protection  
3319 Maguire Blvd, Suite 232  
Orlando, Florida 32803-3767

Re: Technical Advisory Committee on Mercury Continuous Emissions Monitoring System

Dear Vivian:

At the first meeting of the Department's Technical Advisory Committee (TAC) on mercury continuous emissions monitoring devices (CEMS) Mike Harley indicated that the TAC would meet again on May 2, 2000, in Orlando. In light of recent events, Ogden Martin Systems of Lake (OMSL) is reconsidering its position with respect to participation in the TAC and will not be attending any meeting on May 2.

Since the time of the first meeting, OMSL received a notice of intent to issue an air construction permit modification for Permit No. 0690046-002-AC, PSD-FL-113A. OMSL was greatly surprised to find out that the draft permit contained a requirement for installation of a mercury CEMS. It is not clear whether or how that requirement is related to the ongoing enforcement action resulting from Warning Letter OWL-AP-99-413. OMSL has formally withdrawn its permit application as a result of this and other unacceptable proposed permit conditions.

As you know, OMSL has repeatedly stated that it has serious concerns about the viability of mercury CEMS, both the technology and the costs involved. The Company agreed to participate in the TAC because it felt that there might be some means of furthering research in this area in a manner that would be beneficial to both the Company and the Department. However, OMSL has been clear that it would not agree to any imposition of mercury CEMS to be used for compliance purposes without Department rulemaking. We strongly believe that the Department is not at a point yet that it could adopt such a rule.

At the first TAC meeting, I raised a concern about whether the Department was coordinating its efforts with the Environmental Protection Agency (EPA). There appear to be a number of ongoing research projects in this area, but I was not satisfied that the Department had access to that



Vivian Garfein, Director

April 28, 2000


Page 2

information. As you may heard, the designated EPA representative did not even participate in the meeting. The scope of project that was being discussed by the Department's TAC representatives would involve a very significant financial commitment from OMSL. In addition, it would appear that there is the possibility for duplication of efforts at the federal level. In all honesty, OMSL has concerns that the Department has not thought through the goals and objectives to be gained from mercury CEMS "research" by OMSL. Instead, it seems that the Department views the TAC process as a means of unilaterally imposing an unproven technology on OMSL with the express intent of utilizing it for future compliance. The issuance of the permit modification appears to be consistent with that approach. We reiterate our position that the Department is without authority to take such an action short of rulemaking.

Under the circumstances, OMSL is unwilling at this time to continue its participation in the TAC. Obviously, the Company will continue to work with the Department to resolve the pending enforcement action in a manner that is mutually acceptable.

Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.



Mary F. Smallwood

MFS/

cc: Howard Rhodes (via hand delivery)  
Clair Fancy (via hand delivery)  
M.J. Harley (via hand delivery)  
Leonard Kozlov (via facsimile)  
Nancy Tammi (via facsimile)  
Derek Porter (via facsimile)  
Jason Gorrie (via facsimile)

Permit File Scanning Request from \_\_\_\_\_

Priority: -ASAP (Public Records Request, etc.) -Place in Normal Scanning Queue

Facility ID	Project#/PATs#	Type	PSD #	Submittal Date	Batch #
0690046	002	Ac	113		

- File Approved For Disposal   
  Correspondence   
  Intent   
  Permit   
  Draft (Title V)  
 Return File to BAR   
  Amendment   
  Application   
  OGC   
  Proposed (Title V)

Document Date 2/29/00

Response to the December 1, 1998  
Request for Additional Information  
March 1, 2000

**RECEIVED**  
FEB 29 2000  
BUREAU OF AIR REGULATION

Ogden Martin Systems of Lake, Inc.  
3830 Rogers Industrial Road  
Okahumpka, FL 34762  
Lake County

Construction Permit No. PSD-FL-113

Air Construction Permit Application  
DEP File No. 0690046-002-AC

Comment No. 1

There is no description of how the facility will physically receive, store, handle and load the proposed daily quantity of biomedical waste (BMW). The Department of Health rule 16E-64 proscribes handling and storage requirements for BMW that are applicable to this facility. Please describe how you intend to comply with those requirements.

Response No. 1

A description of how the Facility physically receives, stores, handles and loads biomedical waste is described in the Biomedical Waste Operating Plan provided herein as Appendix A. These same plans, which were developed in conjunction with the Florida Department of Health ("DOH"), describe how the Facility meets the Department of Health requirements.

Please note that this Plan was prepared in response to the need to have a system that satisfied DOH requirements and that the system evolves as necessary to accommodate new ideas and operating requirements while maintaining the DOH requirements. The Plan is presently part of Facility operations and is not part of the air permit. We believe that this arrangement should be maintained.

Comment 2

Referring to section 2.3, page 3 of the narrative portion of the application, the 240 TPD maximum throughput of BMW occurs in the peak range of the stoker capacity diagram (Appendix G). In the stoker diagram, the maximum throughput in the normal operating range seems to be  $18.5 \times 10^3$  lb/hr, or 222 TPD, each unit. Please explain.

Response 2

The following response is being provided to the Department although the Facility is not proposing to process 10 TPH of biomedical waste. The ability of the Facility to process 10 TPH is only relevant when considering the Departments request to verify the throughput capacity of each MWC.

The maximum MWC throughput of 240 TPD, or 10 TPH, can be determined by the maximum heat input to each combustor. Unfortunately, the y-axis of the stoker capacity diagram was provided with the wrong engineering units, therefore the diagram was not clear in its application. The correct engineering unit for the y-axis is "btu/hr x  $10^6$ ". This is logical because the y-axis is the dependent variable and the heat input depends upon the quantity of waste processed (lb/hr) and the higher heating value (btu/lb) of the waste.

The maximum heat input of each combustor is  $120 \times 10^6$  btu/hr. The throughput rate of biomedical waste with a higher heating value of 6000 btu/hr therefore is 10 ton/hour or 240 TPD.

Comment No. 3

The proposal to burn such large amounts of BMW should be considered to be a change in the method of operation of the facility and should be evaluated for PSD applicability. It is assumed that Ogden Martin will attempt to operate the facility in the future at a higher capacity utilization in order to maximize the throughput of BMW and MSW and other solid wastes. An increase in capacity utilization would increase future potential emissions as compared with past actual emissions, even with no change in the waste combusted. The average of the last two years operating information should be used to establish capacity utilization for PSD purposes. If the actual to potential emissions comparison shows a PSD significant increase in emissions will occur as a result of increased utilization from the proposed change, Ogden will have to submit a PSD permit application and evaluate and apply top down BACT, which may or may not be the same as the emission guideline requirements or the NSPS (MACT) for MWCs or BMW combustors.

Response No. 3

The application proposed a total throughput of 240 TPD of biomedical waste per MWC in response to a request from the Department for such clarification. This response is provided to clarify Section 2.0 of the application and to respond to the Departments comment.

The Applicant maintains that the nameplate capacity is 240 TPD, however we are not proposing 240 TPD as the operating limit of each MWC. The Applicant requests a Facility synthetic operating limit of 2.15 TPH of biomedical waste where Unit 1 or Unit 2 can process biomedical waste however Unit 1 and Unit 2 shall not burn biomedical waste simultaneously. The total Facility throughput limit for biomedical waste would therefore be 2.15 TPH. This synthetic operating limit is consistent with the existing permit description and biomedical waste operating limits.

The December 10, 1990 air permit amendment (provided as Appendix B) issued by the Department included a revised project description that clarified that both units can be fueled by wood chips and municipal solid waste that by definition can include biohazardous (ie, biomedical) waste. The same December 10, 1990 amendment created air permit emission limits and conditions for both Unit 1 and Unit 2 that were required for the combustion of biomedical waste. In summary, both MWC units are permitted to receive biomedical waste and the existing air permit limits are appropriate for the combustion of biomedical waste.

The Facility is presently processing biomedical waste in Unit 1 with a maximum throughput of 2.15 TPH. The proposal to enable the processing of biomedical waste in either unit does not create an increase in the processing rate of biomedical waste. Biomedical waste will only be processed in one unit at a time; therefore there is not a change in the method of operation.

Comment No. 4

Ogden Martin's proposal to accept industrial process or manufacturing wastes and wastes generated by manufacturing, industrial, commercial or agricultural activities is not specific. The Department's previous permits required that such wastes must be substantively similar to items found in MSW and that acceptance of such wastes was subject to prior approval by the Department. Please submit more specific information and maximum proposed waste stream percentages of all segregated non-MSW waste to be burned.

Response No. 4

We have reviewed the Department's previous permits issued to MWCs as they pertain to the referenced wastes and have designed a response to manage nonhazardous solid waste in a manner similar to these other permits. Table 4.A includes four different waste categories that are;

- 1.0 Solid Waste Without a Throughput Limit
- 2.0 Waste Tires With a 3 % Throughput Limit
- 3.0 Solid Waste Contaminated With Oil With A 20 % Throughput Limit
- 4.0 Solid Waste With A 5 % Throughput Limit

Category 1.0 and Category 2.0 are the same as prior Department approvals. Category 3.0 reflects a permit amendment issued by the Department to the Facility in May, 1995 for the processing of solid waste contaminated with oil. (This permit amendment is provided herein as Appendix C). In order to be consistent with the Departments language in other permits, Category 3.0 also includes oil waste language from other permits. Category 4.0 is essentially the same as conditions issued to other MWCs for solid waste received as segregated loads with the exception of language related to Category 3.0.

The Department has determined that waste received as segregated loads shall not exceed 5 % by weight of the facility's total fuel with compliance being determined as a rolling 30-day average. We are not aware of a regulatory definition of segregated loads, however the Department has provided language in other permits that has established a segregated load as; 1) a load comprised of a single-item of discarded materials, or 2) a container or truck that is almost completely or exclusively filled with a single item or homogeneous composition of waste material, as determined by visual observation. The Department has also included a permit condition that requires that segregated loads are either a) well mixed with solid waste in the refuse pit; or b) alternately charged with solid waste in the hopper. This mixing requirement is reportedly the Departments approach to assure that solid waste charged to a MWC is well mixed and that there is not a large quantity of one waste type that would introduce an upset condition in the MWC.

As further discussed in Table 4A, the Facility accepts the 5 % by weight limit of segregated loads and the mixing conditions specified by the Department in other permits. The Facility provides this type of mixing for both segregated and non-segregated loads.

The Facility will make the segregated vs. non-segregated determination by the waste information (specific weight of each waste on a truck) provided by the waste generator, broker or transporter. This information is typically available before the truck arrives at the Facility; therefore the Facility can determine if the waste is segregated and if it can be processed within the 5 % limit as a 30-day rolling average. If the information were not available at the time of delivery, the truck inventory would be visually inspected to determine if the load is to be managed as a segregated or non-segregated load. The total tonnage of the truck delivery will be available from the Facility's weigh scales.

Table 4.A  
Proposed Waste Classification and  
Throughput Limits for the Lake Facility

1.0 Solid Waste Without Process Limits

- (a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm)
- (b) Contraband which is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste or otherwise prohibited at the facility. For the purpose of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods.
- (c) Wood pallets, clean wood, and land clearing debris
- (d) Packaging materials and containers
- (e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves
- (f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings

2.0 Waste Tires with a 3 % Throughput Limit

Waste tires may be used as fuel with the total quantity not to exceed 3% by weight of the facility's total fuel as a 30-day rolling average.

3.0 Solid Waste Contaminated With Oil with a 20 % Throughput Limit

Article a below is an excerpt from the Departments amendment of Air Construction Permit PSD-FL-113 (AC 35-115379) dated May, 1995. Please refer to Appendix C for the complete amendment. Articles b, c and d are from prior approvals issued by the Department and are included here for consistency.

The firing of non-hazardous solid waste contaminated with virgin or used oil products is allowed according to the following conditions;

- a. The maximum percentage of oil-contaminated solid waste defined as oil spill cleanup debris and absorbing media, including oil filters, fired in the MWC shall be twenty (20) percent by weight of the total solid waste input, based on a 30-day rolling average. All "used oil" shall comply with the definition stated in 40 CFR 260.10 and shall not exceed the specification levels for arsenic, cadmium, chromium, lead, and total halogens contained in Table 1 of 40 CFR 279.11, or contain any hazardous waste as defined in 40 CFR 261.3. The used oil shall have a polychlorinated biphenyl (PCB) content of less than 50 ppm (wt.).
- b. Records shall be maintained showing the oil-contaminated waste generators certification that the waste is non-hazardous. Documentation requirements shall include a written description of the waste, a material characterization form (sample submitted with application), and the applicable material safety data sheets for the waste components. Tonnages of oil-contaminated solid waste fired shall be recorded and made available for inspection by the Department. These records shall be maintained for a period of two years.
- c. Quantities of used oil not commingled with solid waste may be burned provided that the oil has been generated entirely from internal operations of the OMS-Lake facility (i.e. no used oil in liquid form from outside generators). Records shall be maintained showing the tonnages of internally-generated used oil fired.
- d. The permittee shall comply with all applicable requirements of federal, state and local regulations including 40 CFR 261 (Federal Hazardous Waste Regulations), 40 CFR 279 (Federal Used Oil Management), Chapter 62-701, F.A.C. (Solid Waste Management



Facilities), Chapter 62-710 F.A.C. (Used Oil Management Regulations), Chapter 62-730 F.A.C. (Hazardous Waste Regulations).

- e. Oil spill debris from aquatic, coastal, estuarine or river environments. Such items or materials include but are not limited to rags, wipes and absorbents.
- f. Waste materials that contain oil from:
  - (1) the routine cleanup of industrial or commercial establishments and machinery; or;
  - (2) spills of virgin or used petroleum products. Such items or materials include but are not limited to rags, wipes and absorbents.
- g. Used oil and used oil filters. Used oil containing a PCB concentration equal to or greater than 50 ppm shall not be burned, pursuant to the limitations of 40 CFR 761.20(e).

#### 4.0 Nonhazardous Solid Waste With a 5 % Throughput Limit

The following solid waste can be received and burned at the Facility with the total quantity not to exceed 5 % by weight of the facility's total fuel, based on a 30 day rolling average.

- (a) Construction and demolition debris
- (b) Items suitable for human, plant or domesticated animal use, consumption or application where the items shelf-life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products, cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
- (c) Consumer packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
- (d) Waste materials that:
  - (i) are generated in the manufacture of items in categories (b) or (c) above and are functionally or commercially useless (expired, rejected or spent); or
  - (ii) are not yet formed or packaged for commercial distribution. Such items or materials must be substantially similar to other items or materials routinely found in MSW.
- (e) Waste materials generated by manufacturing, industrial or agricultural activities, provided these materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval by the Department

Comment No. 5

Section 4.2.1 requests the removal of the emission limit for VOC's. The emission guideline's CO limit and requirements for good combustion practices seem to be acceptable alternatives. However, the ability of the combustion units to properly burn BMW in the amounts requested must be evaluated. Please provide reasonable assurance that the units are capable of combusting the requested amount of BMW and meeting the emission limits of the emission guideline.

Response No. 5

The basis of this response is to provide reasonable assurance that each combustor can combust the specified amount of biomedical waste. As noted in prior responses, the Applicant is proposing a limit of 2.15 TPH of biomedical waste in either Unit 1 or 2. The basis of our reasonable assurance is the emission data from the most recent compliance test in January, 2000. Unit 1 was processing a nominal 2.15 TPH of biomedical waste whereas Unit 2 was not processing biomedical waste. The test results are presented below. Please note that this data has not yet been submitted to the Department as a complete test report due to the absence of a complete report from the test firm.

CO and VOC Emissions  
During January, 2000  
Test Program

Test Reference	Air Emission Data (ppmdV at 7% O2)			
	CO		VOCs	
	Unit 1	Unit 2	Unit 1	Unit 2
Run 1	17.5	19.9	0.862	0.945
Run 2	13.1	14.8	0.741	0.689
Run 3	13.5	15.8	0.608	0.788
3 Run Average	14.7	16.8	0.737	0.807

An analysis of the data shows that both units were well below the permit limit and in both cases the 3-run averages for Unit 1 were comparable with the 3-run averages for Unit 2.

The Applicant maintains the request to remove the test requirement for VOCs as described in Article 4.2.1 of the original application. We believe that the above data satisfies the request for reasonable assurance and that the monitoring of CO is an acceptable alternative to VOC testing.

Comment No. 6

The request for removal of the emission limits for beryllium and fluorides should include an evaluation of the possibility that combustion of the requested quantity of BMW or proposed segregated wastes will increase emissions of those pollutants. No information on future potential emissions was provided. Fluorides are a PSD pollutant so please provide a past actual to future potential emission comparison. If combustion of the BMW or the proposed segregated wastes will increase emissions of fluorides, the possible capacity utilization increase must be evaluated.

Response No. 6

As explained in Response No. 3 of this application, the Applicant has defined the throughput limit of biomedical waste to be 2.15 TPH which is the same as the existing limit, therefore there is not an increase in the amount of BMW to be processed. Consequently, the Applicant maintains the original request set forth in Article 4.2.1 of the original application.

In regards to segregated waste, these materials will be evaluated to determine that combustion of such can occur while maintaining compliance with the air permit emission limit.

Comment No. 7

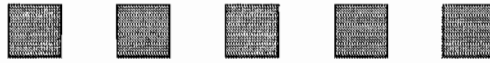
The maximum potential emissions calculations in Appendix F appear to be based on the existing permits, so these emissions do not reflect future potential emissions based on the emission limits of the emission guidelines. Please Provide.

Response No. 7

The emission calculations provided in Appendix F were prepared to represent the limits that will apply to the Facility until the State Implementation Plan (SIP) schedule triggers application of the emission guidelines as defined at 40 CFR Part 60.58. Our understanding of the SIP schedule is that compliance with the emission guidelines is required by November 13, 2000, therefore the calculations as provided were appropriate as of this date. We are providing as Appendix E of this response the Maximum Potential Emissions Calculations when using the Emission Guidelines for Large MWCs.

Appendix A  
Biomedical Waste Operating Plan

# OGDEN



## **OGDEN MARTIN SYSTEMS OF LAKE, INC.**

3830 Rogers Industrial Park Road  
Okahumpka, FL 34762

### BIOMEDICAL WASTE OPERATING PLAN

In Accordance with

STATE OF FLORIDA  
DEPARTMENT OF HEALTH  
Bureau of Environmental Health Programs  
Chapter 64-E-16, F.A.C.

OGDEN MARTIN SYSTEMS OF LAKE, INC  
BIOMEDICAL WASTE OPERATING PLAN

- 1.0 PURPOSE
- 2.0 SCOPE
- 3.0 DEFINITIONS
- 4.0 RESPONSIBILITIES OF OMSL AND THE GENERATOR/TRANSPORTER
- 5.0 SEGREGATION BY THE GENERATOR
- 6.0 CO-MIXING BY THE GENERATOR
- 7.0 PACKAGING REQUIREMENTS FOR BOXED BIOMEDICAL WASTE
- 8.0 PACKAGING REQUIREMENTS FOR BIOMEDICAL WASTE IN ROLL-OFF CONTAINERS
- 9.0 PACKAGING REQUIREMENTS FOR SHARPS
- 10.0 LABELING
- 11.0 GENERATOR STORAGE
- 12.0 TRANSPORTATION
- 13.0 BIOMEDICAL WASTE SPILL RESPONSE
- 14.0 TREATMENT OF BIOMEDICAL WASTE
- 15.0 TRAINING

## 1.0 PURPOSE

- 1.1 To establish policies, procedures and training to ensure the proper and safe handling, storage and treatment of biomedical waste.
- 1.2 To ensure that all practices are in compliance with applicable regulations:
  - 1.2.1 64-E-16, Florida Administrative Code; and
  - 1.2.2 29 CFR 1910.1200

## 2.0 SCOPE

- 2.1 This procedure shall apply to each person employed by Ogden Martin Systems of Lake, Inc. (OMSL) involved in the handling, storage and treatment of BMW.
- 2.2 This procedure shall also apply to Ogden Waste Solutions, Inc. (OWS) employees working at the OMSL facility when their job function requires the handling, storage and treatment of biomedical waste.
- 2.3 Untrained and temporary employees should not be assigned to jobs that require the handling, storage and treatment of biomedical waste. If temporary employees must be employed in any such job, this Operating Plan shall also apply to them.

## 3.0 DEFINITIONS

The definitions listed below are in Chapter 64E-16 Florida Administrative Code.

Biomedical waste (BMW) is any solid waste or liquid waste which may present a threat of infection to humans, including nonliquid human tissue, body parts, blood, blood products, and body fluids from humans and other primates; laboratory and veterinary waste which contain human disease-causing agents; and discarded sharps. The following are also included:

- (a) Used, absorbent materials saturated with blood, blood products, body fluids, or excretions or secretions contaminated with visible blood; and absorbent materials saturated with blood or blood products that have dried. Absorbent material includes items such as bandages, gauze and sponges.



(b) Non-absorbent disposable devices that have been contaminated with blood, body fluids or secretions or excretions visibly contaminated with blood, but have not been treated by an approved method.

Biomedical waste generator (generator) is a facility or person that produces biomedical waste. The term includes hospitals, skilled nursing or convalescent hospitals, intermediate care facilities, clinics, dialysis clinics, dental offices, health maintenance organizations, surgical clinics, medical buildings, physicians' offices, laboratories, veterinary clinics and funeral homes.

Body Fluids are those fluids which have the potential to harbor pathogens, such as human immunodeficiency virus and hepatitis B virus and include blood, blood products, lymph, semen, vaginal secretions, cerebrospinal, synovial, pleural, peritoneal, pericardial and amniotic fluids. In instances where identification of the fluid cannot be made, it shall be considered to be a regulated body fluid. Body secretions such as feces and secretions such as nasal discharges, saliva, sputum, sweat, tears, urine, and vomitus shall not be considered biomedical waste unless visibly contaminated with blood.

Boxed Biomedical Waste is BMW waste that is packaged in a BMW box that is lined with a minimum of one red BMW bag. Sealed sharps containers that are placed inside a minimum of one BMW red bag can then also be placed into a BMW box. Both the BMW box and bag must meet the requirements of Chapter 64E-16.004 F.A.C. The maximum weight of the box shall not exceed the box rating or 75 pounds, whichever is less.

Point of origin is defined as the room or area at which the BMW is generated,

Roll-Off Biomedical Waste is BMW that is packaged in a roll-off container. The BMW is mainly BMW red-bags and sealed sharps containers. A roll-off container is an acceptable Aouter container@ as long as it meets the requirements of Chapter 64E-16.004(e) F.A.C.

Sharps are objects capable of puncturing, lacerating, or otherwise penetrating the skin.

Treatment is any process, including steam, chemicals, microwave shredding, or incineration, which changes the character or composition of biomedical waste to render it noninfectious by disinfection or sterilization.

#### **4.0 RESPONSIBILITIES OF OMSL AND THE GENERATOR/TRANSPORTER**

Ogden Martin Systems of Lake, Inc.(OMSL) is permitted to treat up to 2.15 tons of BMW per hour via incineration, FL DEP Permit #AO35-193817. OMSL accepts BMW in fiberboard boxes and roll-off containers as long as the outer containers meet the requirements of Chapter 64E-16.004 F.A.C. OMSL relies on registered biomedical waste transporters to deliver BMW from the generator to OMSL. OMSL's partner in complete biomedical waste service is Ogden Waste Solutions, Inc. OWS is a State of Florida Department of Health registered biomedical waste transporter, registration #7294.

Although it is the responsibility of the biomedical waste generator to segregate, label, package, store BMW and the responsibility of the registered biomedical waste transporter to transport BMW, these aspects of biomedical waste management are included as part of OMSL's Operating Plan so that employees will be competent in the policies and procedures of a comprehensive biomedical waste operating plan.

#### **5.0 SEGREGATION BY THE GENERATOR**

BMW shall be identified and segregated from other waste at its point of origin into its proper container.

##### **5.1 Non-Sharp Biomedical Waste**

All non-sharp BMW must be segregated at the point of origin and placed into an impermeable, red biomedical bag, or, if the generator wishes, into a sharps container.

##### **5.2 Sharps Waste**

All sharps waste must be segregated at the point of origin and placed in a sharps container. The sharps container must be

ridged, leak and puncture resistant and designed for the containment of sharps.

### 5.3 Body Fluids

BMW that is in a liquid or semi-solid form may be disposed of in a sanitary sewer system, an on-site sewage treatment and disposal system, or other system approved to receive such waste by the Department of Environmental Protection or the Department of Health.

If body fluids are to be disposed of via incineration, the fluids must first be package in a container that is sealed and leak proof. That container can then be placed into a BMW box or roll-off container.

## **6.0 CO-MIXING BY THE GENERATOR**

Chapter 64E-16 F.A.C. has established the proper management practices of BMW mixed with other types of wastes.

### 6.1 Biomedical Waste mixed with hazardous waste

BMW that is mixed with hazardous waste shall be managed as hazardous waste. If hazardous waste is mixed with BMW, OWS management shall be notified immediately and the procedures of OWS's Safety Procedure #32A shall be followed.

### 6.2 Biomedical Waste mixed with radioactive waste

BMW mixed with radioactive waste shall be managed in a manner that does not violate the provisions of Chapter 10D-91, F.A.C. After the radioactive component has decayed in storage as provided in Chapter 10D-91, F.A.C., the BMW waste can then be managed as untreated BMW. In the event that radioactive waste is detected, OWS management shall be notified immediately and the procedures of OWS's Safety Procedure #32A shall be followed.

## **7.0 PACKAGING REQUIREMENTS FOR BOXED BIOMEDICAL WASTE**

Prior to using a BMW box, the BMW box should be inspected for integrity and the bottom of the box must be taped.

All non-sharps BMW that is collected at the point of origin must be placed into a BMW box that is lined with a minimum of one red BMW bag. Both the BMW box and bag must meet the requirements of Chapter 64E-16 F.A.C. The bags and boxes that OWS supplies meet these requirements.

When the BMW box is filled, the liner bag that is placed into the BMW bag must be sealed or tied. The fiberboard box must be closed and sealed with tape. The maximum weight of the box shall not exceed the box rating or 75 pounds, whichever is less.

## **8.0 PACKAGING REQUIREMENTS FOR BIOMEDICAL WASTE IN ROLL-OFF CONTAINERS**

OWS offer roll-off containers to large BMW generators. The roll-off containers have six main access doors and one rear door. By utilizing all the doors in succession, from rear to front, the container can be easily loaded without having to Athrow@ the waste.

All non-sharps BMW that is collected at the point of origin must be placed into a minimum of one red BMW bag. The BMW bag must meet the requirements of Chapter 64E-16 F.A.C.

The generator must take care to insure that all BMW bags are sealed and that the bags do not bust, rupture or tear when loaded into the roll-off container.

## **9.0 PACKAGING REQUIREMENTS FOR SHARPS**

Sharps shall be discarded at the point of origin into a sharps container. Sharps, such as needles, blades, scalpels, razors, or contaminated broken glass/plastic, shall not be placed directly into a fiberboard BMW box. The sharps must first be placed into an approved sharps container.

A sharps container is considered full when materials placed into it reach the designated fill line, or, if a fill line is not designated, when additional materials cannot be placed into the container without cramming. When the sharps container is full, the container must be sealed properly. It can then be placed into a BMW box or directly into a roll-off container.

## **10.0 LABELING**

### **10.1 Labeling of Biomedical Waste Bags**

BMW bags that are 19" x 14" or larger shall be labeled with the international biological symbol that is at least six inches in diameter. For BMW bags that are smaller than 19" x 14", the symbol shall be at least one inch in diameter. One of the following phrases must accompany the international biological symbol: "BIOMEDICAL WASTE", "BIOHAZARDOUS WASTE", "BIOHAZARD", "INFECTIOUS WASTE" or "INFECTIOUS SUBSTANCE". The phrase is placed immediately below the international biological symbol (see below).



### **BIOMEDICAL WASTE**

The outermost BMW bag must be labeled with the generator's name and address. That is, if a BMW bag is placed into a larger bag prior to transport, only the exterior bag must have the generator's name and address.

### **10.2 Labeling of Biomedical Waste Sharps Containers**

BMW sharps containers that are 19" x 14" or larger shall be labeled with the international biological symbol that is at least six inches in diameter. For BMW sharps containers that are smaller than 19" x 14", the symbol shall be at least one inch in diameter.

If a BMW sharps container is placed into a BMW bag prior to transport, only the exterior bag must have the generator's name and address. If the BMW sharps container is to be shipped as the outer container, the container shall be labeled with generator's name and address in addition to the transporter's name, address, registration number and 24-hour telephone number.

### 10.3 Labeling of Biomedical Waste Boxes and Roll-off Containers

A BMW box and roll-off container are outer containers and therefore must be labeled with the transporters name, address, registration number and 24-hour telephone number. Below is the labeling that will be preprinted on OWS's BMW boxes and roll-off containers:



#### **Ogden Waste Solutions, Inc.**

3830 Rogers Industrial Park Road, Suite 1000

Okahumpka, FL 34762

Registration # 7294

(888) USE-OWSI

(888) 873-6974

### **11.0 STORAGE**

Storage of BMW at the generator's facility shall not exceed 30 days. The 30 day period begins when the first non-sharps item of BMW is placed into a red bag or sharps container. For sharps, the 30 day period begins when the sharps container, containing only sharps, is sealed.

OWS/OMSL is allowed an additional 30 day storage period. This 30 day storage period shall begin on the day the waste is collected from the generator.

### 11.1 Indoor Storage

Generator indoor storage areas shall have restricted access and must be designated in the generator's written operating plan. The storage location should be located away from pedestrian traffic, must be kept free of vermin and insects, and shall be maintained in a sanitary condition. The storage area must be constructed of smooth, easily cleanable materials that are impervious to liquids.

The BMW stored at the generator's facility must be maintained by the generator to prevent the generation of offensive odors. This can be accomplished by storing BMW in a controlled environment (air conditioning) or reducing the storage time prior to collection by OWS.

### 11.2 Outside Storage

Outside storage, including roll-off containers and trailers, shall meet the requirements of indoor storage. In addition, the outdoor storage area must be conspicuously marked with the international biological hazard symbol that is at least six inches in diameter.

The outside storage container, trailer, etc. must be secured against vandalism and unauthorized entry. To ensure this, OWS/OMSL shall provide locks for each storage container.

## 12.0 TRANSPORTATION

OMSL has not registered as a BMW transporter. OMSL relies on OWS and other registered BMW transporters to transport BMW from generator to OMSL. Prior to a registered BMW transporter's initial delivery to OMSL, authorization must be given by OMSL's Facility and Business Manager.

OWS/OMSL employees have the authority to reject any BMW containers which do not meet the packaging or labeling requirements or cannot be transported, treated or disposed of in a lawful manner or without risk to public health or the environment.

### **13.0 BIOMEDICAL WASTE SPILL RESPONSE**

Each OWS vehicle is equipped with a BMW spill kit and a copy of OWS's Spill Response Procedure. A complete spill kit is also maintained at OMSL's tipping floor. Each OWS/OMSL employee must be trained in the proper procedures for spill response including decontamination. These procedures are defined in OWS Safety Procedure # 44 -- Medical Waste Operations.

Other registered BMW transporters utilizing OMSL for their disposal needs, must have a copy of their spill response procedure available along with their contingency plans. Each BMW transport vehicle must also have a spill kit.

In the event that there is a spill at OMSL beyond the scope of OMSL's spill response procedure, contact:

American Compliance Technologies, Inc.  
1875 W. Main Street  
Bartow, FL 33830  
24-hour Phone: (941) 533-2000

### **14.0 TREATMENT OF BIOMEDICAL WASTE**

OMSL has been issued a Florida Department of Environmental Protection Permit (Permit No. AO35-193817), which allows the facility to process biomedical waste at a rate up to 2.15 tons/hour or 51.6 tons/day. The permit restrictions for allowable emissions from this facility are notably more stringent than the restrictions for medical waste incinerators. In addition, OMSL has an extensive operator training program that has met the specifications of the Florida Administrative Code, Part VI, 17-2.600(1)(d)4.g .

OMSL currently has three methods to feed BMW into the combustor unit while minimizing employee exposure and eliminating the co-mixing of BMW with MSW.

#### **14.1 Inclined Belt Conveyor for Boxed BMW procedure:**

The Scale Attendant or, if during non-business hours, the designated OMSL/OWS employee is to record the "weight in" weight of the vehicle as it crosses the scale.



An OWS/OMSL employee must inspect the Delivery Manifest that lists vehicle number and contents of boxes included in delivery. The inspection should also ensure that the manifest is complete and signed by the Generator and the Transporter.

Direct truck to tipping floor. Have driver back the vehicle to the unloading dock to unload boxes onto the inclined belt conveyor.

Sweep all dust and debris around the conveyor before conveying any BMW boxes.

Start the inclined belt conveyor.

Have the driver and/or helper load boxes so that the feed rate is steady and continuous, i.e., boxes placed on conveyor approximately every third flight.

NOTE: If any boxes are leaking, have driver and/or helper bag them before loading on the conveyor. Refer to OWS Safety Procedure #44 -- Medical Waste Operation for procedure for handling leaking BMW boxes.

The crane operator should feed small loads of MSW continuously with the boxes to ensure a good seal in the feed chute to the boiler and to help prevent the boxes from tumbling down the grate.

NOTE: Begin feeding medical waste only when the boiler is in a steady, stable firing condition. Should an upset occur during the loading of medical waste, stop feeding until firing conditions are stabilized.

Continue feeding boxes until all BMW boxes have been conveyed and loaded into the hopper.

When all boxes have been conveyed, inspect the charging floor and tipping floor area for spillage and if any is found, the area must be cleaned and disinfected. Refer to OWS Safety Procedure #40 -- Medical Waste Operations for procedure on spill response and disinfecting procedure.

Have the BMW vehicle drive back to the scale so that the scale attendant or OWS/OMSL employee can record the "weight out" weight on the scale ticket. Be sure "weight in" and "weight out" weights are recorded on the delivery report and delivered to the county the next business day if scale attendant is not present.

The driver and scale attendant must sign the delivery receipt during scale house operating hours.

A Medical Waste Delivery Report (see Appendix A) should be attached to all Manifests (see Appendix B). Before the driver leaves, the person accepting the manifest should check for signatures for the Generator and the Transporter and then sign the Manifest themselves.

#### 14.2 Roll-Off BMW Transfer System

The Scale Attendant or, if during non-business hours, the designated OMSL/OWS employee is to record the "weight in" weight of the vehicle as it crosses the scale.

An OWS/OMSL employee must inspect the Delivery Manifest that lists vehicle number and contents of the roll-off container. The inspection should also ensure that the manifest is complete and signed by the Generator and the Transporter.

Direct truck to the tipping floor where the BMW roll-off transfer system is located. The truck is backed into the "feed pan" to a set position. The driver parks the truck and either the driver or the medical waste operator dons proper PPE. The driver or the medical waste operator then unlatches the sealed rear door of the roll-off container and secures it open. The driver, if performing the procedure removes the PPE, returns to the cab and operates the tipping controls to lift the roll-off container.

The BMW slides into the pan as the roll-off container is raised. The driver pulls forward to a second preset location so that the dump end of the container is still located over the feed pan. Here the driver lowers the container and decontaminates the container. Refer to OWS Safety Procedure #44 on decontamination procedure for roll-off containers.

After decontamination, the container is lifted again so that liquids generated from the decontamination process exit the container onto the feed pan. The driver now returns to the scale house to weigh-out.

The feed pan that now contains the biomedical waste is hydraulically lifted. The hydraulic controls are operated by the "feed bucket operator", who is located above in the crane operators station, or by the OMSL employee located on the tipping floor. As the feed pan slowly tips, the biomedical waste slides from the feed pan to a transfer belt conveyor.

The transfer belt moves the biomedical waste over the refuse holding pit and into a seven cubic yard feed bucket. The transfer belt conveyor can be operated by the OMSL employee on the tipping floor, or by the "feed bucket" operator, who is located above in the crane operators station. When the biomedical waste reaches the fill line of the feed bucket, the transfer belt conveyor is stopped.

The feed bucket operator at the crane controls, lifts the bucket directly above the feed hopper of the combustion unit. The bucket is hydraulically pivoted to empty the biomedical waste into the feed hopper. The feed bucket is returned directly under the transfer conveyor and the process is repeated until the "feed pan is empty and has been decontaminated. Refer to OWS Safety Procedure #44 on decontamination procedure for the feed pan.

The roll-off truck with the containers must drive back to the scale so an OWS/OMSL employee or scale attendant can record the "weight out" weight on scale ticket. Be sure "weight in" and "weight out" weights are recorded on the delivery report and delivered to the county on the next business day if the scale attendant is not present.

The driver and scale attendant must sign delivery receipt during scale house operating hours.

A Medical Waste Delivery Report (see Appendix A) should be attached to all Manifests (see Appendix B). Before the driver leaves, the person accepting the manifest should check for signatures for the Generator and the Transporter and then sign the Manifest themselves.

Before the feed bucket is changed out with the grapple it must be decontaminated. Refer to OWS Safety Procedure #44 on decontamination procedure for feed bucket.

### 14.3 Bulk Conveyor System

OMSL may seek a permit to process biomedical waste in unit #2. If a permit is obtained, the bulk conveyor system may be used

along with the roll-off BMW transfer system to feed unit #2. At that time, specific operating procedures for the bulk transfer system will be developed for BMW.

#### 14.4 The Combustion Process

Once in the feed chute, the biomedical waste is mixed with municipal solid waste. Due to the different physical characteristics of BMW compared to MSW (mainly density and heating value -- see Appendix C) operators may have to adjust feed rates and other operating parameters to compensate for the significant differences in heating values and density of the two waste streams.

From the feed chute, the waste is forced down to the feed table. There, the waste is pushed by hydraulic ram feeders onto a stoker grate. The Martin Reverse-Reciprocating Stoker Grate is sloped downward and is composed of alternate rows of fixed and moving grate bars. The grate bars push upward against the natural downward movement of the waste bed. This constant movement ensures that the burning waste is continually agitated and pushed back to ignite freshly-fed waste. A forced draft fan supplies the primary combustion air underneath the grate. In addition, overfire air is injected through the front and rear, walls of the furnace. This combustion process generates temperatures in excess of 1,800 F for adequate combustion residence time.

Inside the steel tubes that form the furnace walls and the boiler, heat from the combustion process converts water to steam. The superheater further heats the steam before it is sent to a turbine generator to produce up to 14.5 megawatts of electricity. After passing through the boiler sections, the hot combustion gases are used to preheat boiler feedwater in the economizer.

While the combustion gases move through the boiler, the bottom ash slowly makes its way to the end of the grate where it falls into the water quench trough of the Martin Ash Discharger. From the boiler, the cooled gases enter the advanced air pollution control system. Activated carbon is added to reduce mercury and organics from the flue gas. Using lime slurry, the dry gas scrubber neutralizes any acid-forming gases, such as sulfur oxides and hydrogen chloride.

Next, particulates are captured by the baghouse. As the gas stream travels through these filter devices, more than 99 percent of particulate matter is removed. Captured fly ash particles fall into hoppers and are transported by an enclosed conveyor system to the Martin Ash Discharger where they are wetted to prevent dust, and mixed with the bottom ash from the grate. The ash residue is then conveyed to an enclosed building where it is loaded into covered, leak-proof trucks and taken to the Astatula Monfill. The Astatula Monofill, owned and operated by Lake County, is a lined, Class-1 cell designed to protect against groundwater contamination. Ash residue from the furnace can be processed for removal of recyclable scrap iron.

All aspects of the plant's operation, including emissions are monitored from a central control room 24 hours a day, seven days a week, 365 days a year. The continuous emissions monitoring system (CEM) employs dedicated equipment to sample, analyze, compute, transmit and store measured emissions such as sulfur oxides, carbon monoxide, carbon dioxide, oxygen and opacity.

## **15.0 TRAINING**

All OWS and OMSL employees who are involved in the BMW activities, including handling, transportation, treatment/disposal and management, shall receive OWS and OMSL's BMW Operating Plan training as well as OWS's Safety Procedure Training. Training shall take place prior to an employee beginning their job duties and annually thereafter. Documentation of this training which includes a training outline and list of attendees, must be maintained for a minimum of three years.

Below is OWS's Safety Procedures table of contents:

OGDEN WASTE SOLUTIONS, INC.  
OPERATING AT  
OGDEN MARTIN SYSTEMS OF LAKE, INC.  
SAFETY PROCEDURES

Table of Contents

<u>No.</u>	<u>Title</u>
S.P.1	Ogden Waste Solutions: A Total Health and Safety Philosophy
S.P.2	Procedures for Regulatory Inspection
<b>S.P.3</b>	<b>Hazard Communication Program</b>
<b>S.P.3A</b>	<b>Hazard Communication Program Training</b>
<b>S.P.3B</b>	<b>HAZCOM for Supplemental Waste</b>
S.P.4	Accident Prevention Program
S.P.4A	Internal Safety Audit
S.P.6	Medical Emergencies/First Aid
<b>S.P.7</b>	<b>Medical Surveillance Program</b>
<b>S.P.10</b>	<b>Eye Protection</b>
<b>S.P.11</b>	<b>Respiratory Protection</b>
<b>S.P.12</b>	<b>Hearing Conservation Program</b>
<b>S.P.15</b>	<b>Clearance and Lockout Program</b>
<b>S.P.17</b>	<b>Fire Prevention and Safety</b>
<b>S.P.23</b>	<b>Electrical Safety Program</b>
S.P.32	Tipping Floor Safety Procedures
S.P.32A	Identifying & Handling Hazardous Waste Substances in the Waste Stream
<b>S.P.40</b>	<b>Bloodborne Pathogens</b>
<b>S.P.40A</b>	<b>Bloodborne Pathogens Training</b>
S.P.42	Supplemental Waste Safety
<b>S.P.44</b>	<b>Biomedical Waste Operations</b>
<b>S.P.44A</b>	<b>Biomedical Waste Operations Training</b>

**BOLD TEXT DESIGNATES OSHA REQUIRED ANNUAL TRAINING**

Appendix B  
December 10, 1990  
Air Construction Permit Amendment  
AC 35-115379  
PSD-FL-113

12.1.4



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

December 10, 1990

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gary K. Crane, Ph.D.  
Environmental Permitting  
Ogden Martin Systems, Inc.  
40 Lane Road  
Fairfield, New Jersey 07007-2615

RECEIVED

DEC 17 1990

ENVIRONMENTAL DEPT.

Dear Dr. Crane:

Re: Air Construction Permit Amendment  
AC 35-115379, PSD-FL-113  
Lake County WTE Facility

In order to clarify the definition of municipal solid waste to include biohazardous waste, and to include specific conditions of compliance for the burning of biohazardous waste, the referenced permit is hereby amended with the following changes:

FROM: EXISTING PROJECT DESCRIPTION - For the construction of two (2) 250 ton per day combustors which will be fueled by municipal solid waste and wood chips.

TO: REVISED PROJECT DESCRIPTION - For the construction of two 250 ton-per-day combustors which will be fueled by wood chips and municipal solid waste which can, by definition, include biohazardous waste. A specially designed conveyor is to be constructed to transport boxed biohazardous waste from tipping floor to combustor feed hopper so that biohazardous waste is not mixed with other municipal solid waste until it enters the feed hopper.

FROM: SPECIFIC CONDITION NO. 1.c. The design furnace mean temperature at the fully mixed zone of the combustor shall not be less than 1,800°F.

TO: SPECIFIC CONDITION NO. 1.c. The design furnace mean temperature at the fully mixed zone of the combustor shall be no less than 1800°F for a combustion gas residence time of at least one second.



Ogden Martin Systems, Inc.  
AC 35-115379, PSD-FL-113  
December 10, 1990  
Page 2 of 3

FROM: SPECIFIC CONDITION NO. 1.e. The MWC shall be fueled with municipal solid waste or wood chips. Other wastes shall not be burned without specific prior written approval of Florida DER.

TO: SPECIFIC CONDITION NO. 1.e. The MWC shall be fueled with wood chips or municipal solid waste which can include biohazardous waste. Radioactive waste may not be burned unless the combustor has been issued a permit 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 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.

FROM: SPECIFIC CONDITION NO. 1.g. Auxilliary fuel burner(s) shall be used at start up during the introduction of MSW fuel until design furnace gas temperature is achieved.

TO: SPECIFIC CONDITION NO. 1.g. Auxilliary fuel burner(s) shall be used at start up during the introduction of MSW fuel (other than biohazardous) until design furnace gas temperature is achieved. Incineration of biohazardous waste shall not begin until the combustion chamber temperature requirement of 1800°F is attained. 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 auxilliary burners until the wastes are completely combusted.

ADD: SPECIFIC CONDITION NO. 1.i. The combustor shall be fed so as to prevent opening the combustor to the room environment.

ADD: SPECIFIC CONDITION NO. 1.j. The applicant shall submit a copy of a certificate verifying the incinerator operators' satisfactory completion of a Department-approved training program prior to issuance of the operating permit.

Ogden Martin Systems, Inc.  
AC 35-115379, PSD-FL-113  
December 10, 1990  
Page 3 of 3

FROM: SPECIFIC CONDITION NO. 3.a. Particulate: 0.0150 grains/dscf corrected to 12% CO<sub>2</sub>.

TO: SPECIFIC CONDITION NO. 3.a. Particulate: 0.0150 grains/dscf corrected to 12% CO<sub>2</sub> or 0.020 grains/dscf corrected to 7% O<sub>2</sub>, whichever is less.

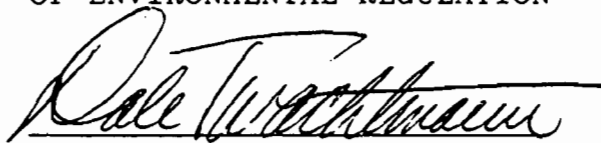
FROM: SPECIFIC CONDITION NO. 3.d. Carbon Monoxide: 200 ppmv corrected to 12% CO<sub>2</sub>, 4-hr rolling average.

TO: SPECIFIC CONDITION NO. 3.d. Carbon Monoxide: 100 ppmv corrected to 7% O<sub>2</sub> on an hourly-average basis.

ADD: SPECIFIC CONDITION NO. 3.k. Hydrochloric Acid: 50 ppmv, corrected to 7% O<sub>2</sub> on a three hour average basis; or shall be reduced by 90% by weight on an hourly average basis.

This letter or a copy of this letter must be attached to the permit and becomes a part of that permit. Executed in Tallahassee, Florida.

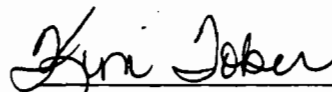
STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL REGULATION

  
Dale Twachtmann  
Secretary

CERTIFICATE OF SERVICE

This is to certify that this PERMIT AMENDMENT and all copies were mailed before the close of business on December 10, 1990 to the listed persons. 12

FILING AND ACKNOWLEDGEMENT  
FILED, on this date, pursuant to 120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

 12-12-90  
(Clerk) (Date)

DT/CP  
c: C. Collins, CF District  
J. Harper, USEPA  
C. Shaver, NPS  
Lake County Board of County Commissioners

Appendix C  
May, 1995 Change of Conditions  
(Approval to fire non-hazardous solid waste contaminated  
with virgin or used oil products)  
Permit No. AO35-193817

F



BEST AVAILABLE COPY  
Department of  
Environmental Protection

Lawton Chiles  
Governor

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

Virginia B. Wetherell  
Secretary

Ogden Martin Systems, Incorporated  
40 Lane Road, CN 2615  
Fairfield, New Jersey 07007-2615

Attention: Brian Bahour, Assistant Vice President,  
Environmental Quality Management

Lake County - AP  
Waste to Energy Facility  
Units No. 1 and 2  
Permit No. AO35-193817  
Change of Conditions

Dear Mr. Bahour:

The conditions are changed as follows:

Condition

Specific Condition No. 1.c.

Add

1.c. The firing of non-hazardous solid waste contaminated with virgin or used oil products shall be allowed if the following conditions are met:

- A. The maximum percentage of oil contaminated solid waste defined as oil spill cleanup debris and absorbing media, including oil filters, fired in the MWC shall be a maximum of twenty (20) percent by weight of the total solid waste input, based on a rolling 30-day average. All "used oil" shall comply with the definition stated in 40 CFR 260.10 and shall not exceed the specification levels for arsenic, cadmium, chromium, lead, and the total halogens contained in Table 1 of 40 CFR 279.11, or contain any hazardous waste as defined in 40 CFR 261.3. The used oil shall have a polychlorinated biphenyl (PCB) content of less than 50 ppm (wt.).

BEST AVAILABLE COPY

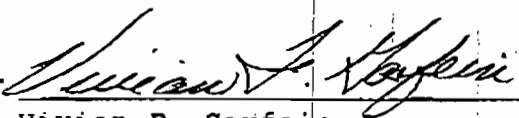
Ogden Martin Systems, Incorporated  
Change of Conditions  
Permit No. AO35-193817  
Page Two

- B. Records shall be maintained showing the oil-contaminated waste generator's written certification that the waste is non-hazardous. Documentation requirements shall include a written description of the waste, a material characterization form (sample submitted with application), and the applicable material safety data sheets for the waste components. Tonnages of oil-contaminated solid waste fired shall be recorded and made available for inspection by the Department. These records shall be maintained for a period of two years.
- C. Quantities of used oil not commingled with solid waste may be burned provided that the oil has been generated entirely from internal operations of the OMS-Lake facility (i.e. no used oil in liquid form from outside generators). Records shall be maintained showing the tonnages of internally-generated used oil fired.
- D. The permittee shall comply with all applicable requirements of federal, state and local regulations including 40 CFR 261 (Federal Hazardous Waste Regulations), 40 CFR 279 (Federal Used Oil Management), Chapter 62-701, F.A.C. (Solid Waste Management Facilities), Chapter 62-710, F.A.C. (Used Oil Management Regulations), Chapter 62-730, F.A.C. (Hazardous Waste Regulations).

All other conditions remain the same.


This letter must be attached to your permit and becomes a part of that permit.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

*C.M.C.* 

Vivian F. Garfein  
Director of District Management

Date: *August 8, 1995*

*VB*  
VFG:jtt 

copies furnished to:

local officials

Appendix D  
Forms and Certifications

**BEST AVAILABLE COPY**

**Application Processing Fee**

Check one :

Attached - Amount : \_\_\_\_\_  Not Applicable.

**Construction/Modification Information**

1. Description of Proposed Project or Alterations :	
2. Projected or Actual Date of Commencement of Construction :	
3. Projected Date of Completion of Construction :	

**Professional Engineer Certification**

1. Professional Engineer Name : Jason M. Gorrie Registration Number : 55341	
2. Professional Engineer Mailing Address :  Organization/Firm : Ogden Martin Systems of Lake, Inc. Street Address : 3830 Rogers Industrial Park Rd City : Okahumpka State : FL Zip Code : 34762	
3. Professional Engineer Telephone Numbers : Telephone : (352)365-1611 Fax : (352)365-6359	

**BEST AVAILABLE COPY****4. Professional Engineer Statement :**

*I, the undersigned, hereby certify, except as particularly noted herein\*, that :*

*(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollutant control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

*(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

*If the purpose of this application is to obtain a Title V source air operation permit (check here [ ] if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.*

*If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [ ] if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

*If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

*Signature*  
(seal)

*2/25/00*  
Date

I. Part 6 - 1

DEP Form No. 62-210.900(1) - Form  
Effective : 3-21-96



**Owner/Authorized Representative or Responsible Official**

1. Name and Title of Owner/Authorized Representative or Responsible Official:

Name: Leon Brasowski  
Vice President, Environmental Permitting

2. Owner or Authorized Representative or Responsible Official Mailing Address:

Organization/Firm: Ogden Energy Group, Inc.  
Street Address: 40 Lane Road  
City: Fairfield  
State: NJ Zip Code: 07007-2615

3. Owner/Authorized Representative or Responsible Official Telephone Numbers:

Telephone: (973)882-7285 Fax: (973)882-4167

4. Owner/Authorized Representative or Responsible Official Statement:

*I, the undersigned, am the owner or authorized representative\* of the Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions units.*



Signature

2-25-2000

Date

\*Attach letter of authorization if not currently on file.

I.Part 2 - 1

DEP Form No. 62-210.900(1) – Form  
Effective: 3-21-96

Appendix E  
Maximum Potential Emission Calculations  
When Using the Emission Guidelines

Maximum Potential Emissions Calculations  
 Subpart Cb Standards (Compliance Deadline 11/23/00)  
 Ogden Martin Systems of Lake, Inc.

Max. Flow Rate: 43,200 dscf/min (@9% O<sub>2</sub>) (See Form III. Part 7a-1)  
 Solid Waste Heat Content: 5000 Btu/lb  
 Solid Waste Throughput: 288 ton/day (per combustor, permit limit)  
 Hours of Operation: 8760 hr/yr (maximum potential)

Pollutant	Subpart Cb Emission Limit	Maximum Potential Emission	
		(lb/hr)	(ton/year)
PM/PM10	27 mg/dscm @ 7% O <sub>2</sub>	3.73	16.34
SO <sub>2</sub>	29 ppm <sub>dvc</sub> @ 7% O <sub>2</sub>	10.68	46.78
NO <sub>x</sub>	205 ppm <sub>dvc</sub> @ 7% O <sub>2</sub>	54.31	237.88
CO	100 ppm <sub>dvc</sub> @ 7% O <sub>2</sub>	16.13	70.65
Lead	0.04 mg/dscm @ 7% O <sub>2</sub>	0.00554014	0.03
Cadmium	0.49 mg/dscm @ 7% O <sub>2</sub>	0.06786668	0.30
HCl	29 ppm <sub>dvc</sub> @ 7% O <sub>2</sub>	6.18	27.07
PCDD/PCDF	30 ng/dscm @ 7% O <sub>2</sub>	4.1551E-06	1.82E-05
Mercury	70 ug/dscm @ 7% O <sub>2</sub>	9.695E-03	4.24E-02

lb/hr emissions calculated as follows:

For PM/PM10, Lead, and Cadmium corrected to 7% O<sub>2</sub>:

$$\text{lb/hr} = \text{mg/dscm} \times 1\text{m}^3/35.29 \text{ft}^3 \times 1 \text{lb}/4.54\text{E}+05 \text{mg} \times 43,200 \text{dscf/min} \times 60 \text{min/hr} \\ \times (20.9-9\%O_2)/(20.9-7\%O_2))$$

For PCDD/PCDF corrected to 7% O<sub>2</sub>:

$$\text{lb/hr} = \text{mg/dscm} \times 1\text{m}^3/35.29 \text{ft}^3 \times 1 \text{lb}/4.54\text{E}+11 \text{ng} \times 43,200 \text{dscf/min} \times 60 \text{min/hr} \\ \times (20.9-9\%O_2)/(20.9-7\%O_2))$$

For Mercury corrected to 7% O<sub>2</sub>:

$$\text{lb/hr} = \text{mg/dscm} \times 1\text{m}^3/35.29 \text{ft}^3 \times 1 \text{lb}/4.54\text{E}+08 \text{ug} \times 43,200 \text{dscf/min} \times 60 \text{min/hr} \\ \times (20.9-9\%O_2)/(20.9-7\%O_2))$$

For SO<sub>2</sub>, NO<sub>x</sub>, CO, and HCl corrected to 7% O<sub>2</sub>:

$$\text{lb/hr} = \text{ppm}_{dvc} \times 1/10^6 \times 1 \text{lb mol}/385.3 \text{scf} \times \text{Mol. Wt lb/lb mol} \times 43,200 \text{dscf/min} \\ \times 60 \text{min/hr} \times (20.9-9\%O_2)/(20.9-7\%O_2))$$

Mol. Wt. as follows: SO<sub>2</sub>: 64 lb/lb mol  
 NO<sub>x</sub>: 46 (assumed all NO<sub>2</sub>) lb/lb mol  
 CO: 28 lb/lb mol  
 HCl: 37 lb/lb mol

The above calculations assume that exhaust from Units 1 and 2 average 9% O<sub>2</sub>.

ton/yr emissions calculated as ton/yr = lb/hr x 8760 hr/yr x ton/2000 lb

**Florida Department of  
Environmental Protection**

**Memorandum**

---

**To:** Cindy Phillips, P.E.  
**From:** Joseph Kahn, P.E.  
**Date:** October 30, 1998  
**Re:** Ogden Lake Application, Project 0690046-002

---

Following are my comments on the Ogden Lake application for biomedical waste and fuel slate revision. Please let me know if you have any questions about these.

1. There is no description of how the facility will physically receive, store, handle and load the proposed daily quantity of biomedical waste (BMW). Presumably the BMW could not be simply tipped on the tipping floor and pushed into the pit for transfer to the loading chute by crane. The Department of Health rule 16E-64 proscribes handling and storage requirements for BMW that are applicable to this facility, and Ogden should be required to describe how they intend to comply with those requirements.
2. Referring to section 2.3, page 3 of the narrative portion of the application, the 240 TPD maximum throughput of BMW occurs in the peak load range of the stoker capacity diagram (Appendix G). The maximum throughput in the normal operating range is 9.25 TPH or 222 TPD, each unit.
3. The proposal to burn such large amounts of BMW should be considered to be a change in the method of operation of the facility and should be evaluated for PSD applicability. In the absence of rebuttal information, it is reasonable to conclude that Ogden will attempt to operate the facility in the future at a higher capacity utilization in order to maximize the throughput of BMW and MSW and other solid wastes. An increase in capacity utilization would increase future potential emissions as compared with past actual emissions, even with no change in the wastes combusted. Review of ARMS AOR data shows that the facility is not running at its maximum hours of operation or waste throughput capacity. The average of the last two years operating information should be used to establish past capacity utilization for PSD purposes:

Unit	Avg. Oper. Hrs.	Hrs. Capacity Utilization <sup>1</sup>	Avg. Tons Burned	Avg. TPH	Tons Capacity Utilization <sup>2</sup>
1	8011	0.91	76572	9.6	0.80
2	8082	0.92	78562	9.7	0.81

<sup>1</sup> Hours capacity utilization determined by avg. operating hours/8760 hours.

<sup>2</sup> Tons capacity utilization determined by avg. TPH/12 TPH. 12 TPH corresponds to maximum capacity of 288 tons per day.

If the past actual to future potential emissions comparison shows a PSD significant increase in emissions will occur as a result of increased utilization from the proposed change, Ogden will have to submit a PSD permit application and evaluate and apply top down BACT, which may or may not be the same as the emission guideline requirements or the NSPS (MACT) for MWCs or BMW combustors.

4. For solid waste other than MSW and BMW, Ogden proposes a similar waste definition (waste slate) to the definition used recently for the Tampa McKay Bay and Hillsborough County facilities, but Ogden

omits the 5% limitation by weight on certain segregated loads included in those permits. The 5% limitation on segregated loads provides the Department with reasonable assurance that the segregated loads (with are generally a single item waste stream) will represent a minor fraction of the total waste combusted, so emissions should be similar to those from combusting only MSW. This limitation prevents the units from combusting a waste consisting solely of one waste type (such as consumer products like shampoo or household cleaners) at any given time, with an unknown effect on emissions. The 5% limitation should not be omitted without addressing the issue of reasonable assurance that such omission will not result in increased emissions from combustion of large quantities of a single item waste stream, or from increased capacity utilization (similar to the capacity utilization issue for BMW discussed above).

The Ogden Lake waste definition has other substantial differences from the McKay Bay and Hillsborough permit conditions. Ogden's proposal to accept industrial process or manufacturing wastes and wastes generated by manufacturing, industrial, commercial or agricultural activities is not specific. The Department's previous permits required that such wastes must be substantially similar to items found in MSW and that acceptance of such wastes was subject to prior approval by the Department.

5. The request in section 4.2.1 to remove the emission limit for VOCs seems reasonable to me. The emission guideline's CO limit and requirements for good combustion practices are acceptable alternatives. However, the ability of the combustion units to properly burn BMW in the amounts requested must be evaluated. Ogden has provided no information that the units are capable of combusting the requested amount of BMW and meeting the emission limits of the emission guideline.

6. The request for removal of the emission limits for beryllium and fluorides should include an evaluation of the possibility that combustion of the requested quantity of BMW or proposed segregated wastes will increase emissions of those pollutants. No information on future potential emissions was provided. Fluorides are a PSD pollutant so Ogden must provide a past actual to future potential emission comparison to make any change in this limit. If combustion of the BMW or the proposed segregated wastes will increase emissions of fluorides, the possible capacity utilization increase must be evaluated.

7. The maximum potential emissions calculations in Appendix F appear to be based on the existing permit limits, so these emissions do not reflect future potential emissions based on the emission limits of the emission guideline.



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

CERTIFIED  
Z 308 508 201

WARNING LETTER  
OWL-AP-99-413

Gary K. Crane, Ph. D.  
Executive Vice President  
Ogden Martin Systems of Lake, Inc.  
40 Lane Road  
Fairfield, N. J. 07007-2615

Lake County - AP  
Permit AO35-193817, AC35-264176  
Mercury Emission Exceedance, Units 1 and 2

Dear Dr. Crane:

The purpose of this letter is to advise you of possible violations of law for which you may be responsible, and to seek your cooperation in resolving the matter. The results of stack testing conducted at your facility located at 3830 Rogers Industrial Park Road, Okahumpka, Lake County, Florida, on January 27 through 29, 1998, April 20 through 23, 1998, and January 26 through 29, 1999 indicate that violations of Florida Statutes and Rules may exist at the above described facility. The report of the results indicated:

### **Regarding Tests Conducted January 27 through January 29, 1998**

A file review indicated that the company failed the mercury tests conducted on January 27 through January 28, 1998. The file indicates that the company suspected that the samples were contaminated, but no supporting written information or corrective action information was provided other than the stack test.

Unit 1 operated with mercury emissions of 202 micrograms per dry standard cubic meter and 28% removal efficiency.

Unit 2 operated with mercury emissions of 103 micrograms per dry standard cubic meter and 40.1% removal efficiency.

The allowable permitted emission limits for both units are 70 micrograms per dry standard cubic meter or 85% removal efficiency.

#### **Regarding Tests Conducted April 20 through 23, 1998**

Unit 1 successfully re-tested for mercury at 1.1 tons per hour of medical waste. Unit 1, at this time, should have been de-rated from 2.15 tons of medical waste to 1.2 tons per hour of medical waste. However, it was run on numerous occasions after this test through May 6, 1999, above the allowed rate of 1.2 tons per hour of medical waste. The rules allow for a 10% increase of the tested rate, which is in this case an increase from 1.1 to 1.2 tons.

Unit 2 re-test was not conducted with municipal waste only to demonstrate compliance with the current permitted condition. The test was conducted with both municipal and biomedical waste, which should have been for the special tests only. The result from this test was submitted as two individual tests, re-test and special test.

#### **Regarding Tests Conducted January 26 through January 29, 1999**

Unit 1 operated with mercury emissions of 2994 micrograms per dry standard cubic meter and 33% removal efficiency.

Unit 2 operated with mercury emissions of 250 micrograms per dry standard cubic meter and 65% removal efficiency.

The allowable permitted emission limits for both units are 70 micrograms per dry standard cubic meter or 85% removal efficiency.

The stack test report did not report the medical waste rate in tons per hour for each run.

The municipal solid waste was not reported in lb-steam/hour for each test run.

The calculated emission rates were not reported for run 1 of Unit 1.

### **Regarding Record Review**

Medical Waste Delivery Reports from the facility indicates that the company processed 2.03 tons of medical waste which contained boxes labeled Hazardous Drug Waste on January 26, 1999. There was no documentation to show that this was exempted material. This information was forwarded to our Hazardous Waste Section for review.

Discrepancies in the carbon injection rates for Units 1 and 2 Daily Process Summary Continuous One Hour Sheets, and the company's Daily Production Reports were found. Department representatives were told that the Daily Production Reports were in error because of the company's failure to change the spread sheet calculations. The two Carbon Injection Rate Reports for the entire period of January 1999 through June 3, 1999, corrected and uncorrected are requested herein.

Section 403.161(1)(b), Florida Statutes, provides that it shall be a violation of this chapter, and it shall be prohibited for any person to fail to obtain any permit required by this chapter or by rule or regulation, or to violate or fail to comply with any rule, regulation, order, permit, or certification adopted or issued by the Department pursuant to its lawful authority.

Section 403.161(1)(b), Florida Statutes, Permit AO35-193817, General Condition 8 provides that: if for any reason the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information, (a) description of and the cause of noncompliance; and (b) the period of noncompliance, including dates and times, or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence.

Permit AC35-264176, Specific Condition 3.c. and Florida Administrative Code Rule 62-296.416(3)(a)(1) provides: Mercury emissions from facilities using post-combustion control equipment designed to remove mercury from flue gases shall not exceed 70 micrograms per dry standard cubic meter of flue gas, corrected to 7 percent O<sub>2</sub>, or 20 percent by weight of the mercury in the flue gas upstream of the mercury control device (80 percent reduction by weight), whichever occurs first.

Florida Administrative Code Rule 62-296.416 (1) provides: The requirements of this rule apply to all waste-to-energy facilities with charging rates of 40 tons per day or more. For those facilities subject to this rule and Rule 62-204.800(8)(b), F.A.C., the mercury emissions limiting standards in this rule shall apply in place of the less restrictive



mercury emission limiting standard set forth at Rule 62-204.800(8)(b), F.A.C. However, the mercury percent reduction standard (85 percent) in Rule 62-204.800(8)(b), F.A.C., shall apply in place of the less restrictive mercury percent reduction standard (80 percent) set forth in this rule.

Florida Administrative Code Rule 62-296.416(3)(a)(3) provides: Facilities subject to the mercury emissions limiting standard of Rule 62-296.416(3)(a)1., F.A.C., shall demonstrate individual emissions unit compliance by the compliance date specified in Rule 62-296.416(3)(a)2., F.A.C., and annually thereafter.

Florida Administrative Code Rule 62-296.416(4)(d) Mercury Emissions Test Method and Procedures provides: All mercury emissions tests performed pursuant to the requirements of this rule shall comply with the following provisions. 1. The test method for mercury shall be EPA Method 29 adopted in Rule 62-297, F.A.C. 2. Test procedures shall meet all applicable requirements of Rule 62-297, F.A.C.

Florida Administrative Code Rule 62-297.310(8) Test Report provides: The owner or operator to provide the normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

Florida Administrative Code Rule 62-297.310(2) provides: Operating Rate During Testing. Unless otherwise stated in the applicable emission limiting standard rule, testing of emissions shall be conducted with the emissions unit operating at permitted capacity as defined below. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. The company demonstrated compliance of Unit 1 with a process rate 1.1 tons per hour of medical waste during the April 1998 tests.

Permit A035-193817, Specific Condition 1c provides: Hazardous Wastes 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 Florida Administrative Code Rule 62-30.

Florida Administrative Code Rule 62-4(2) and Permits AO35-193817, AC35-264176 provide: This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

Florida Administrative Code Rule 62-4(6) and Permits AO35-193817, AC35-264176 provide: The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

40 Code of Federal Regulations, Part 60, Subpart Cb requires: For approval, a State plan shall include emissions limits for mercury at least as protective as the emissions specified in the paragraph. The emissions of mercury contained in the gases discharged to the atmosphere from a designated facility is 0.80 milligrams per dry standard cubic meter or 15 percent of the potential mercury emission concentration (85% percent reduction by weight), correct to 7 percent oxygen, which is less stringent.

Florida Administrative Code Rule 62-296.416(5) Waste-to-Energy Facilities.(5)Carbon Usage Rate. The carbon injection rate operating standard and monitoring requirements set forth in 40 CFR 60.58b(m), incorporated by reference in Rule 62-204.800, F.A.C.; shall apply.

40 Code of Federal Regulation (CFR) 60.58b(m)(2) provides that during the operation of the affected facility, the carbon injection system operating parameters(s) that are the primary indicator(s) of the carbon mass feed rate (e.g. screw feeder setting) must equal or exceed the level(s) documented during the performance tests specified under paragraphs (m)(1) and (m)(1)(ii) of this section.

40 CFR 60.58b(m)(3) provides that the owner or operator of an affected facility shall estimate the total carbon usage of the plant for each calendar quarter by two independent methods according the procedures in paragraphs

(m)(3)(i) weight of the carbon delivered to the plant, and

(m)(3)(ii) estimate the average carbon mass feed rate in pounds per hour of operation based on parameters listed in (m)(1) and sum the results for the total number of hours of operation during the calendar quarter.

Dr. Gary Crane  
OWL-AP-99-413  
Page Six

Permit AO35-193817, AC35-264176 General Condition #9 provides: In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Section 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

Permit AO35-193817, AC35-264176 General Condition #15 provides: When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Please provide to this office, within 15 days receipt of this letter, all missing stack test data described in this letter, including process rates of the runs of the January 1999 tests, and copies of all operational log documentation and waste burned identification and quantity, including the day prior to and for the period of the January 1998 and 1999 test. Please provide a full written description of and cause of the noncompliances; and a written report of the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance in regards to the failed January 1998 and 1999 mercury tests and all other noncompliances items listed in this letter.

The activities described in this letter, and any other activities at your facility that may be contributing to violations of the above described statutes or rules should be ceased. You are requested to contact Caroline Shine at 407-893-3333 or at the above address within fifteen (15) days receipt of this Warning Letter to arrange a meeting to discuss the matter. The Department is interested in reviewing any facts you may have that will assist in determining whether any violations have occurred. You may bring anyone with you to the meeting that you feel could help resolve the matter.

Please be advised that this Warning Letter is part of an agency investigation, preliminary to agency action in accordance with Section 120.57(4), Florida Statutes.

Dr. Gary Crane  
OWL-AP-99-413  
Page Seven

We look forward to your cooperation in completing the investigation and resolution of this matter.

Sincerely,



Vivian F. Garfein  
Director of District Management

Date June 15, 1999

*Yes*  
LTK/cs

CC: Susan Whittle, County Manager

Clair Fancy

Mike Halpin

Scott Sheplak

Al Linero

RUDEN  
MCCLOSKEY  
SMITH  
SCHUSTER &  
RUSSELL, P.A.  
**ATTORNEYS AT LAW**

RECEIVED

MAY 03 1999

BUREAU OF  
AIR REGULATION

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301

TELEPHONE: (850) 681-9027  
FAX: (850) 224-2032

E-MAIL: MFS@RUDEN.COM

RECEIVED

*Clair*  
*oh*

April 30, 1999

MAY 03 1999

DIVISION OF AIR  
RESOURCES MANAGEMENT

Howard Rhodes, Director  
Division of Air Quality  
Department of Environmental Protection  
Mail Station 5500  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Vivian Garfein, Director  
Central District  
Department of Environmental Protection  
3319 Maguire Blvd  
Suite 232  
Orlando, Florida 32803-3767

Re: Ogden Energy Group - Mercury Sampling Results

Dear Howard and Vivian:

Attached are the complete sampling results for the mercury samples collected April 22-25, 1999. Again, the results are still preliminary. After the appropriate quality control review, the final results will be provided to you. I did not receive these results until this morning, so I was not able to forward them to Len Kozlov or Clair Fancy. I assume you will share these results with appropriate staff.

Thanks again for your time and efforts in this matter. I will be sending you a follow up letter to the meeting on April 28, 1999, soon to confirm our understanding of the matters discussed.

Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.



Mary F. Smallwood

MFS/mb

cc: Nancy Tammi (w/o attachment)  
Gary Crane (w/o attachment)

**Lake Mercury Test Results (ug/dscm @ 12 %CO2)****CONFIDENTIAL  
DRAFT**

<u>Unit no.</u>	<u>Date</u>	<u>Inlet</u>	<u>Outlet</u>
2	22 April 99	82.5	4.2
		60.7	3.8
		46.5	3.8
2	24 April 99	76	3.5
1	24 April 99	41.3	23.1
1	25 April 99	345	10.1
2	25 April 99	271	4.1

40 Lane Road  
Fairfield, NJ 07007  
973 882 9000  
Fax 973 882 4156

ENVIRONMENTAL TEST REPORT

VOLUME 1

EXECUTIVE SUMMARY - OEG Report No. 2278

May 29, 1998

PREPARED FOR: Ogden Martin Systems of Lake, Inc.  
3830 Rogers Industrial Park  
P. O. Box 189  
Okahumpka, Florida 34762

PURPOSE: To Demonstrate Compliance with Florida Department of  
Environmental Protection, Permit No. AO35-193817 and  
Rule 62-296.

TEST DATES: April 21-22, 1998

ASSOCIATED REPORTS: OEG Report No. 2256

PREPARED BY: Ogden Energy Group, Inc.  
Department 38 - CEM/Emission Testing



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VOLUME 2:     Air Kinetics, Inc. Report on Compliance Testing  
                  (Bound Separately)

VOLUME 3:     Confidential Process Data  
                  (Bound Separately)



## 1.0 INTRODUCTION

Ogden Martin System of Lake, Inc. (OMSL) performed compliance emission tests at the Lake County Resource Recovery Facility on unit 2 from April 21-22, 1998. The purpose of this test program was to demonstrate compliance with the Florida Department of Environmental Protection (FLDEP), Permit No. AO35-193817, Specific Condition 8 and Rule 62-296 while firing co-mingled biohazardous waste with MSW. The testing was performed by Air Kinetics, Inc. (AKI) in accordance with all procedures in the FLDEP approved test protocol.

The OMSL municipal solid waste combustion facility is located in Okahumpka, FL. The facility is rated at 528 tons of municipal solid waste per day. Unit 2 was tested for mercury emissions at the economizer outlet and stack. Acid gas emissions were tested at the inlet and outlet of the air pollution control equipment. All testing was conducted simultaneously in accordance with procedures required by Florida Department of Environmental Protection (FLDEP) regional office.

A summary of emission test results for the facility is presented in Section 2.0, Tables 2.1 and 2.2. The AKI report (Volume 2) includes all testing data gathered at the site and all laboratory analytical data.

The test program, as indicated in the Source Test Plan (OEG Report Nos. 2256), is presented in Section 3.0, Table 3.2. Test observers and participants are presented in Table 3.1. The Schedule of Activities is presented in Table 3.3.

## 2.0 SUMMARY OF RESULTS

TABLE 2.1

## SUMMARY OF SOURCE TEST RESULTS - UNIT 2

Pollutant	----- Replicate -----			Average	Permitted Compliance Emission Limits
	1	2	3		
<u>SDA INLET</u>					
<u>Conc., ppmdv @ 12% CO<sub>2</sub></u>					
Sulfur Dioxide (SO <sub>2</sub> )	107.8	35	32.9	58.6	-----
<u>Emission Rate, lb/hr</u>					
Mercury (Hg)	0.121	0.0705	0.0575	0.0830	-----
Hydrogen Chloride (HCl)	134	116	95.8	115	-----
<u>STACK <sup>(1)</sup></u>					
<u>Conc., ppmdv @ 7% O<sub>2</sub></u>					
Hydrogen Chloride (HCl)	12.2	11.2	9.71	11.0	50
Carbon Monoxide (CO)	23.9	25.2	16.1	21.7	100
<u>Conc., ppmdv @ 12% CO<sub>2</sub></u>					
Sulfur Dioxide (SO <sub>2</sub> )	3.6	3.0	0	2.2	60
Nitrogen Oxides (NO <sub>x</sub> )	330.6	239.1	238.2	269.3	385
<u>Conc., gr/dscf @ 7% O<sub>2</sub></u>					
Particulate Matter (PM)	0.0014	0.0014	0.0011	0.0013	0.02
<u>Conc., gr/dscf @ 12% CO<sub>2</sub></u>					
Particulate Matter (PM)	0.00144	0.00135	0.00112	0.00130	0.015
Mercury (Hg)	3.80E-06	8.36E-06	9.32E-06	7.16E-06	3.4E-04
<u>Conc., ug/dscm @ 7% O<sub>2</sub></u>					
Mercury (Hg)	8.47	18.7	21.9	16.4	70
<u>Emission Rate, lb/hr</u>					
Mercury (Hg)	8.91E-04	2.03E-03	2.24E-03	1.72E-03	-----
Hydrogen Chloride (HCl)	1.87	1.65	1.57	1.70	-----
<u>Removal Efficiency, %</u>					
Sulfur Dioxide (SO <sub>2</sub> ) <sup>(2)</sup>	96.7	91.4	100	96.0	≥70
Hydrogen Chloride (HCl) <sup>(3)</sup>	98.6	98.6	98.4	98.5	≥90
Mercury (Hg) <sup>(3)</sup>	99.3	97.1	96.1	97.9	≥80
<u>Opacity, %</u>					
Visible Emissions (VE)	0	0	0	0	15

<sup>(1)</sup> All testing for HCl, SO<sub>2</sub>, NO<sub>x</sub>, CO, opacity, and particulate done simultaneously.

<sup>(2)</sup> Based on ppmvd @ 12% CO<sub>2</sub>.

<sup>(3)</sup> Based on lb/hr.

### 3.0 TEST PROGRAM

TABLE 3.1  
TEST PARTICIPANTS

---

Ogden Energy Group, Inc.

G. J. Aldina

Air Kinetics, Inc.

Tony Wong  
Gary Mata  
Hung Duong  
Wayne Johnson  
Thinh Phan

Florida Department of Environmental Protection

Gary Kuberski

Malcolm Pirnie

John Pacifici

Beatty Environmental Services

Daniel Beatty

TABLE 3.2  
TEST PROGRAM

Parameter	Method
Particulate Matter (PM)	U.S. EPA Method 5
Sulfur Dioxide (SO <sub>2</sub> ) <sup>(1)</sup>	U.S. EPA Method 6C
Nitrogen Oxides (NO <sub>x</sub> )	U.S. EPA Method 7E
Carbon Monoxide (CO)	U.S. EPA Method 10
Visible Emissions (VE)	U.S. EPA Method 9
Hydrogen Chloride (HCl) <sup>(1)</sup>	U.S. EPA Method 26
Mercury (Hg) <sup>(1)</sup>	U.S. EPA Method 29

<sup>(1)</sup> SO<sub>2</sub>, HCl and Hg sampled at the inlet and outlet of the air pollution control equipment.

TABLE 3.3  
SCHEDULE OF ACTIVITIES

Date/ Time	Unit	Location	Sampling Method	Replicate (Run)	Parameter
<u>4/21/98</u>					
1021-1259	2	Outlet	EPA 29	1	Hg
1025-1258	2	Inlet	EPA 29	1	Hg
1400-1611	2	Outlet	EPA 29	2	Hg
1400-1618	2	Inlet	EPA 29	2	Hg
1646-1917	2	Outlet	EPA 29	3	Hg
1646-1917	2	Inlet	EPA 29	3	Hg
<u>4/22/98</u>					
0915-1140	2	Inlet	EPA 26	1	HCl
0915-1145	2	Outlet	EPA 26	1	HCl
0916-1143	2	Outlet	EPA 5	1	PM
0920-1020	2	Outlet	EPA 9	1	VE
1044-1147	2	Inlet	EPA 3A, 6C	1	O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub>
1044-1147	2	Outlet	EPA 3A, 6C, 7E, 10	1	O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO
1235-1335	2	Outlet	EPA 9	2	VE
1235-1435	2	Inlet	EPA 26	2	HCl
1236-1343	2	Outlet	EPA 3A, 6C, 7E, 10	2	O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO
1236-1343	2	Inlet	EPA 3A, 6C	2	O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub>
1236-1446	2	Outlet	EPA 5	2	PM
1238-1438	2	Outlet	EPA 26	2	HCl
1525-1725	2	Outlet	EPA 26	3	HCl
1525-1726	2	Outlet	EPA 26	3	HCl
1525-1730	2	Outlet	EPA 5	3	PM
1526-1630	2	Outlet	EPA 3A, 6C, 7E, 10	3	O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub> , NO <sub>x</sub> , CO
1526-1630	2	Inlet	EPA 3A, 6C	3	O <sub>2</sub> , CO <sub>2</sub> , SO <sub>2</sub>
1530-1630	2	Outlet	EPA 9	3	VE

#### 4.0 OPERATIONAL DATA DURING EMISSION TESTING



#### 4.0 OPERATIONAL DATA DURING EMISSION TESTING

Operational data were collected from process recorders. This confidential data is shown in Volume 3.

## 5.0 METHODOLOGY

TABLE 5.1  
REFERENCES

Parameter	Test Method	Reference
PM	U.S. EPA Method 5	40 CFR 60, App. A
SO <sub>2</sub>	U.S. EPA Method 6C	40 CFR 60, App. A
NO <sub>x</sub>	U.S. EPA Method 7E	40 CFR 60, App. A
CO	U.S. EPA Method 10	40 CFR 60, App. A
VE	U.S. EPA Method 9	40 CFR 60, App. A
HCl	U.S. EPA Method 26	40 CFR 60, App. A
Hg	U.S. EPA Method 29	40 CFR 60, App. A

ENVIRONMENTAL TEST REPORT

VOLUME 2

AIR KINETICS, INC.

REPORT ON COMPLIANCE TESTING - OEG Report No. 2278

May 29, 1998

PREPARED FOR: Ogden Martin Systems of Lake, Inc.  
3830 Rogers Industrial Park  
P. O. Box 189  
Okahumpka, Florida 34762

PURPOSE: To Demonstrate Compliance with Florida Department of  
Environmental Protection, Permit No. AO35-193817 and  
Rule 62-296.

TEST DATES: April 21-22, 1998

ASSOCIATED REPORTS: OEG Report No. 2256

40 Lane Road  
Fairfield, NJ 07007  
973 882 9000  
Fax 973 882 4156

ENVIRONMENTAL TEST REPORT

VOLUME 3

CONFIDENTIAL PROCESS DATA - OEG Report No. 2278

May 29, 1998

PREPARED FOR: Ogden Martin Systems of Lake, Inc.  
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TEST DATES: April 21-22, 1998

ASSOCIATED REPORTS: OEG Report No. 2256

APRIL 21, 1998

# OMS LAKE CIS FLOW LOG

DATE: 21 APR 93

TIME	RPM	FLOW	INITIALS	TIME	RPM	FLOW	INITIALS
0700	900	12.2	(BDS)				
0800	900	12.2	(BDS)				
0900	900	12.2	(BDS)				
1000	900	12.2	(BDS)				
1300	900	✓	BDS				
1400	900	✓	BDS				
1500	900	12.2	(BDS)				
1600	900	12.2	(BDS)				
1700	900	12.2	(BDS)				
1800	900	12.2	(BDS)				
1900	900	12.2	(BDS)				
1930	900	12.2	(BDS)				

COMMENTS -

0700 CAL OF CARBON FLOW 12.2 lbs HR :: #2 BK  
 1930 CAL OF CARBON @ 12.2 lbs #2 BK

TIME STOPPED RECORDING -  
 TIME STARTED RECORDING -  
 REASON -

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 10:20:12

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	62.0	63.6	
TEMPERATURE	DEG F	743.2	815.8	
S/H OUTLET PRESSURE	PSIG	854.4	857.8	
DRUM PRESSURE	PSIG	920.0	926.6	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	64.6	65.8	
DRUM LEVEL	INCHES	-2.3	-0.7	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	8.84	8.34	
UNDERFIRE AIR FLOW	KLBS/HR	68.5	69.2	
OVERFIRE AIR FLOW	KLBS/HR	35.9	40.9	
UNDERFIRE AIR SPLIT	%UFA	65.6	62.8	
SCAH INLET TEMP	DEG F	97.0	92.4	
SCAH EXIT TEMP	DEG F	215.2	216.6	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.18	-0.33	
BAGHOUSE dP	INWC	4.6	7.1	
AVERAGE ROOF TEMP	DEG F	1187.7	1408.0	
BOTTOM 2ND PASS TEMP	DEG F	1113.3	1348.0	
SEC SPRHTR INLET TEMP	DEG F	857.8	1036.0	
SEC SPRHTR EXIT TEMP	DEG F	762.3	891.0	
PRI SPRHTR EXIT TEMP	DEG F	691.5	785.0	
ECONOMIZER EXIT TEMP	DEG F	398.3	464.0	
SCRUBBER EXIT TEMP	DEG F	292.5	297.0	
BAGHOUSE EXIT TEMP	DEG F	278.8	285.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.3		
CONDENSER INLET TEMP	DEG F	75.0		
CONDENSER EXIT TEMP	DEG F	96.8		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	84.8	83.9	84.8
RELATIVE HUMIDITY	PERCENT	72.3	72.6	78.4
WIND SPEED	MPH	4.3	0.0	7.9

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 10:35:11

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.0	64.3
TEMPERATURE	DEG F	747.3	815.8
S/H OUTLET PRESSURE	PSIG	857.2	859.4
DRUM PRESSURE	PSIG	925.9	929.7

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.4	67.6
DRUM LEVEL	INCHES	-1.9	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.49	7.05
UNDERFIRE AIR FLOW	KLBS/HR	70.1	69.0
OVERFIRE AIR FLOW	KLBS/HR	35.8	41.3
UNDERFIRE AIR SPLIT	%UFA	66.2	62.5
SCAH INLET TEMP	DEG F	97.7	93.1
SCAH EXIT TEMP	DEG F	215.9	217.7

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.46	-0.52
BAGHOUSE dP	INWC	5.3	6.7
AVERAGE ROOF TEMP	DEG F	1206.6	1416.3
BOTTOM 2ND PASS TEMP	DEG F	1130.9	1346.0
SEC SPRHTR INLET TEMP	DEG F	860.0	1033.0
SEC SPRHTR EXIT TEMP	DEG F	763.5	890.0
PRI SPRHTR EXIT TEMP	DEG F	693.0	786.0
ECONOMIZER EXIT TEMP	DEG F	399.0	466.0
SCRUBBER EXIT TEMP	DEG F	292.8	295.8
BAGHOUSE EXIT TEMP	DEG F	277.7	287.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	74.8
CONDENSER EXIT TEMP	DEG F	96.9

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	85.0	83.9	85.3
RELATIVE HUMIDITY	PERCENT	69.8	70.0	78.4
WIND SPEED	MPH	4.0	0.0	7.9

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/21/98 10:50:12

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	62.3	64.6
TEMPERATURE	DEG F	739.9	811.7
S/H OUTLET PRESSURE	PSIG	855.9	859.1
DRUM PRESSURE	PSIG	920.9	929.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.8	70.1
DRUM LEVEL	INCHES	-2.2	-1.1

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.20	9.20
UNDERFIRE AIR FLOW	KLBS/HR	76.6	68.8
OVERFIRE AIR FLOW	KLBS/HR	35.9	40.9
UNDERFIRE AIR SPLIT	%UFA	68.1	62.7
SCAH INLET TEMP	DEG F	99.1	94.4
SCAH EXIT TEMP	DEG F	216.8	218.1

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.13	-0.14
BAGHOUSE dP	INWC	5.4	5.4
AVERAGE ROOF TEMP	DEG F	1186.6	1409.3
BOTTOM 2ND PASS TEMP	DEG F	1106.8	1352.0
SEC SPRHTR INLET TEMP	DEG F	842.2	1034.0
SEC SPRHTR EXIT TEMP	DEG F	761.2	893.0
PRI SPRHTR EXIT TEMP	DEG F	689.5	788.0
ECONOMIZER EXIT TEMP	DEG F	396.5	466.0
SCRUBBER EXIT TEMP	DEG F	290.5	267.6
BAGHOUSE EXIT TEMP	DEG F	276.3	272.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.1
CONDENSER EXIT TEMP	DEG F	97.2

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	86.0	83.9	85.9
RELATIVE HUMIDITY	PERCENT	68.7	68.5	78.4
WIND SPEED	MPH	2.0	0.0	8.5

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 11:05:13

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.0	65.2
TEMPERATURE	DEG F	738.8	810.3
S/H OUTLET PRESSURE	PSIG	856.6	859.4
DRUM PRESSURE	PSIG	925.3	930.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	66.5	69.8
DRUM LEVEL	INCHES	-2.2	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.08	10.17
UNDERFIRE AIR FLOW	KLBS/HR	69.1	69.3
OVERFIRE AIR FLOW	KLBS/HR	36.2	41.5
UNDERFIRE AIR SPLIT	%UFA	65.6	62.6
SCAH INLET TEMP	DEG F	99.9	95.1
SCAH EXIT TEMP	DEG F	217.3	218.4

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.03	-0.27
BAGHOUSE dP	INWC	5.8	6.4
AVERAGE ROOF TEMP	DEG F	1200.1	1437.0
BOTTOM 2ND PASS TEMP	DEG F	1115.4	1370.0
SEC SPRHTR INLET TEMP	DEG F	843.8	1037.0
SEC SPRHTR EXIT TEMP	DEG F	764.6	893.0
PRI SPRHTR EXIT TEMP	DEG F	691.5	791.0
ECONOMIZER EXIT TEMP	DEG F	395.4	461.0
SCRUBBER EXIT TEMP	DEG F	288.2	301.3
BAGHOUSE EXIT TEMP	DEG F	277.2	283.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.0
CONDENSER EXIT TEMP	DEG F	97.5

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	86.8	83.9	86.7
RELATIVE HUMIDITY	PERCENT	65.8	65.5	78.4
WIND SPEED	MPH	8.9	0.0	8.6

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 11:20:13

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.1	60.8	
TEMPERATURE	DEG F	739.2	818.3	
S/H OUTLET PRESSURE	PSIG	855.0	855.9	
DRUM PRESSURE	PSIG	921.9	918.8	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	66.6	65.5	
DRUM LEVEL	INCHES	-2.2	-0.9	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.58	11.43	
UNDERFIRE AIR FLOW	KLBS/HR	69.3	70.4	
OVERFIRE AIR FLOW	KLBS/HR	36.1	41.8	
UNDERFIRE AIR SPLIT	%UFA	65.7	62.7	
SCAH INLET TEMP	DEG F	101.2	96.4	
SCAH EXIT TEMP	DEG F	217.7	218.9	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.44	-1.04	
BAGHOUSE dP	INWC	5.9	7.3	
AVERAGE ROOF TEMP	DEG F	1189.0	1377.7	
BOTTOM 2ND PASS TEMP	DEG F	1114.2	1339.0	
SEC SPRHTR INLET TEMP	DEG F	842.9	1036.0	
SEC SPRHTR EXIT TEMP	DEG F	761.7	903.0	
PRI SPRHTR EXIT TEMP	DEG F	690.6	800.0	
ECONOMIZER EXIT TEMP	DEG F	394.0	476.0	
SCRUBBER EXIT TEMP	DEG F	287.6	282.7	
BAGHOUSE EXIT TEMP	DEG F	277.3	281.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.2		
CONDENSER INLET TEMP	DEG F	74.9		
CONDENSER EXIT TEMP	DEG F	96.7		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	87.7	83.9	87.7
RELATIVE HUMIDITY	PERCENT	63.0	63.0	78.4
WIND SPEED	MPH	6.0	0.0	8.9

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 11:35:13

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.3	62.8	
TEMPERATURE	DEG F	738.1	812.1	
S/H OUTLET PRESSURE	PSIG	855.9	857.8	
DRUM PRESSURE	PSIG	922.2	924.1	
<b>FEEOWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	65.9	67.0	
DRUM LEVEL	INCHES	-2.3	-0.9	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.90	10.33	
UNDERFIRE AIR FLOW	KLBS/HR	69.5	68.7	
OVERFIRE AIR FLOW	KLBS/HR	36.0	41.1	
UNDERFIRE AIR SPLIT	%UFA	65.9	62.6	
SCAH INLET TEMP	DEG F	101.9	97.2	
SCAH EXIT TEMP	DEG F	218.2	219.8	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.29	0.00	
BAGHOUSE dP	INWC	6.3	6.6	
AVERAGE ROOF TEMP	DEG F	1189.3	1397.7	
BOTTOM 2ND PASS TEMP	DEG F	1104.3	1340.0	
SEC SPRHTR INLET TEMP	DEG F	844.5	1024.0	
SEC SPRHTR EXIT TEMP	DEG F	758.1	887.0	
PRI SPRHTR EXIT TEMP	DEG F	690.4	784.0	
ECONOMIZER EXIT TEMP	DEG F	393.6	460.0	
SCRUBBER EXIT TEMP	DEG F	288.6	283.5	
BAGHOUSE EXIT TEMP	DEG F	277.7	277.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.3		
CONDENSER INLET TEMP	DEG F	74.7		
CONDENSER EXIT TEMP	DEG F	96.8		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	88.1	83.9	88.3
RELATIVE HUMIDITY	PERCENT	60.4	60.2	78.4
WIND SPEED	MPH	1.4	0.0	8.9

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/21/98 11:50:14

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	60.0	62.8
TEMPERATURE	DEG F	738.5	813.9
S/H OUTLET PRESSURE	PSIG	852.8	856.9
DRUM PRESSURE	PSIG	913.8	923.8

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.3	67.4
DRUM LEVEL	INCHES	-2.2	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.71	9.70
UNDERFIRE AIR FLOW	KLBS/HR	69.0	69.0
OVERFIRE AIR FLOW	KLBS/HR	36.0	40.8
UNDERFIRE AIR SPLIT	%UFA	65.7	62.8
SCAH INLET TEMP	DEG F	102.7	98.3
SCAH EXIT TEMP	DEG F	219.0	220.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.21	-0.02
BAGHOUSE dP	INWC	6.7	8.1
AVERAGE ROOF TEMP	DEG F	1177.3	1392.7
BOTTOM 2ND PASS TEMP	DEG F	1094.7	1340.0
SEC SPRHTR INLET TEMP	DEG F	836.2	1035.0
SEC SPRHTR EXIT TEMP	DEG F	756.7	890.0
PRI SPRHTR EXIT TEMP	DEG F	687.0	789.0
ECONOMIZER EXIT TEMP	DEG F	393.1	466.0
SCRUBBER EXIT TEMP	DEG F	288.9	303.3
BAGHOUSE EXIT TEMP	DEG F	278.4	284.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	74.8
CONDENSER EXIT TEMP	DEG F	96.4

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	87.9	83.9	88.3
RELATIVE HUMIDITY	PERCENT	59.3	59.2	78.4
WIND SPEED	MPH	3.1	0.0	8.9

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

BOILER 1                      BOILER 2

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STEAM PARAMETERS

FLOW	KLBS/HR	64.6	64.0
TEMPERATURE	DEG F	746.2	821.6
S/H OUTLET PRESSURE	PSIG	856.6	858.8
DRUM PRESSURE	PSIG	927.2	927.5

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.2	66.4
DRUM LEVEL	INCHES	-2.1	-0.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.47	10.38
UNDERFIRE AIR FLOW	KLBS/HR	69.5	68.3
OVERFIRE AIR FLOW	KLBS/HR	36.0	40.7
UNDERFIRE AIR SPLIT	%UFA	65.9	62.7
SCAH INLET TEMP	DEG F	103.4	99.2
SCAH EXIT TEMP	DEG F	219.2	221.4

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	0.06	0.03
BAGHOUSE dP	INWC	7.1	7.1
AVERAGE ROOF TEMP	DEG F	1231.0	1400.0
BOTTOM 2ND PASS TEMP	DEG F	1130.2	1344.0
SEC SPRHTR INLET TEMP	DEG F	851.2	1034.0
SEC SPRHTR EXIT TEMP	DEG F	762.8	894.0
PRI SPRHTR EXIT TEMP	DEG F	694.0	792.0
ECONOMIZER EXIT TEMP	DEG F	396.1	465.0
SCRUBBER EXIT TEMP	DEG F	285.9	271.9
BAGHOUSE EXIT TEMP	DEG F	278.4	275.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.4
CONDENSER INLET TEMP	DEG F	74.7
CONDENSER EXIT TEMP	DEG F	97.3

INSTANTANEOUS                      LOW                      HIGH

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WEATHER STATION

AMBIENT AIR TEMP	DEG F	88.8	83.9	88.8
RELATIVE HUMIDITY	PERCENT	57.0	57.1	78.4
WIND SPEED	MPH	4.4	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/21/98 12:20:15 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		BOILER 1	BOILER 2	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.5	63.5	
TEMPERATURE	DEG F	739.6	809.9	
S/H OUTLET PRESSURE	PSIG	855.9	858.1	
DRUM PRESSURE	PSIG	924.1	925.9	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	67.4	69.8	
DRUM LEVEL	INCHES	-2.5	-1.1	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.17	10.20	
UNDERFIRE AIR FLOW	KLBS/HR	67.9	63.5	
OVERFIRE AIR FLOW	KLBS/HR	35.5	40.8	
UNDERFIRE AIR SPLIT	%UFA	65.7	60.8	
SCAH INLET TEMP	DEG F	104.9	101.2	
SCAH EXIT TEMP	DEG F	220.1	224.5	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	0.88	-0.14	
BAGHOUSE dP	INWC	6.9	7.8	
AVERAGE ROOF TEMP	DEG F	1207.8	1408.0	
BOTTOM 2ND PASS TEMP	DEG F	1119.6	1348.0	
SEC SPRHTR INLET TEMP	DEG F	846.1	1029.0	
SEC SPRHTR EXIT TEMP	DEG F	759.9	887.0	
PRI SPRHTR EXIT TEMP	DEG F	690.4	787.0	
ECONOMIZER EXIT TEMP	DEG F	394.2	460.0	
SCRUBBER EXIT TEMP	DEG F	289.6	279.5	
BAGHOUSE EXIT TEMP	DEG F	277.3	271.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.4		
CONDENSER INLET TEMP	DEG F	75.1		
CONDENSER EXIT TEMP	DEG F	97.5		
		INSTANTANEOUS	LOW	HIGH
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	90.1	83.9	90.1
RELATIVE HUMIDITY	PERCENT	54.6	54.5	78.4
WIND SPEED	MPH	1.3	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 12:35:16

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.5	62.9
TEMPERATURE	DEG F	735.2	805.5
S/H OUTLET PRESSURE	PSIG	855.0	857.2
DRUM PRESSURE	PSIG	922.8	923.8

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	68.5	68.4
DRUM LEVEL	INCHES	-2.4	-0.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.89	9.49
UNDERFIRE AIR FLOW	KLBS/HR	69.0	63.3
OVERFIRE AIR FLOW	KLBS/HR	36.2	40.5
UNDERFIRE AIR SPLIT	%UFA	65.5	61.0
SCAH INLET TEMP	DEG F	105.4	101.8
SCAH EXIT TEMP	DEG F	220.1	226.3

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.51	-0.68
BAGHOUSE dP	INWC	7.3	7.3
AVERAGE ROOF TEMP	DEG F	1196.8	1407.7
BOTTOM 2ND PASS TEMP	DEG F	1114.2	1348.0
SEC SPRHTR INLET TEMP	DEG F	846.7	1020.0
SEC SPRHTR EXIT TEMP	DEG F	762.4	879.0
PRI SPRHTR EXIT TEMP	DEG F	690.4	778.0
ECONOMIZER EXIT TEMP	DEG F	393.1	453.0
SCRUBBER EXIT TEMP	DEG F	291.2	281.8
BAGHOUSE EXIT TEMP	DEG F	276.8	276.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.1
CONDENSER EXIT TEMP	DEG F	97.3

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	90.7	83.9	90.7
RELATIVE HUMIDITY	PERCENT	52.5	52.5	78.4
WIND SPEED	MPH	0.0	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 12:50:16

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.4	63.4
TEMPERATURE	DEG F	739.9	802.6
S/H OUTLET PRESSURE	PSIG	855.3	857.8
DRUM PRESSURE	PSIG	922.8	925.0

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.9	66.0
DRUM LEVEL	INCHES	-1.8	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.59	8.55
UNDERFIRE AIR FLOW	KLBS/HR	69.4	63.1
OVERFIRE AIR FLOW	KLBS/HR	35.9	40.5
UNDERFIRE AIR SPLIT	%UFA	65.9	60.9
SCAH INLET TEMP	DEG F	105.4	101.7
SCAH EXIT TEMP	DEG F	220.4	226.7

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.49	-0.35
BAGHOUSE dP	INWC	7.4	7.3
AVERAGE ROOF TEMP	DEG F	1202.8	1423.7
BOTTOM 2ND PASS TEMP	DEG F	1114.3	1349.0
SEC SPRHTR INLET TEMP	DEG F	855.5	1015.0
SEC SPRHTR EXIT TEMP	DEG F	760.8	872.0
PRI SPRHTR EXIT TEMP	DEG F	690.4	774.0
ECONOMIZER EXIT TEMP	DEG F	392.2	448.0
SCRUBBER EXIT TEMP	DEG F	289.9	275.1
BAGHOUSE EXIT TEMP	DEG F	278.4	272.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.2
CONDENSER EXIT TEMP	DEG F	97.3

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	90.7	83.9	91.3
RELATIVE HUMIDITY	PERCENT	50.9	50.9	78.4
WIND SPEED	MPH	2.8	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 13:05:16

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.0	64.4
TEMPERATURE	DEG F	742.1	808.1
S/H OUTLET PRESSURE	PSIG	855.3	858.4
DRUM PRESSURE	PSIG	921.9	928.1

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.5	68.7
DRUM LEVEL	INCHES	-2.3	-0.9

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.97	8.91
UNDERFIRE AIR FLOW	KLBS/HR	69.1	63.3
OVERFIRE AIR FLOW	KLBS/HR	36.1	40.4
UNDERFIRE AIR SPLIT	%UFA	65.7	61.0
SCAH INLET TEMP	DEG F	105.2	102.1
SCAH EXIT TEMP	DEG F	220.4	226.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.47	-0.29
BAGHOUSE dP	INWC	10.5	11.1
AVERAGE ROOF TEMP	DEG F	1199.7	1440.0
BOTTOM 2ND PASS TEMP	DEG F	1113.8	1368.0
SEC SPRHTR INLET TEMP	DEG F	847.8	1023.0
SEC SPRHTR EXIT TEMP	DEG F	761.4	879.0
PRI SPRHTR EXIT TEMP	DEG F	691.2	781.0
ECONOMIZER EXIT TEMP	DEG F	393.4	454.0
SCRUBBER EXIT TEMP	DEG F	291.5	282.2
BAGHOUSE EXIT TEMP	DEG F	278.4	274.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.2
CONDENSER EXIT TEMP	DEG F	97.5

INSTANTANEOUS              LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	90.6	83.9	91.3
RELATIVE HUMIDITY	PERCENT	53.3	50.9	78.4
WIND SPEED	MPH	2.5	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
04/21/98 13:59:59

		BOILER 1	BOILER 2	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.3	64.9	
TEMPERATURE	DEG F	742.5	807.3	
S/H OUTLET PRESSURE	PSIG	855.9	859.4	
DRUM PRESSURE	PSIG	923.8	929.7	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	66.2	68.8	
DRUM LEVEL	INCHES	-2.3	-0.9	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.64	8.98	
UNDERFIRE AIR FLOW	KLBS/HR	78.0	62.5	
OVERFIRE AIR FLOW	KLBS/HR	36.0	40.7	
UNDERFIRE AIR SPLIT	%UFA	68.4	60.6	
SCAH INLET TEMP	DEG F	108.3	106.1	
SCAH EXIT TEMP	DEG F	222.2	229.4	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.09	-0.19	
BAGHOUSE dP	INWC	4.7	4.7	
AVERAGE ROOF TEMP	DEG F	1202.3	1460.0	
BOTTOM 2ND PASS TEMP	DEG F	1111.5	1384.0	
SEC SPRHTR INLET TEMP	DEG F	855.5	1020.0	
SEC SPRHTR EXIT TEMP	DEG F	762.8	874.0	
PRI SPRHTR EXIT TEMP	DEG F	692.6	777.0	
ECONOMIZER EXIT TEMP	DEG F	394.9	448.0	
SCRUBBER EXIT TEMP	DEG F	286.2	277.7	
BAGHOUSE EXIT TEMP	DEG F	278.4	272.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.4		
CONDENSER INLET TEMP	DEG F	75.2		
CONDENSER EXIT TEMP	DEG F	97.9		
		<b>INSTANTANEOUS</b>	<b>LOW</b>	<b>HIGH</b>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	92.0	83.9	92.0
RELATIVE HUMIDITY	PERCENT	48.6	47.2	78.4
WIND SPEED	MPH	3.1	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 14:14:58

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.6	61.1	
TEMPERATURE	DEG F	740.7	813.2	
S/H OUTLET PRESSURE	PSIG	856.3	857.2	
DRUM PRESSURE	PSIG	924.1	920.0	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	66.6	66.2	
DRUM LEVEL	INCHES	-2.1	-0.7	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.56	8.73	
UNDERFIRE AIR FLOW	KLBS/HR	69.6	62.8	
OVERFIRE AIR FLOW	KLBS/HR	36.1	39.8	
UNDERFIRE AIR SPLIT	%UFA	65.9	61.2	
SCAH INLET TEMP	DEG F	109.4	107.6	
SCAH EXIT TEMP	DEG F	222.8	230.5	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.41	0.03	
BAGHOUSE dP	INWC	5.1	6.5	
AVERAGE ROOF TEMP	DEG F	1200.3	1405.3	
BOTTOM 2ND PASS TEMP	DEG F	1110.0	1349.0	
SEC SPRHTR INLET TEMP	DEG F	855.0	1029.0	
SEC SPRHTR EXIT TEMP	DEG F	763.3	885.0	
PRI SPRHTR EXIT TEMP	DEG F	692.4	786.0	
ECONOMIZER EXIT TEMP	DEG F	394.0	461.0	
SCRUBBER EXIT TEMP	DEG F	288.2	289.9	
BAGHOUSE EXIT TEMP	DEG F	277.9	278.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.4		
CONDENSER INLET TEMP	DEG F	75.4		
CONDENSER EXIT TEMP	DEG F	97.5		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	92.6	83.9	92.6
RELATIVE HUMIDITY	PERCENT	45.3	46.0	78.4
WIND SPEED	MPH	1.9	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/21/98 14:29:59 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	61.7	65.6
TEMPERATURE	DEG F	739.9	825.3
S/H OUTLET PRESSURE	PSIG	855.3	860.0
DRUM PRESSURE	PSIG	920.0	932.8

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.0	68.4
DRUM LEVEL	INCHES	-2.4	-1.3

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.53	8.08
UNDERFIRE AIR FLOW	KLBS/HR	69.1	69.4
OVERFIRE AIR FLOW	KLBS/HR	36.1	40.2
UNDERFIRE AIR SPLIT	%UFA	65.7	63.3
SCAH INLET TEMP	DEG F	110.2	108.2
SCAH EXIT TEMP	DEG F	223.4	230.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.22	-0.10
BAGHOUSE dP	INWC	5.5	5.5
AVERAGE ROOF TEMP	DEG F	1190.4	1424.0
BOTTOM 2ND PASS TEMP	DEG F	1106.2	1361.0
SEC SPRHTR INLET TEMP	DEG F	847.8	1024.0
SEC SPRHTR EXIT TEMP	DEG F	763.0	896.0
PRI SPRHTR EXIT TEMP	DEG F	692.6	800.0
ECONOMIZER EXIT TEMP	DEG F	393.6	472.0
SCRUBBER EXIT TEMP	DEG F	288.3	287.0
BAGHOUSE EXIT TEMP	DEG F	277.9	286.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.0
CONDENSER EXIT TEMP	DEG F	97.4

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	93.1	83.9	93.1
RELATIVE HUMIDITY	PERCENT	44.0	44.0	78.4
WIND SPEED	MPH	3.0	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/21/98 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\* 14:45:00

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.2	68.8
TEMPERATURE	DEG F	744.7	804.0
S/H OUTLET PRESSURE	PSIG	857.2	862.2
DRUM PRESSURE	PSIG	926.9	940.3

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	66.9	73.3
DRUM LEVEL	INCHES	-2.1	-0.8

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.36	8.05
UNDERFIRE AIR FLOW	KLBS/HR	69.3	62.9
OVERFIRE AIR FLOW	KLBS/HR	36.1	40.4
UNDERFIRE AIR SPLIT	%UFA	65.8	60.9
SCAH INLET TEMP	DEG F	110.3	108.4
SCAH EXIT TEMP	DEG F	223.5	231.3

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.20	-0.36
BAGHOUSE dP	INWC	5.8	5.3
AVERAGE ROOF TEMP	DEG F	1213.9	1461.7
BOTTOM 2ND PASS TEMP	DEG F	1131.4	1380.0
SEC SPRHTR INLET TEMP	DEG F	858.7	1014.0
SEC SPRHTR EXIT TEMP	DEG F	766.2	874.0
PRI SPRHTR EXIT TEMP	DEG F	695.3	782.0
ECONOMIZER EXIT TEMP	DEG F	395.6	452.0
SCRUBBER EXIT TEMP	DEG F	287.4	274.8
BAGHOUSE EXIT TEMP	DEG F	278.2	270.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.4
CONDENSER INLET TEMP	DEG F	74.9
CONDENSER EXIT TEMP	DEG F	98.0

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	93.3	83.9	93.5
RELATIVE HUMIDITY	PERCENT	41.8	41.8	78.4
WIND SPEED	MPH	0.0	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/21/98 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\* 15:00:00

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.2	63.2
TEMPERATURE	DEG F	743.6	797.4
S/H OUTLET PRESSURE	PSIG	856.6	858.1
DRUM PRESSURE	PSIG	925.3	924.7

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	66.7	67.8
DRUM LEVEL	INCHES	-2.0	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.71	9.55
UNDERFIRE AIR FLOW	KLBS/HR	69.5	62.5
OVERFIRE AIR FLOW	KLBS/HR	36.1	40.3
UNDERFIRE AIR SPLIT	%UFA	65.8	60.8
SCAH INLET TEMP	DEG F	111.1	108.9
SCAH EXIT TEMP	DEG F	224.0	230.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.24	-0.31
BAGHOUSE dP	INWC	6.1	5.8
AVERAGE ROOF TEMP	DEG F	1215.4	1434.0
BOTTOM 2ND PASS TEMP	DEG F	1137.7	1363.0
SEC SPRHTR INLET TEMP	DEG F	860.4	1006.0
SEC SPRHTR EXIT TEMP	DEG F	766.0	865.0
PRI SPRHTR EXIT TEMP	DEG F	694.0	776.0
ECONOMIZER EXIT TEMP	DEG F	394.9	448.0
SCRUBBER EXIT TEMP	DEG F	289.7	285.0
BAGHOUSE EXIT TEMP	DEG F	279.3	276.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.2
CONDENSER EXIT TEMP	DEG F	97.6

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	93.9	83.9	94.1
RELATIVE HUMIDITY	PERCENT	42.2	41.8	78.4
WIND SPEED	MPH	0.0	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



04/21/98 15:15:00 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		BOILER 1	BOILER 2	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	62.5	63.0	
TEMPERATURE	DEG F	744.0	808.1	
S/H OUTLET PRESSURE	PSIG	855.3	858.1	
DRUM PRESSURE	PSIG	920.9	923.8	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	64.9	66.1	
DRUM LEVEL	INCHES	-2.3	-0.7	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.42	8.71	
UNDERFIRE AIR FLOW	KLBS/HR	69.3	62.7	
OVERFIRE AIR FLOW	KLBS/HR	36.2	40.2	
UNDERFIRE AIR SPLIT	%UFA	65.7	61.0	
SCAH INLET TEMP	DEG F	111.2	108.8	
SCAH EXIT TEMP	DEG F	223.9	230.6	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.42	-0.17	
BAGHOUSE dP	INWC	6.6	7.1	
AVERAGE ROOF TEMP	DEG F	1186.4	1424.7	
BOTTOM 2ND PASS TEMP	DEG F	1109.7	1358.0	
SEC SPRHTR INLET TEMP	DEG F	852.3	1016.0	
SEC SPRHTR EXIT TEMP	DEG F	767.3	872.0	
PRI SPRHTR EXIT TEMP	DEG F	694.6	779.0	
ECONOMIZER EXIT TEMP	DEG F	395.4	452.0	
SCRUBBER EXIT TEMP	DEG F	287.4	291.4	
BAGHOUSE EXIT TEMP	DEG F	278.2	281.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.3		
CONDENSER INLET TEMP	DEG F	75.1		
CONDENSER EXIT TEMP	DEG F	97.0		
		INSTANTANEOUS	LOW	HIGH
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	94.5	83.9	94.5
RELATIVE HUMIDITY	PERCENT	40.9	40.6	78.4
WIND SPEED	MPH	0.7	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/21/98 15:30:01 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		BOILER 1	BOILER 2
<b>STEAM PARAMETERS</b>			
FLOW	KLBS/HR	62.3	65.0
TEMPERATURE	DEG F	745.1	818.3
S/H OUTLET PRESSURE	PSIG	855.3	859.4
DRUM PRESSURE	PSIG	920.3	930.0
<b>FEEDWATER PARAMETERS</b>			
FEEDWATER FLOW	KLBS/HR	64.8	67.6
DRUM LEVEL	INCHES	-2.3	-0.9
<b>COMBUSTION AIR PARAMETERS</b>			
WET O2	PERCENT	8.70	8.04
UNDERFIRE AIR FLOW	KLBS/HR	69.2	62.7
OVERFIRE AIR FLOW	KLBS/HR	36.3	40.2
UNDERFIRE AIR SPLIT	%UFA	65.6	60.9
SCAH INLET TEMP	DEG F	111.2	108.9
SCAH EXIT TEMP	DEG F	224.2	230.9
<b>FURNACE GAS PARAMETERS</b>			
FURNACE PRESSURE	INWC	-0.36	-0.41
BAGHOUSE dP	INWC	7.1	6.4
AVERAGE ROOF TEMP	DEG F	1200.5	1418.7
BOTTOM 2ND PASS TEMP	DEG F	1120.3	1351.0
SEC SPRHTR INLET TEMP	DEG F	848.1	1016.0
SEC SPRHTR EXIT TEMP	DEG F	766.6	885.0
PRI SPRHTR EXIT TEMP	DEG F	694.6	789.0
ECONOMIZER EXIT TEMP	DEG F	396.1	462.0
SCRUBBER EXIT TEMP	DEG F	289.9	279.3
BAGHOUSE EXIT TEMP	DEG F	279.7	283.0
<b>OTHER PARAMETERS</b>			
CONDENSER VACUUM	INHGA	1.3	
CONDENSER INLET TEMP	DEG F	75.1	
CONDENSER EXIT TEMP	DEG F	97.2	

		INSTANTANEOUS	LOW	HIGH
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	94.3	83.9	94.7
RELATIVE HUMIDITY	PERCENT	40.3	40.2	78.4
WIND SPEED	MPH	1.1	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 15:45:02

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	62.3	64.0
TEMPERATURE	DEG F	749.1	797.1
S/H OUTLET PRESSURE	PSIG	855.3	858.1
DRUM PRESSURE	PSIG	920.9	926.3

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.2	72.3
DRUM LEVEL	INCHES	-2.3	-1.4

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.95	10.66
UNDERFIRE AIR FLOW	KLBS/HR	68.5	62.5
OVERFIRE AIR FLOW	KLBS/HR	35.9	40.0
UNDERFIRE AIR SPLIT	%UFA	65.6	61.0
SCAH INLET TEMP	DEG F	111.7	109.8
SCAH EXIT TEMP	DEG F	224.1	231.5

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.23	-0.30
BAGHOUSE dP	INWC	7.4	6.7
AVERAGE ROOF TEMP	DEG F	1203.7	1438.7
BOTTOM 2ND PASS TEMP	DEG F	1119.7	1370.0
SEC SPRHTR INLET TEMP	DEG F	847.6	1005.0
SEC SPRHTR EXIT TEMP	DEG F	769.6	869.0
PRI SPRHTR EXIT TEMP	DEG F	697.8	778.0
ECONOMIZER EXIT TEMP	DEG F	399.9	448.0
SCRUBBER EXIT TEMP	DEG F	287.0	277.4
BAGHOUSE EXIT TEMP	DEG F	278.8	274.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.4
CONDENSER INLET TEMP	DEG F	75.1
CONDENSER EXIT TEMP	DEG F	97.6

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.6	83.9	94.9
RELATIVE HUMIDITY	PERCENT	39.0	39.0	78.4
WIND SPEED	MPH	2.2	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 16:00:02

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.8	62.5	
TEMPERATURE	DEG F	743.2	798.5	
S/H OUTLET PRESSURE	PSIG	855.9	857.2	
DRUM PRESSURE	PSIG	923.8	922.5	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	67.2	67.6	
DRUM LEVEL	INCHES	-2.4	-0.7	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	10.09	9.47	
UNDERFIRE AIR FLOW	KLBS/HR	69.0	70.2	
OVERFIRE AIR FLOW	KLBS/HR	36.2	39.6	
UNDERFIRE AIR SPLIT	%UFA	65.6	63.9	
SCAH INLET TEMP	DEG F	111.7	109.9	
SCAH EXIT TEMP	DEG F	224.1	231.7	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.39	-0.01	
BAGHOUSE dP	INWC	7.3	6.6	
AVERAGE ROOF TEMP	DEG F	1199.0	1434.3	
BOTTOM 2ND PASS TEMP	DEG F	1123.5	1367.0	
SEC SPRHTR INLET TEMP	DEG F	856.8	1000.0	
SEC SPRHTR EXIT TEMP	DEG F	768.2	863.0	
PRI SPRHTR EXIT TEMP	DEG F	695.7	773.0	
ECONOMIZER EXIT TEMP	DEG F	397.0	445.0	
SCRUBBER EXIT TEMP	DEG F	288.9	284.7	
BAGHOUSE EXIT TEMP	DEG F	277.7	278.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.4		
CONDENSER INLET TEMP	DEG F	74.7		
CONDENSER EXIT TEMP	DEG F	97.1		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	94.3	83.9	94.9
RELATIVE HUMIDITY	PERCENT	38.8	38.2	78.4
WIND SPEED	MPH	0.2	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/21/98 16:15:02

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	61.9	63.7
TEMPERATURE	DEG F	734.8	806.6
S/H OUTLET PRESSURE	PSIG	854.4	858.1
DRUM PRESSURE	PSIG	919.1	926.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.8	64.0
DRUM LEVEL	INCHES	-2.4	-0.1

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.52	7.45
UNDERFIRE AIR FLOW	KLBS/HR	68.7	63.2
OVERFIRE AIR FLOW	KLBS/HR	36.0	39.9
UNDERFIRE AIR SPLIT	%UFA	65.7	61.3
SCAH INLET TEMP	DEG F	112.2	110.4
SCAH EXIT TEMP	DEG F	224.5	231.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.27	-0.29
BAGHOUSE dP	INWC	6.2	7.4
AVERAGE ROOF TEMP	DEG F	1184.9	1424.0
BOTTOM 2ND PASS TEMP	DEG F	1112.7	1361.0
SEC SPRHTR INLET TEMP	DEG F	842.7	1014.0
SEC SPRHTR EXIT TEMP	DEG F	761.7	870.0
PRI SPRHTR EXIT TEMP	DEG F	690.1	774.0
ECONOMIZER EXIT TEMP	DEG F	392.7	448.0
SCRUBBER EXIT TEMP	DEG F	289.9	289.7
BAGHOUSE EXIT TEMP	DEG F	277.9	280.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	74.7
CONDENSER EXIT TEMP	DEG F	96.7

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.8	83.9	95.0
RELATIVE HUMIDITY	PERCENT	38.6	37.8	78.4
WIND SPEED	MPH	0.4	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/21/98 16:30:03

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.0	65.2
TEMPERATURE	DEG F	743.6	803.7
S/H OUTLET PRESSURE	PSIG	856.3	859.4
DRUM PRESSURE	PSIG	925.3	929.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.5	71.2
DRUM LEVEL	INCHES	-2.0	-1.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.91	8.94
UNDERFIRE AIR FLOW	KLBS/HR	68.9	63.2
OVERFIRE AIR FLOW	KLBS/HR	36.1	39.9
UNDERFIRE AIR SPLIT	%UFA	65.6	61.3
SCAH INLET TEMP	DEG F	112.4	110.5
SCAH EXIT TEMP	DEG F	224.5	231.7

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.14	-0.36
BAGHOUSE dP	INWC	5.4	9.4
AVERAGE ROOF TEMP	DEG F	1210.1	1439.7
BOTTOM 2ND PASS TEMP	DEG F	1127.1	1375.0
SEC SPRHTR INLET TEMP	DEG F	856.0	1022.0
SEC SPRHTR EXIT TEMP	DEG F	763.0	880.0
PRI SPRHTR EXIT TEMP	DEG F	694.6	781.0
ECONOMIZER EXIT TEMP	DEG F	395.1	450.0
SCRUBBER EXIT TEMP	DEG F	290.0	286.7
BAGHOUSE EXIT TEMP	DEG F	280.6	284.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.0
CONDENSER EXIT TEMP	DEG F	97.8

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.8	83.9	95.0
RELATIVE HUMIDITY	PERCENT	38.4	37.8	78.4
WIND SPEED	MPH	1.4	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 16:46:35

		<u>BOILER 1</u>	<u>BOILER 2</u>
<b>STEAM PARAMETERS</b>			
FLOW	KLBS/HR	64.2	67.1
TEMPERATURE	DEG F	743.2	797.4
S/H OUTLET PRESSURE	PSIG	857.2	860.9
DRUM PRESSURE	PSIG	926.6	934.7
<b>FEEDWATER PARAMETERS</b>			
FEEDWATER FLOW	KLBS/HR	66.5	71.2
DRUM LEVEL	INCHES	-2.1	-0.7
<b>COMBUSTION AIR PARAMETERS</b>			
WET O2	PERCENT	8.88	8.25
UNDERFIRE AIR FLOW	KLBS/HR	68.9	63.3
OVERFIRE AIR FLOW	KLBS/HR	36.1	40.0
UNDERFIRE AIR SPLIT	%UFA	65.6	61.2
SCAH INLET TEMP	DEG F	112.0	109.7
SCAH EXIT TEMP	DEG F	224.3	231.3
<b>FURNACE GAS PARAMETERS</b>			
FURNACE PRESSURE	INWC	-0.31	-0.32
BAGHOUSE dP	INWC	6.0	5.1
AVERAGE ROOF TEMP	DEG F	1214.2	1479.3
BOTTOM 2ND PASS TEMP	DEG F	1135.0	1399.0
SEC SPRHTR INLET TEMP	DEG F	860.0	1016.0
SEC SPRHTR EXIT TEMP	DEG F	764.6	870.0
PRI SPRHTR EXIT TEMP	DEG F	694.2	778.0
ECONOMIZER EXIT TEMP	DEG F	395.6	446.0
SCRUBBER EXIT TEMP	DEG F	291.4	277.8
BAGHOUSE EXIT TEMP	DEG F	279.9	274.0
<b>OTHER PARAMETERS</b>			
CONDENSER VACUUM	INHGA	1.4	
CONDENSER INLET TEMP	DEG F	75.5	
CONDENSER EXIT TEMP	DEG F	98.2	

		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	94.6	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.9	37.8	78.4
WIND SPEED	MPH	3.4	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/21/98 17:16:35

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	65.9	64.3
TEMPERATURE	DEG F	741.0	804.8
S/H OUTLET PRESSURE	PSIG	858.1	860.0
DRUM PRESSURE	PSIG	930.9	928.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	67.9	69.3
DRUM LEVEL	INCHES	-2.4	-0.9

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.02	9.15
UNDERFIRE AIR FLOW	KLBS/HR	68.7	63.1
OVERFIRE AIR FLOW	KLBS/HR	36.1	40.2
UNDERFIRE AIR SPLIT	%UFA	65.6	61.1
SCAH INLET TEMP	DEG F	110.2	107.8
SCAH EXIT TEMP	DEG F	223.2	230.5

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.36	-0.32
BAGHOUSE dP	INWC	6.6	6.6
AVERAGE ROOF TEMP	DEG F	1210.9	1445.0
BOTTOM 2ND PASS TEMP	DEG F	1125.5	1375.0
SEC SPRHTR INLET TEMP	DEG F	855.7	1021.0
SEC SPRHTR EXIT TEMP	DEG F	768.2	877.0
PRI SPRHTR EXIT TEMP	DEG F	697.3	785.0
ECONOMIZER EXIT TEMP	DEG F	397.4	450.0
SCRUBBER EXIT TEMP	DEG F	288.9	289.4
BAGHOUSE EXIT TEMP	DEG F	279.1	283.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.4
CONDENSER INLET TEMP	DEG F	75.3
CONDENSER EXIT TEMP	DEG F	97.7

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.3	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.3	37.2	78.4
WIND SPEED	MPH	5.3	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 17:31:35

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	69.2	61.1
TEMPERATURE	DEG F	738.1	808.4
S/H OUTLET PRESSURE	PSIG	858.8	857.2
DRUM PRESSURE	PSIG	937.2	919.7

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	71.8	67.3
DRUM LEVEL	INCHES	-2.2	-1.2

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	10.52	10.94
UNDERFIRE AIR FLOW	KLBS/HR	69.2	63.8
OVERFIRE AIR FLOW	KLBS/HR	35.8	39.7
UNDERFIRE AIR SPLIT	%UFA	65.9	61.6
SCAH INLET TEMP	DEG F	109.2	106.3
SCAH EXIT TEMP	DEG F	222.6	229.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.45	-0.15
BAGHOUSE dP	INWC	6.2	6.0
AVERAGE ROOF TEMP	DEG F	1247.9	1410.3
BOTTOM 2ND PASS TEMP	DEG F	1158.4	1353.0
SEC SPRHTR INLET TEMP	DEG F	868.1	1003.0
SEC SPRHTR EXIT TEMP	DEG F	768.6	873.0
PRI SPRHTR EXIT TEMP	DEG F	697.8	782.0
ECONOMIZER EXIT TEMP	DEG F	394.9	452.0
SCRUBBER EXIT TEMP	DEG F	289.1	285.4
BAGHOUSE EXIT TEMP	DEG F	278.4	281.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.4
CONDENSER INLET TEMP	DEG F	75.3
CONDENSER EXIT TEMP	DEG F	98.3

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	93.9	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.6	37.1	78.4
WIND SPEED	MPH	2.3	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 17:46:36

BOILER 1

BOILER 2

STEAM PARAMETERS

		BOILER 1	BOILER 2
FLOW	KLBS/HR	62.9	62.9
TEMPERATURE	DEG F	735.9	801.5
S/H OUTLET PRESSURE	PSIG	855.0	858.1
DRUM PRESSURE	PSIG	920.9	922.8

FEEDWATER PARAMETERS

		BOILER 1	BOILER 2
FEEDWATER FLOW	KLBS/HR	67.5	65.4
DRUM LEVEL	INCHES	-1.9	-0.7

COMBUSTION AIR PARAMETERS

		BOILER 1	BOILER 2
WET O2	PERCENT	10.19	9.91
UNDERFIRE AIR FLOW	KLBS/HR	77.1	63.1
OVERFIRE AIR FLOW	KLBS/HR	35.6	39.8
UNDERFIRE AIR SPLIT	%UFA	68.4	61.3
SCAH INLET TEMP	DEG F	109.9	107.5
SCAH EXIT TEMP	DEG F	222.9	230.3

FURNACE GAS PARAMETERS

		BOILER 1	BOILER 2
FURNACE PRESSURE	INWC	0.01	-0.39
BAGHOUSE dP	INWC	6.8	6.3
AVERAGE ROOF TEMP	DEG F	1200.9	1418.7
BOTTOM 2ND PASS TEMP	DEG F	1121.7	1349.0
SEC SPRHTR INLET TEMP	DEG F	860.4	990.0
SEC SPRHTR EXIT TEMP	DEG F	761.9	858.0
PRI SPRHTR EXIT TEMP	DEG F	691.2	770.0
ECONOMIZER EXIT TEMP	DEG F	391.3	442.0
SCRUBBER EXIT TEMP	DEG F	289.9	278.4
BAGHOUSE EXIT TEMP	DEG F	279.3	272.0

OTHER PARAMETERS

		BOILER 1	BOILER 2
CONDENSER VACUUM	INHGA	1.3	
CONDENSER INLET TEMP	DEG F	75.2	
CONDENSER EXIT TEMP	DEG F	97.2	

INSTANTANEOUS

LOW

HIGH

WEATHER STATION

		INSTANTANEOUS	LOW	HIGH
AMBIENT AIR TEMP	DEG F	94.6	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.5	37.1	78.4
WIND SPEED	MPH	0.0	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/21/98 18:01:36

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.6	63.2
TEMPERATURE	DEG F	740.7	797.8
S/H OUTLET PRESSURE	PSIG	855.0	858.1
DRUM PRESSURE	PSIG	921.6	924.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	62.8	67.4
DRUM LEVEL	INCHES	-1.9	-0.9

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.37	9.57
UNDERFIRE AIR FLOW	KLBS/HR	68.8	68.9
OVERFIRE AIR FLOW	KLBS/HR	35.9	39.7
UNDERFIRE AIR SPLIT	%UFA	65.7	63.4
SCAH INLET TEMP	DEG F	110.6	108.6
SCAH EXIT TEMP	DEG F	223.4	230.6

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.34	-0.05
BAGHOUSE dP	INWC	7.7	6.4
AVERAGE ROOF TEMP	DEG F	1195.6	1422.7
BOTTOM 2ND PASS TEMP	DEG F	1106.4	1353.0
SEC SPRHTR INLET TEMP	DEG F	855.1	1000.0
SEC SPRHTR EXIT TEMP	DEG F	761.7	863.0
PRI SPRHTR EXIT TEMP	DEG F	691.9	771.0
ECONOMIZER EXIT TEMP	DEG F	393.1	442.0
SCRUBBER EXIT TEMP	DEG F	286.2	283.5
BAGHOUSE EXIT TEMP	DEG F	279.1	275.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.0
CONDENSER EXIT TEMP	DEG F	96.7

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.8	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.3	36.4	78.4
WIND SPEED	MPH	0.0	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 18:16:37

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.2	65.0
TEMPERATURE	DEG F	739.6	801.8
S/H OUTLET PRESSURE	PSIG	855.3	859.4
DRUM PRESSURE	PSIG	920.0	930.3

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.4	69.2
DRUM LEVEL	INCHES	-2.5	-0.8

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	10.72	10.20
UNDERFIRE AIR FLOW	KLBS/HR	69.3	63.1
OVERFIRE AIR FLOW	KLBS/HR	35.7	40.1
UNDERFIRE AIR SPLIT	%UFA	66.0	61.1
SCAH INLET TEMP	DEG F	109.6	107.3
SCAH EXIT TEMP	DEG F	223.0	230.3

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.11	-0.11
BAGHOUSE dP	INWC	7.6	6.5
AVERAGE ROOF TEMP	DEG F	1188.1	1459.0
BOTTOM 2ND PASS TEMP	DEG F	1101.4	1384.0
SEC SPRHTR INLET TEMP	DEG F	845.4	1016.0
SEC SPRHTR EXIT TEMP	DEG F	762.4	870.0
PRI SPRHTR EXIT TEMP	DEG F	692.4	776.0
ECONOMIZER EXIT TEMP	DEG F	395.4	445.0
SCRUBBER EXIT TEMP	DEG F	288.2	285.3
BAGHOUSE EXIT TEMP	DEG F	279.9	279.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	75.2
CONDENSER EXIT TEMP	DEG F	97.6

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.4	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.3	36.4	78.4
WIND SPEED	MPH	1.2	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 18:31:37

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.3	63.9
TEMPERATURE	DEG F	739.2	809.9
S/H OUTLET PRESSURE	PSIG	856.6	859.4
DRUM PRESSURE	PSIG	924.7	926.9

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.5	67.7
DRUM LEVEL	INCHES	-2.0	-0.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.61	9.23
UNDERFIRE AIR FLOW	KLBS/HR	68.4	63.1
OVERFIRE AIR FLOW	KLBS/HR	35.6	39.9
UNDERFIRE AIR SPLIT	%UFA	65.8	61.3
SCAH INLET TEMP	DEG F	108.6	106.3
SCAH EXIT TEMP	DEG F	222.2	229.5

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	0.36	-0.34
BAGHOUSE dP	INWC	11.3	8.0
AVERAGE ROOF TEMP	DEG F	1200.0	1432.3
BOTTOM 2ND PASS TEMP	DEG F	1121.2	1373.0
SEC SPRHTR INLET TEMP	DEG F	849.7	1030.0
SEC SPRHTR EXIT TEMP	DEG F	760.3	884.0
PRI SPRHTR EXIT TEMP	DEG F	691.9	787.0
ECONOMIZER EXIT TEMP	DEG F	395.4	456.0
SCRUBBER EXIT TEMP	DEG F	289.7	290.2
BAGHOUSE EXIT TEMP	DEG F	280.6	280.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.4
CONDENSER INLET TEMP	DEG F	75.2
CONDENSER EXIT TEMP	DEG F	97.5

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	94.4	83.9	95.0
RELATIVE HUMIDITY	PERCENT	37.9	36.4	78.4
WIND SPEED	MPH	2.8	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 18:46:38

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	65.3	63.3	
TEMPERATURE	DEG F	738.5	809.5	
S/H OUTLET PRESSURE	PSIG	856.3	858.1	
DRUM PRESSURE	PSIG	926.3	925.0	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	66.7	67.1	
DRUM LEVEL	INCHES	-2.3	-0.7	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.35	9.75	
UNDERFIRE AIR FLOW	KLBS/HR	69.3	63.2	
OVERFIRE AIR FLOW	KLBS/HR	35.8	40.0	
UNDERFIRE AIR SPLIT	%UFA	66.0	61.2	
SCAH INLET TEMP	DEG F	107.8	105.6	
SCAH EXIT TEMP	DEG F	221.9	229.3	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.41	-0.30	
BAGHOUSE dP	INWC	6.9	7.0	
AVERAGE ROOF TEMP	DEG F	1199.0	1418.3	
BOTTOM 2ND PASS TEMP	DEG F	1109.7	1361.0	
SEC SPRHTR INLET TEMP	DEG F	857.8	1006.0	
SEC SPRHTR EXIT TEMP	DEG F	763.5	871.0	
PRI SPRHTR EXIT TEMP	DEG F	693.5	780.0	
ECONOMIZER EXIT TEMP	DEG F	396.0	451.0	
SCRUBBER EXIT TEMP	DEG F	289.7	278.7	
BAGHOUSE EXIT TEMP	DEG F	281.1	278.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.4		
CONDENSER INLET TEMP	DEG F	74.9		
CONDENSER EXIT TEMP	DEG F	97.1		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	92.9	83.9	95.0
RELATIVE HUMIDITY	PERCENT	39.1	36.4	78.4
WIND SPEED	MPH	2.1	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 19:01:38

		BOILER 1	BOILER 2			
				INSTANTANEOUS	LOW	HIGH
<b>STEAM PARAMETERS</b>						
FLOW	KLBS/HR	65.9	63.1			
TEMPERATURE	DEG F	739.6	800.7			
S/H OUTLET PRESSURE	PSIG	856.6	858.1			
DRUM PRESSURE	PSIG	927.2	924.7			
<b>FEEDWATER PARAMETERS</b>						
FEEDWATER FLOW	KLBS/HR	67.2	67.7			
DRUM LEVEL	INCHES	-2.4	-1.1			
<b>COMBUSTION AIR PARAMETERS</b>						
WET O2	PERCENT	8.76	9.76			
UNDERFIRE AIR FLOW	KLBS/HR	69.5	62.4			
OVERFIRE AIR FLOW	KLBS/HR	35.9	39.8			
UNDERFIRE AIR SPLIT	%UFA	65.9	61.1			
SCAH INLET TEMP	DEG F	106.7	104.2			
SCAH EXIT TEMP	DEG F	221.2	228.6			
<b>FURNACE GAS PARAMETERS</b>						
FURNACE PRESSURE	INWC	-0.45	-0.22			
BAGHOUSE dP	INWC	7.1	7.2			
AVERAGE ROOF TEMP	DEG F	1205.3	1415.0			
BOTTOM 2ND PASS TEMP	DEG F	1122.4	1355.0			
SEC SPRHTR INLET TEMP	DEG F	856.6	1005.0			
SEC SPRHTR EXIT TEMP	DEG F	763.5	870.0			
PRI SPRHTR EXIT TEMP	DEG F	693.5	777.0			
ECONOMIZER EXIT TEMP	DEG F	395.1	447.0			
SCRUBBER EXIT TEMP	DEG F	288.0	278.4			
BAGHOUSE EXIT TEMP	DEG F	279.3	272.0			
<b>OTHER PARAMETERS</b>						
CONDENSER VACUUM	INHGA	1.3				
CONDENSER INLET TEMP	DEG F	75.1				
CONDENSER EXIT TEMP	DEG F	97.3				
<b>WEATHER STATION</b>						
AMBIENT AIR TEMP	DEG F	92.6	83.9	95.0		
RELATIVE HUMIDITY	PERCENT	39.7	36.4	78.4		
WIND SPEED	MPH	2.5	0.0	12.3		

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 19:16:39

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	60.4	65.0	
TEMPERATURE	DEG F	734.8	802.9	
S/H OUTLET PRESSURE	PSIG	853.1	859.1	
DRUM PRESSURE	PSIG	912.8	928.8	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	62.6	68.4	
DRUM LEVEL	INCHES	-2.4	-0.8	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	10.17	9.38	
UNDERFIRE AIR FLOW	KLBS/HR	69.2	63.1	
OVERFIRE AIR FLOW	KLBS/HR	35.8	40.0	
UNDERFIRE AIR SPLIT	%UFA	65.9	61.2	
SCAH INLET TEMP	DEG F	105.8	102.9	
SCAH EXIT TEMP	DEG F	220.7	227.7	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.40	-0.25	
BAGHOUSE dP	INWC	7.7	7.7	
AVERAGE ROOF TEMP	DEG F	1165.7	1435.3	
BOTTOM 2ND PASS TEMP	DEG F	1079.2	1368.0	
SEC SPRHTR INLET TEMP	DEG F	828.9	1013.0	
SEC SPRHTR EXIT TEMP	DEG F	759.9	873.0	
PRI SPRHTR EXIT TEMP	DEG F	689.5	778.0	
ECONOMIZER EXIT TEMP	DEG F	393.6	445.0	
SCRUBBER EXIT TEMP	DEG F	287.4	286.2	
BAGHOUSE EXIT TEMP	DEG F	279.1	278.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.2		
CONDENSER INLET TEMP	DEG F	74.9		
CONDENSER EXIT TEMP	DEG F	96.6		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	92.5	83.9	95.0
RELATIVE HUMIDITY	PERCENT	41.7	36.4	78.4
WIND SPEED	MPH	14.9	0.0	12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/21/98 17:01:34

		BOILER 1	BOILER 2			
				INSTANTANEOUS	LOW	HIGH
<b>STEAM PARAMETERS</b>						
FLOW	KLBS/HR	65.9	65.0			
TEMPERATURE	DEG F	744.0	796.7			
S/H OUTLET PRESSURE	PSIG	858.1	859.4			
DRUM PRESSURE	PSIG	930.3	929.4			
<b>FEEDWATER PARAMETERS</b>						
FEEDWATER FLOW	KLBS/HR	65.8	69.9			
DRUM LEVEL	INCHES	-2.0	-1.0			
<b>COMBUSTION AIR PARAMETERS</b>						
WET O2	PERCENT	8.65	8.78			
UNDERFIRE AIR FLOW	KLBS/HR	69.0	62.9			
OVERFIRE AIR FLOW	KLBS/HR	35.9	40.2			
UNDERFIRE AIR SPLIT	%UFA	65.8	61.0			
SCAH INLET TEMP	DEG F	111.4	109.0			
SCAH EXIT TEMP	DEG F	223.7	230.9			
<b>FURNACE GAS PARAMETERS</b>						
FURNACE PRESSURE	INWC	-0.43	-0.32			
BAGHOUSE dP	INWC	6.3	5.9			
AVERAGE ROOF TEMP	DEG F	1222.8	1454.3			
BOTTOM 2ND PASS TEMP	DEG F	1129.3	1379.0			
SEC SPRHTR INLET TEMP	DEG F	853.3	1012.0			
SEC SPRHTR EXIT TEMP	DEG F	767.1	870.0			
PRI SPRHTR EXIT TEMP	DEG F	697.1	778.0			
ECONOMIZER EXIT TEMP	DEG F	396.9	445.0			
SCRUBBER EXIT TEMP	DEG F	288.8	287.6			
BAGHOUSE EXIT TEMP	DEG F	279.3	279.0			
<b>OTHER PARAMETERS</b>						
CONDENSER VACUUM	INHGA		1.4			
CONDENSER INLET TEMP	DEG F		75.5			
CONDENSER EXIT TEMP	DEG F		98.0			
<b>WEATHER STATION</b>						
AMBIENT AIR TEMP	DEG F	94.4	83.9			95.0
RELATIVE HUMIDITY	PERCENT	37.5	37.3			78.4
WIND SPEED	MPH	1.8	0.0			12.3

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

DATA LISTING

NAME: U-1&2 6M PROCESS LOCATION: OMS of LAKE STATION ID: 6

CHAN NAME	1STMf	1SDAt	1UFaf	1OFaf	2STMf	2SDAt	2UFaf	2OFaf
CHAN UNITS	K#/HR	DEG f	K#/HR	K#/HR	K#/HR	DEG f	K#/HR	K#/HR
FULL SCALE	75.0	600.0	130.0	50.0	75.0	600.0	130.0	50.0
ZERO OFFSET	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
START / CHANNEL	01	02	03	04	05	06	07	08
04/21/98 10:06	63.4	289.8	68.9	35.7	61.2	284.5	68.3	40.8
04/21/98 10:12	62.4	290.8	68.3	35.7	62.1	289.0	69.2	40.7
04/21/98 10:18	61.7	292.3	68.8	35.8	62.8	294.5	69.4	40.9
04/21/98 10:24	62.5	288.5	68.9	35.7	62.5	298.0	68.4	40.6
04/21/98 10:30	62.6	291.3	69.0	35.7	61.4	295.0	68.8	40.8
04/21/98 10:36	63.2	290.3	68.8	35.8	66.7	284.3	69.5	40.9
04/21/98 10:42	62.0	288.5	68.3	35.7	63.8	270.5	69.3	40.8
04/21/98 10:48	62.7	292.3	68.8	35.9	64.0	265.8	69.0	40.9
04/21/98 10:54	64.6	290.0	69.0	36.0	63.8	277.3	68.6	41.2
04/21/98 11:00	64.1	289.8	68.4	35.9	64.5	292.5	69.0	41.2
04/21/98 11:06	64.2	291.5	69.6	36.0	62.3	299.0	69.0	41.1
04/21/98 11:12	62.8	290.0	68.4	36.0	62.7	285.8	68.6	41.0
04/21/98 11:18	62.6	289.3	69.1	35.9	59.7	279.3	69.9	41.4
04/21/98 11:24	64.7	291.5	68.8	35.9	60.1	277.3	68.5	41.1
04/21/98 11:30	63.5	290.5	68.3	35.9	62.6	279.8	69.1	40.9
04/21/98 11:36	62.3	289.8	69.0	35.9	61.8	282.5	70.0	40.8
04/21/98 11:42	60.3	291.3	68.6	35.9	61.4	287.5	68.6	40.7
04/21/98 11:48	60.1	290.8	68.7	35.8	61.8	298.8	69.0	40.5
04/21/98 11:54	62.6	292.0	68.8	35.9	62.2	288.8	69.7	41.1
04/21/98 12:00	65.1	289.8	68.4	35.9	62.4	274.5	68.5	40.8
04/21/98 12:06	63.8	289.8	69.0	35.9	63.5	263.5	68.5	40.7
04/21/98 12:12	63.2	290.8	68.8	35.9	64.4	266.5	66.4	40.7
04/21/98 12:18	66.3	292.0	68.3	36.0	63.0	277.3	63.6	40.7
04/21/98 12:24	65.7	287.8	68.8	35.9	63.6	280.5	62.8	40.6
04/21/98 12:30	64.3	291.8	68.9	35.9	62.0	279.0	62.7	40.5
04/21/98 12:36	63.3	289.5	69.1	35.9	62.3	277.8	63.0	40.3
04/21/98 12:42	62.0	291.5	68.8	35.9	61.5	274.0	62.7	40.0
04/21/98 12:48	62.3	291.3	68.2	35.9	62.2	272.5	62.5	40.0
04/21/98 12:54	62.5	289.8	69.0	35.9	63.0	273.8	63.0	40.2
04/21/98 13:00	62.4	291.8	68.6	35.9	62.9	277.5	62.9	40.0
Minimum	60.1	287.8	68.2	35.7	59.7	263.5	62.5	40.0
5-minute Values								
Maximum	66.3	292.3	69.6	36.0	66.7	299.0	70.0	41.4
Average	63.1	290.5	68.7	35.9	62.6	281.5	67.3	40.7
Total	1893.0	8715.3	2062.3	1075.9	1878.0	8446.5	2018.6	1221.6
Recovery (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

DATA LISTING

NAME: U-1&2 6M PROCESS LOCATION: OMS of LAKE STATION ID: 6

CHAN NAME	1STMF	1SDAt	1UFaf	1OFaf	2STMF	2SDAt	2UFaf	2OFaf
CHAN UNITS	K#/HR	DEG f	K#/HR	K#/HR	K#/HR	DEG f	K#/HR	K#/HR
FULL SCALE	75.0	600.0	130.0	50.0	75.0	600.0	130.0	50.0
ZERO OFFSET	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
START / CHANNEL	01	02	03	04	05	06	07	08
04/21/98 14:00	62.8	290.8	69.2	35.9	62.9	275.3	62.8	40.3
04/21/98 14:06	63.8	290.8	68.5	35.9	60.6	278.3	62.0	40.1
04/21/98 14:12	63.3	289.8	69.0	35.9	60.8	287.0	63.1	39.7
04/21/98 14:18	63.5	294.0	68.7	35.9	67.8	296.0	63.4	40.1
04/21/98 14:24	62.4	286.8	68.3	35.9	63.8	292.5	63.1	40.7
04/21/98 14:30	62.6	293.0	68.7	36.0	64.3	275.3	63.3	40.2
04/21/98 14:36	64.1	289.8	68.8	35.9	65.9	266.8	62.5	40.2
04/21/98 14:42	63.8	288.5	69.1	36.0	67.4	272.3	63.7	40.2
04/21/98 14:48	62.9	290.0	69.0	36.0	64.6	276.5	62.7	40.2
04/21/98 14:54	63.1	293.0	68.3	36.0	62.4	280.0	62.9	40.2
04/21/98 15:00	64.0	289.8	69.0	36.0	62.5	282.8	62.9	40.2
04/21/98 15:06	63.7	290.3	69.0	36.0	61.2	284.0	62.3	40.0
04/21/98 15:12	62.2	289.5	68.4	36.0	61.7	288.5	62.9	39.9
04/21/98 15:18	62.0	291.8	69.0	36.0	63.1	296.5	62.9	40.1
04/21/98 15:24	61.7	292.3	68.5	36.1	62.1	287.0	63.1	40.3
04/21/98 15:30	62.3	291.8	69.0	36.0	65.4	275.0	62.8	40.1
04/21/98 15:36	63.4	291.0	68.8	36.1	66.6	274.5	62.5	40.0
04/21/98 15:42	62.5	288.8	68.3	36.1	63.6	274.8	62.9	40.0
04/21/98 15:48	64.1	289.8	69.0	36.1	62.7	278.8	62.6	40.0
04/21/98 15:54	63.7	289.8	68.9	36.1	62.5	281.8	62.9	40.0
04/21/98 16:00	63.9	291.3	68.3	36.0	59.0	281.8	62.6	39.6
04/21/98 16:06	62.3	290.0	69.5	36.0	58.8	282.3	62.2	39.4
04/21/98 16:12	61.3	290.5	68.4	36.0	62.7	286.8	63.4	39.7
04/21/98 16:18	61.4	291.8	68.8	35.9	66.3	290.3	63.0	40.1
Minimum	16:12	14:24	14:24	16:18	16:06	14:36	14:06	16:06
6-minute Values	61.3	286.8	68.3	35.9	58.8	266.8	62.0	39.4
Maximum	64.1	294.0	69.5	36.1	67.8	296.5	63.7	40.7
	14:36	14:18	16:06	15:24	14:18	15:18	14:42	14:24
Average	62.9	290.6	68.8	36.0	63.3	281.8	62.8	40.0
Total	1510.7	6974.3	1650.3	863.5	1518.6	6764.3	1508.3	960.6
Recovery (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

DATA LISTING

NAME: U-1&2 6M PROCESS LOCATION: OMS of LAKE STATION ID: 6

CHAN NAME	1STMf	1SDat	1UFaf	1OFaf	2STMf	2SDat	2UFaf	2OFaf
CHAN UNITS	K#/HR	DEG f	K#/HR	K#/HR	K#/HR	DEG f	K#/HR	K#/HR
FULL SCALE	75.0	600.0	130.0	50.0	75.0	600.0	130.0	50.0
ZERO OFFSET	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
START / CHANNEL	01	02	03	04	05	06	07	08
04/21/98 16:42	63.1	292.8	68.7	36.0	65.9	275.3	63.2	40.0
04/21/98 16:48	63.0	288.5	68.7	35.9	66.8	277.0	62.8	40.0
04/21/98 16:54	63.5	292.3	69.2	35.9	64.9	281.5	62.7	40.0
04/21/98 17:00	65.1	289.8	68.3	35.9	64.2	285.3	63.0	40.0
04/21/98 17:06	65.6	291.3	69.2	35.9	66.0	288.0	62.6	40.0
04/21/98 17:12	64.6	290.5	68.7	35.9	63.0	286.8	62.9	40.0
04/21/98 17:18	66.2	289.8	68.4	35.8	64.6	287.5	62.9	40.0
04/21/98 17:24	67.0	290.3	68.8	35.8	63.0	287.3	62.7	40.1
04/21/98 17:30	66.2	289.3	69.0	35.7	59.8	281.3	62.7	39.7
04/21/98 17:36	63.2	290.5	69.0	35.7	59.8	275.8	62.7	39.3
04/21/98 17:42	63.3	292.5	68.8	35.7	62.1	275.8	63.1	39.8
04/21/98 17:48	61.5	290.5	69.4	35.7	62.1	277.5	62.7	39.8
04/21/98 17:54	63.7	291.8	68.3	35.8	62.4	279.3	62.5	39.8
04/21/98 18:00	63.3	289.0	69.0	35.7	61.8	281.0	62.9	39.8
04/21/98 18:06	63.1	291.5	69.1	35.8	62.9	282.3	63.0	39.9
04/21/98 18:12	63.9	291.0	68.4	35.8	64.1	282.5	63.1	39.9
04/21/98 18:18	62.9	289.3	69.0	35.8	62.4	282.0	63.1	40.0
04/21/98 18:24	63.4	292.3	68.9	35.8	63.1	284.3	62.5	40.0
04/21/98 18:30	64.5	290.3	69.2	35.7	62.3	287.5	63.1	40.0
04/21/98 18:36	65.8	291.3	68.8	35.8	61.4	284.5	62.6	39.7
04/21/98 18:42	64.8	291.0	68.3	35.8	61.8	277.8	62.5	39.8
04/21/98 18:48	64.7	290.0	68.9	35.8	62.4	274.0	62.9	39.8
04/21/98 18:54	65.3	289.8	68.8	35.8	63.3	273.5	62.9	40.0
04/21/98 19:00	63.7	289.8	68.4	35.7	62.1	276.5	62.9	39.9
04/21/98 19:06	63.1	291.3	69.5	35.8	63.0	281.0	62.8	39.9
04/21/98 19:12	61.0	289.5	68.4	35.8	63.7	283.0	62.4	40.0
Minimum	19:12	16:48	17:00	17:36	17:36	18:54	19:12	17:36
6-minute Values	61.0	288.5	68.3	35.7	59.8	273.5	62.4	39.3
Maximum	67.0	292.8	69.5	36.0	66.8	288.0	63.2	40.1
	17:24	16:42	19:06	16:42	16:48	17:06	16:42	17:24
Average	64.0	290.6	68.8	35.8	63.0	281.1	62.8	39.9
Total	1665.2	7555.3	1789.0	930.5	1638.7	7307.8	1632.9	1037.0
Recovery (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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+157.572 1b ACCUM  
8 ACC ENTRIES

+39.1428 1b GROSS  
+39.1428 1b NET  
+176.263 1b ACCUM  
9 ACC ENTRIES

+13.3785 1b GROSS  
+13.3785 1b NET  
+215.389 1b ACCUM  
10 ACC ENTRIES

+23.9965 1b GROSS  
+23.9965 1b NET  
+228.768 1b ACCUM  
11 ACC ENTRIES

+28.3878 1b GROSS  
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+252.765 1b ACCUM  
12 ACC ENTRIES

+37.8258 1b GROSS  
+37.8258 1b NET  
+281.151 1b ACCUM  
13 ACC ENTRIES

+28.9288 1b GROSS  
+28.9288 1b NET  
+318.176 1b ACCUM  
14 ACC ENTRIES

+23.2365 1b GROSS  
+23.2365 1b NET  
+339.164 1b ACCUM  
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+26.3408 1b GROSS  
+26.3408 1b NET  
+362.341 1b ACCUM  
16 ACC ENTRIES

+21.3198 1b GROSS  
+21.3198 1b NET  
+388.681 1b ACCUM  
17 ACC ENTRIES

+21.3195 1b GROSS  
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18 ACC ENTRIES

+11.7388 1b GROSS  
+11.7388 1b NET

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1 ACC ENTRIES

+24.8515 1b GROSS  
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+53.4428 1b ACCUM  
2 ACC ENTRIES

+25.8335 1b GROSS  
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3 ACC ENTRIES

+48.8748 1b GROSS  
+48.8748 1b NET  
+183.326 1b ACCUM  
4 ACC ENTRIES

+16.4888 1b GROSS  
+16.4888 1b NET  
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+41.3318 1b GROSS  
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+159.789 1b ACCUM  
6 ACC ENTRIES

+6.1688 1b GROSS  
+6.1688 1b NET  
+281.128 1b ACCUM  
7 ACC ENTRIES

BEST AVAILABLE COPY

+27.4635 1b GROSS  
+27.4635 1b NET  
+267.208 1b ACCUM  
8 ACC ENTRIES

+34.0120 1b GROSS  
+34.0120 1b NET  
+234.701 1b ACCUM  
9 ACC ENTRIES

+22.0690 1b GROSS  
+22.0690 1b NET  
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+31.7910 1b GROSS  
+31.7910 1b NET  
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11 ACC ENTRIES

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+21.4905 1b GROSS  
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+15.9345 1b GROSS  
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+22.2510 1b GROSS  
+22.2510 1b NET  
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+17.8165 1b GROSS  
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+190.303 1b ACCUM  
13 ACC ENTRIES

+8.0015 1b GROSS  
+8.0015 1b NET  
+214.134 1b ACCUM  
15 ACC ENTRIES

~~+8.0405 1b GROSS~~  
+0.0000 1b GROSS  
+0.0000 1b NET

+0.0000 1b GROSS  
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BEST AVAILABLE COPY

+14.1660 1b GROSS  
+14.1660 1b NET

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+13.7290 1b GROSS  
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1 ACC ENTRIES

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+28.0460 1b GROSS  
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2 ACC ENTRIES

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3 ACC ENTRIES

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4 ACC ENTRIES

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5 ACC ENTRIES

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6 ACC ENTRIES

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+16.1985 1b GROSS  
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+11.6000 1b GROSS  
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12 ACC ENTRIES

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14 ACC ENTRIES

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16 ACC ENTRIES

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+26.3945 1b GROSS  
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1 ACC ENTRIES

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+22.3240 1b GROSS  
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2 ACC ENTRIES

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+18.1440 1b GROSS  
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3 ACC ENTRIES

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+17.0370 1b GROSS  
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4 ACC ENTRIES

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+17.2290 1b GROSS  
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5 ACC ENTRIES

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+10.8605 1b GROSS  
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6 ACC ENTRIES

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+22.7840 1b GROSS  
+22.7840 1b NET  
+148.972 1b ACCUM  
8 ACC ENTRIES

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+13.6715 1b GROSS  
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+171.756 1b ACCUM  
9 ACC ENTRIES

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+23.5740 1b GROSS  
+23.5740 1b NET  
+185.427 1b ACCUM  
10 ACC ENTRIES

Best Available Copy

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 +31.5120 1b GROSS  
 +31.5120 1b NET  
 +209.000 1b ACCUM  
 11 ACC ENTRIES

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1 ACC ENTRIES

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3 ACC ENTRIES

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4 ACC ENTRIES

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5 ACC ENTRIES

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6 ACC ENTRIES

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2 ACC ENTRIES

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8 ACC ENTRIES

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2 ACC ENTRIES

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4 ACC ENTRIES

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5 ACC ENTRIES

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6 ACC ENTRIES

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2 ACC ENTRIES

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7 ACC ENTRIES

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11 ACC ENTRIES

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12 ACC ENTRIES

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3 ACC ENTRIES

+17.9570 1b GROSS  
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5 ACC ENTRIES

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6 ACC ENTRIES

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7 ACC ENTRIES

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12 ACC ENTRIES

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13 ACC ENTRIES

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1 ACC ENTRIES

+34.3600 1b GROSS  
+34.3600 1b NET  
+68.7160 1b ACCUM  
2 ACC ENTRIES

+20.2640 1b GROSS  
+20.2640 1b NET  
+103.075 1b ACCUM  
3 ACC ENTRIES

+33.4970 1b GROSS  
+33.4970 1b NET  
+123.339 1b ACCUM  
4 ACC ENTRIES

+17.2820 1b GROSS  
 +17.2820 1b NET  
 +156.853 1b ACCUM  
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 9 ACC ENTRIES

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 11 ACC ENTRIES

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 -0.0005 1b NET  
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 12 ACC ENTRIES

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 +19.9515 1b NET

+33.2805 1b GROSS  
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7 ACC ENTRIES

+15.4065 1b GROSS  
+15.4065 1b NET  
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8 ACC ENTRIES

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+29.1990 1b GROSS  
+29.1990 1b NET  
+201.549 1b ACCUM  
9 ACC ENTRIES

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+15.2915 1b GROSS  
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+15.2145 1b GROSS  
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+4.8595 1b GROSS  
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12 ACC ENTRIES

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+35.4805 1b GROSS  
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13 ACC ENTRIES

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Best Available Copy

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9 ACC ENTRIES

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2 ACC ENTRIES

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## BEST AVAILABLE COPY

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 9 ACC ENTRIES

## Best Available Copy

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 +9.3530 1b NET  
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 10 ACC ENTRIES

+44.1680 1b GROSS  
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 12 ACC ENTRIES

+20.6985 1b GROSS  
 +20.6985 1b NET  
 +280.747 1b ACCUM  
 13 ACC ENTRIES

+25.0795 1b GROSS  
 +25.0795 1b NET  
 +301.446 1b ACCUM  
 14 ACC ENTRIES

+16.7245 1b GROSS  
 +16.7245 1b NET  
 +326.525 1b ACCUM  
 15 ACC ENTRIES

+26.3410 1b GROSS  
 +26.3410 1b NET  
 +343.250 1b ACCUM  
 16 ACC ENTRIES

+26.3410 1b GROSS  
 +26.3410 1b NET  
 +369.591 1b ACCUM  
 17 ACC ENTRIES

+32.9960 1b GROSS  
 +32.9960 1b NET

+27.4375 1b GROSS  
 +27.4375 1b NET  
 +32.9875 1b ACCUM  
 1 ACC ENTRIES

+35.3505 1b GROSS  
 +35.3505 1b NET  
 +60.4250 1b ACCUM  
 2 ACC ENTRIES

+38.8750 1b GROSS  
 +38.8750 1b NET  
 +95.7630 1b ACCUM  
 3 ACC ENTRIES

+28.6410 1b GROSS  
 +28.6410 1b NET  
 +134.637 1b ACCUM  
 4 ACC ENTRIES

+21.1195 1b GROSS  
 +21.1195 1b NET  
 +163.278 1b ACCUM  
 5 ACC ENTRIES

+11.6350 1b GROSS  
 +11.6350 1b NET  
 +184.396 1b ACCUM  
 6 ACC ENTRIES

+21.8895 1b GROSS  
 +21.8895 1b NET  
 +196.031 1b ACCUM  
 7 ACC ENTRIES

+20.2245 1b GROSS  
 +20.2245 1b NET  
 +217.920 1b ACCUM  
 8 ACC ENTRIES

+16.2215 1b GROSS  
 +16.2215 1b NET  
 +238.145 1b ACCUM  
 9 ACC ENTRIES

+20.6315 1b GROSS  
 +20.6315 1b NET  
 +238.144 1b ACCUM  
 10 ACC ENTRIES

+29.1165 1b GROSS  
 +29.1165 1b NET  
 +258.775 1b ACCUM  
 11 ACC ENTRIES

+28.2690 1b GROSS  
 +28.2690 1b NET  
 +287.889 1b ACCUM  
 12 ACC ENTRIES

+8.7700 1b GROSS  
+8.7700 1b NET  
+171.505 1b ACCUM  
8 ACC ENTRIES

+30.3810 1b GROSS  
+30.3810 1b NET  
+180.274 1b ACCUM  
9 ACC ENTRIES

+9.3350 1b GROSS  
+9.3350 1b NET  
+210.655 1b ACCUM  
10 ACC ENTRIES

+11.7515 1b GROSS  
+11.7515 1b NET  
+219.988 1b ACCUM  
11 ACC ENTRIES

-0.0010 1b GROSS  
-0.0010 1b NET  
+231.739 1b ACCUM  
12 ACC ENTRIES

+22.2595 1b GROSS  
+22.2595 1b NET

+21.3025 1b GROSS  
+21.3025 1b NET  
+22.2530 1b ACCUM  
1 ACC ENTRIES

+17.9545 1b GROSS  
+17.9545 1b NET  
+43.5550 1b ACCUM  
2 ACC ENTRIES

+26.6025 1b GROSS  
+26.6025 1b NET  
+61.7425 1b ACCUM  
3 ACC ENTRIES

+25.0460 1b GROSS  
+25.0460 1b NET  
+88.3445 1b ACCUM  
4 ACC ENTRIES

+9.7150 1b GROSS  
+9.7150 1b NET  
+113.391 1b ACCUM  
5 ACC ENTRIES

+28.3980 1b GROSS  
+28.3980 1b NET  
+123.106 1b ACCUM  
6 ACC ENTRIES

+31.2195 1b GROSS  
+31.2195 1b NET  
+151.652 1b ACCUM  
7 ACC ENTRIES

+31.9155 1b GROSS  
+31.9155 1b NET  
+182.833 1b ACCUM  
8 ACC ENTRIES

+28.3230 1b GROSS  
+28.3230 1b NET  
+214.748 1b ACCUM  
9 ACC ENTRIES

+36.6850 1b GROSS  
+36.6850 1b NET  
+243.071 1b ACCUM  
10 ACC ENTRIES

+9.4105 1b GROSS  
+9.4105 1b NET  
+279.756 1b ACCUM  
11 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+289.167 1b ACCUM  
12 ACC ENTRIES

+0.0010 1b GROSS  
+0.0010 1b NET  
+316.158 1b ACCUM  
13 ACC ENTRIES

+13.5210 1b GROSS  
+13.5210 1b NET

+37.8235 1b GROSS  
+37.8235 1b NET  
+13.5210 1b ACCUM  
1 ACC ENTRIES

+13.1420 1b GROSS  
+13.1420 1b NET  
+50.1130 1b ACCUM  
2 ACC ENTRIES

+19.6385 1b GROSS  
+19.6385 1b NET  
+63.1850 1b ACCUM  
3 ACC ENTRIES

+31.9195 1b GROSS  
+31.9195 1b NET  
+82.8270 1b ACCUM  
4 ACC ENTRIES

+11.8780 1b GROSS  
+11.8780 1b NET  
+114.746 1b ACCUM  
5 ACC ENTRIES

+13.3775 1b GROSS  
+13.3775 1b NET  
+126.624 1b ACCUM  
6 ACC ENTRIES

+31.5280 1b GROSS  
+31.5280 1b NET  
+140.001 1b ACCUM  
7 ACC ENTRIES

+22.2135 1b GROSS  
+22.2135 1b NET

+32.2520 1b GROSS  
+32.2520 1b NET  
+22.2135 1b ACCUM  
1 ACC ENTRIES

+33.1560 1b GROSS  
+33.1560 1b NET  
+54.4665 1b ACCUM  
2 ACC ENTRIES

+29.8670 1b GROSS  
+29.8670 1b NET  
+87.6020 1b ACCUM  
3 ACC ENTRIES

+32.9985 1b GROSS  
+32.9985 1b NET  
+117.469 1b ACCUM  
4 ACC ENTRIES

+30.5485 1b GROSS  
+30.5485 1b NET  
+150.467 1b ACCUM  
5 ACC ENTRIES

+22.2010 1b GROSS  
+22.2010 1b NET  
+181.016 1b ACCUM  
6 ACC ENTRIES

+16.4455 1b GROSS  
+16.4455 1b NET  
+203.216 1b ACCUM  
7 ACC ENTRIES

+21.3125 1b GROSS  
+21.3125 1b NET  
+219.676 1b ACCUM  
8 ACC ENTRIES

+16.5965 1b GROSS  
+16.5965 1b NET  
+240.988 1b ACCUM  
9 ACC ENTRIES

+23.5410 1b GROSS  
+23.5410 1b NET  
+257.585 1b ACCUM  
10 ACC ENTRIES

+37.3680 1b GROSS  
+37.3680 1b NET  
+281.125 1b ACCUM  
11 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+318.493 1b ACCUM  
12 ACC ENTRIES

+21.9590 1b GROSS  
+21.9590 1b NET

+17.9625 1b GROSS  
+17.9625 1b NET  
+22.1415 1b ACCUM  
1 ACC ENTRIES

+18.8315 1b GROSS  
+18.8315 1b NET  
+40.1040 1b ACCUM  
2 ACC ENTRIES

+33.6550 1b GROSS  
+33.6550 1b NET  
+59.9250 1b ACCUM  
3 ACC ENTRIES

+12.9630 1b GROSS  
+12.9630 1b NET  
+93.1040 1b ACCUM  
4 ACC ENTRIES

+10.0165 1b GROSS  
+10.0165 1b NET  
+106.066 1b ACCUM  
5 ACC ENTRIES

+24.9925 1b GROSS  
+24.9925 1b NET  
+116.083 1b ACCUM  
6 ACC ENTRIES

+32.3895 1b GROSS  
+32.3895 1b NET  
+141.076 1b ACCUM  
7 ACC ENTRIES

+8.9120 1b GROSS  
+8.9120 1b NET  
+141.076 1b ACCUM  
7 ACC ENTRIES

+17.3700 1b GROSS  
+17.3700 1b NET  
+150.189 1b ACCUM  
8 ACC ENTRIES

+34.8475 1b GROSS  
+34.8475 1b NET  
+167.559 1b ACCUM  
9 ACC ENTRIES

+29.7540 1b GROSS  
+29.7540 1b NET  
+202.378 1b ACCUM  
10 ACC ENTRIES

+21.8920 1b GROSS  
+21.8920 1b NET  
+231.652 1b ACCUM  
11 ACC ENTRIES

-0.0015 1b GROSS  
-0.0015 1b NET  
+253.545 1b ACCUM  
12 ACC ENTRIES

1 of 1  
**BEST AVAILABLE COPY**

+13.6245 1b GROSS  
+13.6245 1b NET

+10.3360 1b GROSS  
+10.3360 1b NET  
+13.6240 1b ACCUM  
1 ACC ENTRIES

+7.7795 1b GROSS  
+7.7795 1b NET  
+23.9600 1b ACCUM  
2 ACC ENTRIES

+7.5850 1b GROSS  
+7.5850 1b NET  
+31.7395 1b ACCUM  
3 ACC ENTRIES

+5.5540 1b GROSS  
+5.5540 1b NET  
+39.3245 1b ACCUM  
4 ACC ENTRIES

+18.0455 1b GROSS  
+18.0455 1b NET  
+44.8785 1b ACCUM  
5 ACC ENTRIES

+7.0875 1b GROSS  
+7.0875 1b NET  
+62.9240 1b ACCUM  
6 ACC ENTRIES

+10.3870 1b GROSS  
+10.3870 1b NET  
+70.0120 1b ACCUM  
7 ACC ENTRIES

+23.1885 1b GROSS  
+23.1885 1b NET  
+80.3985 1b ACCUM  
8 ACC ENTRIES

+10.9565 1b GROSS  
+10.9565 1b NET  
+103.587 1b ACCUM  
9 ACC ENTRIES

+2.7635 1b GROSS  
+2.7635 1b NET  
+114.545 1b ACCUM  
10 ACC ENTRIES

+9.5495 1b GROSS  
+9.5495 1b NET  
+117.308 1b ACCUM  
11 ACC ENTRIES

+26.6185 1b GROSS  
+26.6185 1b NET  
+126.857 1b ACCUM  
12 ACC ENTRIES

+12.8420 1b GROSS  
+12.8420 1b NET  
+153.479 1b ACCUM  
13 ACC ENTRIES

-0.0005 1b GROSS  
-0.0005 1b NET  
+166.321 1b ACCUM  
14 ACC ENTRIES

Best Available Copy

10:23 04/21/98  
 CH 1 AD G+03560 1b  
 10:30 04/21/98  
 CH 2 AD G+01420 1b  
 10:34 04/21/98  
 CH 2 AD G+01540 1b  
 10:35 04/21/98  
 CH 1 AD G+02960 1b  
 10:37 04/21/98  
 CH 2 AD G+01660 1b  
 10:40 04/21/98  
 CH 1 AD G+03000 1b  
 10:49 04/21/98  
 CH 1 AD G+03020 1b  
 11:00 04/21/98  
 CH 1 AD G+03440 1b  
 11:06 04/21/98  
 CH 1 AD G+01700 1b  
 11:20 04/21/98  
 CH 2 AD G+01260 1b  
 11:24 04/21/98  
 CH 2 AD G+01760 1b  
 11:25 04/21/98  
 CH 2 AD G+01500 1b  
 11:27 04/21/98  
 CH 2 AD G+01840 1b  
 11:30 04/21/98  
 CH 1 AD G+02920 1b  
 11:40 04/21/98  
 CH 1 AD G+03140 1b  
 11:51 04/21/98  
 CH 1 AD G+03280 1b  
 11:56 04/21/98  
 CH 2 AD G+02000 1b  
 11:59 04/21/98  
 CH 2 AD G+01460 1b  
 HOURLY  
 12:00 04/21/98  
 CH 1 +00031620 1b  
 CH 2 +00022380 1b  
 12:02 04/21/98  
 CH 1 AD G+02360 1b  
 12:04 04/21/98  
 CH 1 AD G+03260 1b  
 12:06 04/21/98  
 CH 2 AD G+00920 1b  
 12:17 04/21/98  
 CH 1 AD G+03240 1b  
 12:21 04/21/98  
 CH 2 AD G+01640 1b  
 12:27 04/21/98  
 CH 1 AD G+01080 1b  
 12:33 04/21/98  
 CH 2 AD G+01040 1b  
 12:36 04/21/98  
 CH 2 AD G+01940 1b  
 12:37 04/21/98  
 CH 1 AD G+01900 1b  
 12:40 04/21/98  
 CH 2 AD G+01420 1b  
 12:42 04/21/98  
 CH 1 AD G+03600 1b  
 12:46 04/21/98  
 CH 2 AD G+02300 1b  
 12:50 04/21/98  
 CH 1 AD G+02340 1b  
 HOURLY  
 13:00 04/21/98  
 CH 1 +00017780 1b  
 CH 2 +00009260 1b  
 13:02 04/21/98  
 ON+03460 1b  
 OT+00220 1b  
 13:05 04/21/98  
 CH 2 AD G+02560 1b

#2 STACK TEST 1 RUN  
MED WASTE CRANE BUCKET

4-21-98

BEST AVAILABLE COPY

HOURLY  
10:00 04/21/98  
10:12 04/21/98  
ON+00300 1b  
OT+00000 1b

10:17 04/21/98  
ON+00300 1b  
OT+00000 1b

10:24 04/21/98  
ON+00300 1b  
OT+00000 1b

10:31 04/21/98  
ON+00220 1b  
OT+00000 1b  
10:35 04/21/98  
ON+00300 1b  
OT+00000 1b

10:50 04/21/98  
ON+00280 1b  
OT+00000 1b  
10:55 04/21/98  
ON+00260 1b  
OT+00000 1b

HOURLY  
11:00 04/21/98  
11:01 04/21/98  
ON+00320 1b

01 CH 1 ST +00000000 1b  
01 CH 2 ST +00000000 1b  
01 CH 2 ST +00000000 1b

11:12 04/21/98  
H CH 1 ST +00000000 1b  
D CH 1 ST +00000000 1b  
11:17 04/21/98  
11:18 04/21/98  
H CH 2 ST +00000000 1b  
D CH 2 ST +00000000 1b

11:15 04/21/98  
ON+00120 1b  
OT+00000 1b  
11:22 04/21/98  
ON+00260 1b  
OT+00000 1b  
11:29 04/21/98  
ON+00440 1b  
OT+00000 1b

11:37 04/21/98  
ON+00240 1b  
OT+00000 1b

11:43 04/21/98  
ON+00340 1b  
OT+00000 1b  
11:50 04/21/98  
ON+00400 1b  
OT+00000 1b  
11:57 04/21/98  
ON+00320 1b  
OT+00000 1b

HOURLY  
12:00 04/21/98  
12:05 04/21/98  
ON+00300 1b  
OT+00000 1b  
12:12 04/21/98  
ON+00140 1b  
OT+00000 1b  
12:20 04/21/98  
ON+00100 1b  
OT+00000 1b

12:25 04/21/98  
ON+00200 1b  
OT+00000 1b  
12:32 04/21/98  
ON+00280 1b  
OT+00000 1b  
12:38 04/21/98  
ON+00280 1b  
OT+00000 1b  
12:43 04/21/98  
ON+00200 1b  
OT+00000 1b  
12:57 04/21/98  
ON+00120 1b  
OT+00000 1b  
HOURLY  
13:00 04/21/98



2ND RUN #2 STACK TEST  
MED WASTE CRANE BUCKET

BEST AVAILABLE COPY

14:05 04/21/98  
 ON+00420 1b  
 OT+00000 1b  
 14:11 04/21/98  
 ON+00460 1b  
 OT+00000 1b  
 14:17 04/21/98  
 ON+00480 1b  
 OT+00000 1b  
 14:23 04/21/98  
 ON+00380 1b  
 OT+00000 1b  
 14:41 04/21/98  
 ON+00600 1b  
 OT+00000 1b  
 HOURLY  
 15:00 04/21/98  
 15:02 04/21/98  
 ON+00520 1b  
 OT+00000 1b

2ND RUN

ON+00420 1b  
 OT+00000 1b

15:23 04/21/98  
 ON+00620 1b  
 OT+00000 1b

15:30 04/21/98  
 ON+00800 1b  
 OT+00000 1b

HOURLY  
 ON+00420 1b  
 OT+00000 1b  
 ON+00460 1b  
 OT+00000 1b  
 ON+00480 1b  
 OT+00000 1b  
 ON+00380 1b  
 OT+00000 1b  
 ON+00600 1b  
 OT+00000 1b  
 ON+00520 1b  
 OT+00000 1b  
 540  
 520

16:16 04/21/98  
 ON+00460 1b  
 OT+00000 1b

## BEST AVAILABLE COPY

14:02 04/21/98  
CH 1 AD G+03060 1b  
14:10 04/21/98  
CH 1 AD G+03260 1b  
14:19 04/21/98  
CH 1 AD G+02620 1b  
14:19 04/21/98  
ON+02260 1b  
OT+00220 1b  
14:24 04/21/98  
CH 2 AD G+03160 1b  
14:25 04/21/98  
CH 2 AD G+02220 1b  
14:28 04/21/98  
CH 2 AD G+03500 1b  
14:31 04/21/98  
CH 1 AD G+03140 1b  
14:32 04/21/98  
CH 1 AD G+03340 1b  
14:37 04/21/98  
CH 2 AD G+00660 1b  
14:43 04/21/98  
CH 1 AD G+02300 1b  
14:51 04/21/98  
CH 1 AD G+03420 1b  
14:58 04/21/98  
CH 1 AD G+01400 1b  
14:59 04/21/98  
CH 2 AD G+03400 1b  
HOURLY  
15:00 04/21/98  
CH 1 +00022540 1b  
CH 2 +00012940 1b  
15:10 04/21/98  
CH 1 AD G+03660 1b  
15:18 04/21/98  
CH 1 AD G+02700 1b  
15:25 04/21/98  
CH 2 AD G+03360 1b  
15:27 04/21/98  
CH 2 AD G+02000 1b  
15:32 04/21/98  
CH 1 AD G+02220 1b  
15:38 04/21/98  
CH 2 AD G+02860 1b  
15:39 04/21/98  
CH 1 AD G+03000 1b  
15:47 04/21/98  
CH 2 AD G+03360 1b  
15:49 04/21/98  
CH 1 AD G+02760 1b  
15:51 04/21/98  
CH 2 AD G+02460 1b  
15:54 04/21/98  
CH 2 AD G+01860 1b  
15:58 04/21/98  
CH 2 AD G+01200 1b  
HOURLY  
16:00 04/21/98  
CH 1 +00014340 1b  
CH 2 +00017100 1b  
16:02 04/21/98  
CH 1 AD G+02620 1b  
16:11 04/21/98  
CH 2 AD G+01360 1b  
16:15 04/21/98  
CH 1 AD G+03480 1b  
16:19 04/21/98  
CH 1 AD G+03200 1b  
16:23 04/21/98  
CH 2 AD G+02820 1b

Best Available Copy

16:48 04/21/98  
ON+00740 1b  
OT+00000 1b

16:54 04/21/98  
ON+00720 1b  
OT+00000 1b  
HOURLY

17:00 04/21/98  
17:16 04/21/98  
ON+00760 1b  
OT+00000 1b

17:22 04/21/98  
ON+00360 1b  
OT+00000 1b

17:29 04/21/98  
ON+00600 1b  
OT+00000 1b

17:38 04/21/98  
ON+00560 1b  
OT+00000 1b

17:44 04/21/98  
ON+00540 1b  
OT+00000 1b

HOURLY  
18:00 04/21/98  
18:04 04/21/98  
ON+00440 1b  
OT+00000 1b

18:12 04/21/98  
ON+00460 1b  
OT+00000 1b

18:20 04/21/98  
ON+00440 1b  
OT+00000 1b

18:27 04/21/98  
ON+00440 1b  
OT+00000 1b

18:41 04/21/98  
ON+00240 1b  
OT+00000 1b

18:52 04/21/98  
ON+00440 1b  
OT+00000 1b

HOURLY  
19:00 04/21/98  
19:07 04/21/98  
ON+00280 1b  
OT+00000 1b

19:17 04/21/98  
ON+00500 1b  
OT+00000 1b

19:20 04/21/98  
H CH 2 TL +00000000 1b  
D CH 2 TL +00000000 1b

520 KUN

# 2 stack Test

16:54 04/21/98  
CH 1 AD G+03320 1b  
HOURLY  
17:00 04/21/98  
CH 1 +00018500 1b  
CH 2 +00011440 1b  
17:03 04/21/98  
CH 1 AD G+02260 1b  
17:12 04/21/98  
CH 1 AD G+03120 1b  
17:16 04/21/98  
CH 1 AD G+02160 1b  
17:20 04/21/98  
ON+01960 1b  
OT+00220 1b  
17:26 04/21/98  
CH 2 AD G+09820 1b  
17:29 04/21/98  
CH 1 AD G+03160 1b  
17:33 04/21/98  
CH 2 AD G+02260 1b  
17:38 04/21/98  
CH 1 AD G+03440 1b  
17:40 04/21/98  
CH 2 AD G+01200 1b  
17:48 04/21/98  
CH 1 AD G+02580 1b  
17:50 04/21/98  
CH 2 AD G+02140 1b  
17:54 04/21/98  
CH 2 AD G+01080 1b  
17:57 04/21/98  
CH 1 AD G+02840 1b  
17:59 04/21/98  
CH 2 AD G+01060 1b  
HOURLY  
18:00 04/21/98  
CH 1 +00019560 1b  
CH 2 +00008560 1b  
18:06 04/21/98  
CH 2 AD G+02580 1b  
18:11 04/21/98  
CH 1 AD G+02360 1b  
18:15 04/21/98  
CH 2 AD G+00620 1b  
18:18 04/21/98  
CH 1 AD G+02580 1b  
18:25 04/21/98  
CH 1 AD G+03200 1b  
18:31 04/21/98  
CH 1 AD G+01980 1b  
18:33 04/21/98  
ON+01500 1b  
OT+00220 1b  
18:36 04/21/98  
CH 1 AD G+02620 1b  
18:37 04/21/98  
CH 2 AD G+01040 1b  
18:43 04/21/98  
CH 2 AD G+01200 1b  
18:47 04/21/98  
CH 1 AD G+02500 1b  
18:49 04/21/98  
CH 2 AD G+01940 1b  
18:53 04/21/98  
CH 1 AD G+02460 1b  
18:58 04/21/98  
CH 2 AD G+01340 1b  
HOURLY  
19:00 04/21/98  
CH 1 +00017700 1b  
CH 2 +00008720 1b  
19:00 04/21/98  
CH 2 AD G+02060 1b  
19:03 04/21/98  
CH 1 AD G+01960 1b  
19:05 04/21/98  
CH 2 AD G+03320 1b  
19:08 04/21/98  
CH 1 AD G+01160 1b  
19:13 04/21/98  
CH 1 AD G+02260 1b  
19:19 04/21/98  
CH 1 AD G+03020 1b

APRIL 22, 1998



# OMS LAKE CIS FLOW LOG

DATE: 22 APR 82

TIME	RPM	FLOW	INITIALS	TIME	RPM	FLOW	INITIALS
0700	900	✓	Ⓢ				
0800	900	✓	Ⓢ				
0900	900	✓	Ⓢ				
1000	900	✓	Ⓢ				
1100	900	✓	Ⓢ				
1200	900	✓	Ⓢ				
1300	900	✓	Ⓢ				
1400	900	✓	Ⓢ				
1500	900	✓	Ⓢ				
1600	900	✓	Ⓢ				
1700	900	✓	Ⓢ				
1800	900	✓	Ⓢ				

COMMENTS - 0745 12.6  
 12.6 AVE 12.4  
 12.7

TIME STOPPED RECORDING -  
 TIME STARTED RECORDING -  
 REASON -





\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 09:15:42

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.1	63.3
TEMPERATURE	DEG F	747.6	815.8
S/H OUTLET PRESSURE	PSIG	855.9	857.2
DRUM PRESSURE	PSIG	921.3	926.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.2	67.4
DRUM LEVEL	INCHES	-2.2	-0.9

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.29	9.29
UNDERFIRE AIR FLOW	KLBS/HR	65.6	67.1
OVERFIRE AIR FLOW	KLBS/HR	36.6	42.0
UNDERFIRE AIR SPLIT	%UFA	64.2	61.5
SCAH INLET TEMP	DEG F	93.1	87.8
SCAH EXIT TEMP	DEG F	214.6	217.2

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.29	-0.84
BAGHOUSE dP	INWC	5.5	6.9
AVERAGE ROOF TEMP	DEG F	1202.8	1430.0
BOTTOM 2ND PASS TEMP	DEG F	1117.4	1359.0
SEC SPRHTR INLET TEMP	DEG F	855.7	1019.0
SEC SPRHTR EXIT TEMP	DEG F	775.6	881.0
PRI SPRHTR EXIT TEMP	DEG F	701.8	783.0
ECONOMIZER EXIT TEMP	DEG F	402.4	459.0
SCRUBBER EXIT TEMP	DEG F	288.2	296.7
BAGHOUSE EXIT TEMP	DEG F	277.9	286.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	72.2
CONDENSER EXIT TEMP	DEG F	94.2

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	80.3	75.2	83.3
RELATIVE HUMIDITY	PERCENT	70.4	61.9	78.9
WIND SPEED	MPH	6.4	0.0	8.9

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 09:30:41

BOILER 1 BOILER 2

STEAM PARAMETERS

		BOILER 1	BOILER 2
FLOW	KLBS/HR	63.9	63.4
TEMPERATURE	DEG F	751.6	825.6
S/H OUTLET PRESSURE	PSIG	856.3	857.8
DRUM PRESSURE	PSIG	923.8	927.5

FEEDWATER PARAMETERS

		BOILER 1	BOILER 2
FEEDWATER FLOW	KLBS/HR	65.2	66.6
DRUM LEVEL	INCHES	-2.2	-0.6

COMBUSTION AIR PARAMETERS

		BOILER 1	BOILER 2
WET O2	PERCENT	9.72	10.10
UNDERFIRE AIR FLOW	KLBS/HR	65.9	66.3
OVERFIRE AIR FLOW	KLBS/HR	36.8	41.3
UNDERFIRE AIR SPLIT	%UFA	64.2	61.7
SCAH INLET TEMP	DEG F	93.4	88.3
SCAH EXIT TEMP	DEG F	214.9	217.2

FURNACE GAS PARAMETERS

		BOILER 1	BOILER 2
FURNACE PRESSURE	INWC	-0.18	-0.46
BAGHOUSE dP	INWC	6.1	6.4
AVERAGE ROOF TEMP	DEG F	1215.9	1419.3
BOTTOM 2ND PASS TEMP	DEG F	1119.7	1360.0
SEC SPRHTR INLET TEMP	DEG F	859.5	1029.0
SEC SPRHTR EXIT TEMP	DEG F	775.0	891.0
PRI SPRHTR EXIT TEMP	DEG F	704.8	792.0
ECONOMIZER EXIT TEMP	DEG F	405.1	469.0
SCRUBBER EXIT TEMP	DEG F	287.9	290.5
BAGHOUSE EXIT TEMP	DEG F	278.4	284.0

OTHER PARAMETERS

		BOILER 1	BOILER 2
CONDENSER VACUUM	INHGA	1.1	
CONDENSER INLET TEMP	DEG F	72.3	
CONDENSER EXIT TEMP	DEG F	94.4	

INSTANTANEOUS LOW HIGH

WEATHER STATION

		INSTANTANEOUS	LOW	HIGH
AMBIENT AIR TEMP	DEG F	83.5	75.2	83.3
RELATIVE HUMIDITY	PERCENT	68.7	61.9	78.9
WIND SPEED	MPH	5.0	0.0	11.2

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\* 09:45:42

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.2	64.2
TEMPERATURE	DEG F	752.4	818.3
S/H OUTLET PRESSURE	PSIG	855.3	857.2
DRUM PRESSURE	PSIG	921.9	928.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.4	68.4
DRUM LEVEL	INCHES	-2.2	-1.2

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.42	9.87
UNDERFIRE AIR FLOW	KLBS/HR	65.8	66.2
OVERFIRE AIR FLOW	KLBS/HR	36.2	41.0
UNDERFIRE AIR SPLIT	%UFA	64.5	61.7
SCAH INLET TEMP	DEG F	93.7	88.7
SCAH EXIT TEMP	DEG F	214.9	217.5

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.22	-0.38
BAGHOUSE dP	INWC	6.4	5.8
AVERAGE ROOF TEMP	DEG F	1198.8	1423.7
BOTTOM 2ND PASS TEMP	DEG F	1125.7	1350.0
SEC SPRHTR INLET TEMP	DEG F	857.1	1009.0
SEC SPRHTR EXIT TEMP	DEG F	779.4	881.0
PRI SPRHTR EXIT TEMP	DEG F	705.6	785.0
ECONOMIZER EXIT TEMP	DEG F	406.2	460.0
SCRUBBER EXIT TEMP	DEG F	280.6	283.2
BAGHOUSE EXIT TEMP	DEG F	277.2	279.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.2
CONDENSER INLET TEMP	DEG F	72.3
CONDENSER EXIT TEMP	DEG F	94.4

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	84.2	75.2	86.0
RELATIVE HUMIDITY	PERCENT	63.2	59.6	78.9
WIND SPEED	MPH	0.4	0.0	11.2

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 10:00:42

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	65.3	62.8
TEMPERATURE	DEG F	750.9	805.5
S/H OUTLET PRESSURE	PSIG	856.6	856.3
DRUM PRESSURE	PSIG	926.9	924.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	66.7	68.4
DRUM LEVEL	INCHES	-2.3	-1.1

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.68	10.68
UNDERFIRE AIR FLOW	KLBS/HR	65.7	65.6
OVERFIRE AIR FLOW	KLBS/HR	37.0	40.9
UNDERFIRE AIR SPLIT	%UFA	64.0	61.6
SCAH INLET TEMP	DEG F	94.6	89.4
SCAH EXIT TEMP	DEG F	215.5	217.6

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.28	-0.17
BAGHOUSE dP	INWC	6.6	6.0
AVERAGE ROOF TEMP	DEG F	1216.5	1413.7
BOTTOM 2ND PASS TEMP	DEG F	1141.0	1341.0
SEC SPRHTR INLET TEMP	DEG F	864.9	1005.0
SEC SPRHTR EXIT TEMP	DEG F	779.2	875.0
PRI SPRHTR EXIT TEMP	DEG F	706.1	778.0
ECONOMIZER EXIT TEMP	DEG F	406.6	452.0
SCRUBBER EXIT TEMP	DEG F	288.8	282.5
BAGHOUSE EXIT TEMP	DEG F	277.9	276.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.2
CONDENSER INLET TEMP	DEG F	72.5
CONDENSER EXIT TEMP	DEG F	95.0

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	84.2	75.2	86.1
RELATIVE HUMIDITY	PERCENT	59.6	58.2	78.9
WIND SPEED	MPH	12.9	0.0	13.6

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\* 10:30:43

		BOILER 1	BOILER 2			
				INSTANTANEOUS	LOW	HIGH
<b>STEAM PARAMETERS</b>						
FLOW	KLBS/HR	65.4	63.1			
TEMPERATURE	DEG F	741.8	807.3			
S/H OUTLET PRESSURE	PSIG	857.2	856.9			
DRUM PRESSURE	PSIG	928.8	924.7			
<b>FEEDWATER PARAMETERS</b>						
FEEDWATER FLOW	KLBS/HR	67.5	66.3			
DRUM LEVEL	INCHES	-2.1	-0.8			
<b>COMBUSTION AIR PARAMETERS</b>						
WET O2	PERCENT	8.73	9.88			
UNDERFIRE AIR FLOW	KLBS/HR	66.3	66.2			
OVERFIRE AIR FLOW	KLBS/HR	37.0	41.3			
UNDERFIRE AIR SPLIT	%UFA	64.2	61.6			
SCAH INLET TEMP	DEG F	95.6	90.9			
SCAH EXIT TEMP	DEG F	215.9	218.7			
<b>FURNACE GAS PARAMETERS</b>						
FURNACE PRESSURE	INWC	-0.40	-0.35			
BAGHOUSE dP	INWC	6.8	7.2			
AVERAGE ROOF TEMP	DEG F	1226.8	1409.7			
BOTTOM 2ND PASS TEMP	DEG F	1136.1	1341.0			
SEC SPRHTR INLET TEMP	DEG F	860.9	1017.0			
SEC SPRHTR EXIT TEMP	DEG F	777.0	876.0			
PRI SPRHTR EXIT TEMP	DEG F	703.0	778.0			
ECONOMIZER EXIT TEMP	DEG F	401.4	452.0			
SCRUBBER EXIT TEMP	DEG F	291.5	299.9			
BAGHOUSE EXIT TEMP	DEG F	277.3	285.0			
<b>OTHER PARAMETERS</b>						
CONDENSER VACUUM	INHGA	1.3				
CONDENSER INLET TEMP	DEG F	72.7				
CONDENSER EXIT TEMP	DEG F	95.0				
<b>WEATHER STATION</b>						
AMBIENT AIR TEMP	DEG F	82.6	75.2			86.1
RELATIVE HUMIDITY	PERCENT	59.3	58.2			78.9
WIND SPEED	MPH	7.1	0.0			15.2

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 10:15:43 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		BOILER 1	BOILER 2	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	65.6	62.7	
TEMPERATURE	DEG F	742.1	802.9	
S/H OUTLET PRESSURE	PSIG	856.6	856.9	
DRUM PRESSURE	PSIG	928.4	923.8	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	69.1	67.4	
DRUM LEVEL	INCHES	-2.6	-1.1	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	10.05	9.97	
UNDERFIRE AIR FLOW	KLBS/HR	65.8	65.4	
OVERFIRE AIR FLOW	KLBS/HR	36.8	40.7	
UNDERFIRE AIR SPLIT	%UFA	64.1	61.6	
SCAH INLET TEMP	DEG F	95.6	90.7	
SCAH EXIT TEMP	DEG F	216.0	218.6	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.24	0.14	
BAGHOUSE dP	INWC	6.8	6.3	
AVERAGE ROOF TEMP	DEG F	1217.6	1416.3	
BOTTOM 2ND PASS TEMP	DEG F	1128.6	1341.0	
SEC SPRHTR INLET TEMP	DEG F	864.1	1004.0	
SEC SPRHTR EXIT TEMP	DEG F	776.7	871.0	
PRI SPRHTR EXIT TEMP	DEG F	703.8	776.0	
ECONOMIZER EXIT TEMP	DEG F	402.8	451.0	
SCRUBBER EXIT TEMP	DEG F	292.0	285.6	
BAGHOUSE EXIT TEMP	DEG F	277.7	278.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.2		
CONDENSER INLET TEMP	DEG F	72.8		
CONDENSER EXIT TEMP	DEG F	95.3		
		<b>INSTANTANEOUS</b>	<b>LOW</b>	<b>HIGH</b>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	82.9	75.2	86.1
RELATIVE HUMIDITY	PERCENT	61.2	58.2	78.9
WIND SPEED	MPH	5.3	0.0	15.2

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 10:45:44

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	59.5	62.3
TEMPERATURE	DEG F	739.9	812.1
S/H OUTLET PRESSURE	PSIG	852.8	855.9
DRUM PRESSURE	PSIG	913.8	922.8

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	62.5	66.9
DRUM LEVEL	INCHES	-2.2	-1.0

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.87	10.51
UNDERFIRE AIR FLOW	KLBS/HR	65.7	65.8
OVERFIRE AIR FLOW	KLBS/HR	35.7	41.2
UNDERFIRE AIR SPLIT	%UFA	64.8	61.5
SCAH INLET TEMP	DEG F	95.7	91.1
SCAH EXIT TEMP	DEG F	216.1	218.6

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.23	-0.11
BAGHOUSE dP	INWC	7.1	7.1
AVERAGE ROOF TEMP	DEG F	1181.5	1406.0
BOTTOM 2ND PASS TEMP	DEG F	1097.8	1344.0
SEC SPRHTR INLET TEMP	DEG F	845.4	1009.0
SEC SPRHTR EXIT TEMP	DEG F	770.4	877.0
PRI SPRHTR EXIT TEMP	DEG F	696.2	782.0
ECONOMIZER EXIT TEMP	DEG F	397.9	457.0
SCRUBBER EXIT TEMP	DEG F	293.4	281.3
BAGHOUSE EXIT TEMP	DEG F	277.7	279.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	72.3
CONDENSER EXIT TEMP	DEG F	93.8

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	83.0	75.2	86.1
RELATIVE HUMIDITY	PERCENT	56.5	56.6	78.9
WIND SPEED	MPH	5.8	0.0	15.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 11:00:44

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	65.4	63.4
TEMPERATURE	DEG F	748.4	810.3
S/H OUTLET PRESSURE	PSIG	857.2	857.2
DRUM PRESSURE	PSIG	929.1	925.0

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	64.5	66.2
DRUM LEVEL	INCHES	-1.9	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.33	9.63
UNDERFIRE AIR FLOW	KLBS/HR	65.7	65.9
OVERFIRE AIR FLOW	KLBS/HR	36.4	41.1
UNDERFIRE AIR SPLIT	%UFA	64.4	61.6
SCAH INLET TEMP	DEG F	96.4	91.5
SCAH EXIT TEMP	DEG F	216.5	219.0

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.32	-0.32
BAGHOUSE dP	INWC	7.2	7.5
AVERAGE ROOF TEMP	DEG F	1235.0	1421.7
BOTTOM 2ND PASS TEMP	DEG F	1139.5	1354.0
SEC SPRHTR INLET TEMP	DEG F	863.6	1006.0
SEC SPRHTR EXIT TEMP	DEG F	780.8	870.0
PRI SPRHTR EXIT TEMP	DEG F	703.0	776.0
ECONOMIZER EXIT TEMP	DEG F	401.4	451.0
SCRUBBER EXIT TEMP	DEG F	290.0	274.5
BAGHOUSE EXIT TEMP	DEG F	277.2	271.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	71.6
CONDENSER EXIT TEMP	DEG F	93.9

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	83.6	75.2	86.1
RELATIVE HUMIDITY	PERCENT	51.0	50.8	78.9
WIND SPEED	MPH	14.3	0.0	17.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/22/98 11:15:45

		BOILER 1	BOILER 2	
		-----	-----	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.0	64.3	
TEMPERATURE	DEG F	740.3	808.8	
S/H OUTLET PRESSURE	PSIG	855.0	857.8	
DRUM PRESSURE	PSIG	921.9	928.1	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	67.2	68.1	
DRUM LEVEL	INCHES	-2.5	-1.0	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	10.06	9.88	
UNDERFIRE AIR FLOW	KLBS/HR	65.7	65.4	
OVERFIRE AIR FLOW	KLBS/HR	36.5	40.7	
UNDERFIRE AIR SPLIT	%UFA	64.3	61.6	
SCAH INLET TEMP	DEG F	97.3	92.5	
SCAH EXIT TEMP	DEG F	216.6	219.2	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.18	-0.02	
BAGHOUSE dP	INWC	6.2	8.1	
AVERAGE ROOF TEMP	DEG F	1206.9	1429.0	
BOTTOM 2ND PASS TEMP	DEG F	1111.6	1364.0	
SEC SPRHTR INLET TEMP	DEG F	855.1	1017.0	
SEC SPRHTR EXIT TEMP	DEG F	773.6	877.0	
PRI SPRHTR EXIT TEMP	DEG F	698.9	779.0	
ECONOMIZER EXIT TEMP	DEG F	400.8	453.0	
SCRUBBER EXIT TEMP	DEG F	289.9	286.4	
BAGHOUSE EXIT TEMP	DEG F	277.9	276.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.4		
CONDENSER EXIT TEMP	DEG F	93.6		
		-----	-----	-----
		INSTANTANEOUS	LOW	HIGH
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	84.5	75.2	86.1
RELATIVE HUMIDITY	PERCENT	47.3	47.3	78.9
WIND SPEED	MPH	3.2	0.0	17.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 11:30:45 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	64.9	62.8	
TEMPERATURE	DEG F	740.3	810.6	
S/H OUTLET PRESSURE	PSIG	856.6	857.2	
DRUM PRESSURE	PSIG	926.3	924.4	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	67.8	67.7	
DRUM LEVEL	INCHES	-2.2	-0.8	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	10.20	9.94	
UNDERFIRE AIR FLOW	KLBS/HR	65.7	65.8	
OVERFIRE AIR FLOW	KLBS/HR	36.5	41.0	
UNDERFIRE AIR SPLIT	%UFA	64.3	61.6	
SCAH INLET TEMP	DEG F	98.1	93.3	
SCAH EXIT TEMP	DEG F	217.4	219.8	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.39	-0.33	
BAGHOUSE dP	INWC	6.1	8.1	
AVERAGE ROOF TEMP	DEG F	1228.8	1422.0	
BOTTOM 2ND PASS TEMP	DEG F	1129.3	1361.0	
SEC SPRHTR INLET TEMP	DEG F	862.0	1014.0	
SEC SPRHTR EXIT TEMP	DEG F	771.3	874.0	
PRI SPRHTR EXIT TEMP	DEG F	701.2	779.0	
ECONOMIZER EXIT TEMP	DEG F	399.9	455.0	
SCRUBBER EXIT TEMP	DEG F	291.7	291.5	
BAGHOUSE EXIT TEMP	DEG F	278.8	283.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.2		
CONDENSER EXIT TEMP	DEG F	93.5		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	85.2	75.2	86.1
RELATIVE HUMIDITY	PERCENT	44.8	44.7	78.9
WIND SPEED	MPH	7.6	0.0	17.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 11:45:46

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	62.3	65.1	
TEMPERATURE	DEG F	740.7	823.8	
S/H OUTLET PRESSURE	PSIG	854.7	858.1	
DRUM PRESSURE	PSIG	919.1	929.7	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	65.8	66.9	
DRUM LEVEL	INCHES	-2.6	-0.7	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	10.10	10.04	
UNDERFIRE AIR FLOW	KLBS/HR	65.9	72.5	
OVERFIRE AIR FLOW	KLBS/HR	36.5	41.0	
UNDERFIRE AIR SPLIT	%UFA	64.3	63.9	
SCAH INLET TEMP	DEG F	98.6	93.8	
SCAH EXIT TEMP	DEG F	217.1	219.9	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.42	-0.35	
BAGHOUSE dP	INWC	5.0	6.6	
AVERAGE ROOF TEMP	DEG F	1213.0	1422.7	
BOTTOM 2ND PASS TEMP	DEG F	1115.4	1367.0	
SEC SPRHTR INLET TEMP	DEG F	853.5	1032.0	
SEC SPRHTR EXIT TEMP	DEG F	772.5	893.0	
PRI SPRHTR EXIT TEMP	DEG F	700.7	793.0	
ECONOMIZER EXIT TEMP	DEG F	400.3	466.0	
SCRUBBER EXIT TEMP	DEG F	287.4	290.6	
BAGHOUSE EXIT TEMP	DEG F	277.9	283.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.4		
CONDENSER EXIT TEMP	DEG F	93.6		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	86.3	75.2	86.3
RELATIVE HUMIDITY	PERCENT	41.3	41.9	78.9
WIND SPEED	MPH	10.5	0.0	18.6

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 12:00:46 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	64.6	65.8	
TEMPERATURE	DEG F	745.8	809.9	
S/H OUTLET PRESSURE	PSIG	856.3	858.1	
DRUM PRESSURE	PSIG	926.3	930.6	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	66.7	70.6	
DRUM LEVEL	INCHES	-2.3	-0.9	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.79	9.57	
UNDERFIRE AIR FLOW	KLBS/HR	68.7	66.2	
OVERFIRE AIR FLOW	KLBS/HR	36.7	41.0	
UNDERFIRE AIR SPLIT	%UFA	65.2	61.7	
SCAH INLET TEMP	DEG F	99.3	95.0	
SCAH EXIT TEMP	DEG F	218.1	221.2	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.22	-0.45	
BAGHOUSE dP	INWC	4.7	5.1	
AVERAGE ROOF TEMP	DEG F	1224.8	1435.7	
BOTTOM 2ND PASS TEMP	DEG F	1126.0	1365.0	
SEC SPRHTR INLET TEMP	DEG F	863.2	1015.0	
SEC SPRHTR EXIT TEMP	DEG F	775.6	876.0	
PRI SPRHTR EXIT TEMP	DEG F	703.8	782.0	
ECONOMIZER EXIT TEMP	DEG F	401.9	455.0	
SCRUBBER EXIT TEMP	DEG F	288.0	272.6	
BAGHOUSE EXIT TEMP	DEG F	279.7	272.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.5		
CONDENSER EXIT TEMP	DEG F	94.2		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	87.9	75.2	87.8
RELATIVE HUMIDITY	PERCENT	37.3	37.5	78.9
WIND SPEED	MPH	12.6	0.0	18.6

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
 04/22/98 12:35:47

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	64.6	60.6	
TEMPERATURE	DEG F	748.0	809.9	
S/H OUTLET PRESSURE	PSIG	857.2	855.9	
DRUM PRESSURE	PSIG	927.5	918.4	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	66.3	66.5	
DRUM LEVEL	INCHES	-1.9	-1.0	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	8.41	9.09	
UNDERFIRE AIR FLOW	KLBS/HR	65.8	65.7	
OVERFIRE AIR FLOW	KLBS/HR	36.4	40.8	
UNDERFIRE AIR SPLIT	%UFA	64.4	61.7	
SCAH INLET TEMP	DEG F	100.5	96.3	
SCAH EXIT TEMP	DEG F	218.7	222.0	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.22	-0.24	
BAGHOUSE dP	INWC	5.7	6.0	
AVERAGE ROOF TEMP	DEG F	1238.8	1389.3	
BOTTOM 2ND PASS TEMP	DEG F	1147.5	1340.0	
SEC SPRHTR INLET TEMP	DEG F	869.7	1008.0	
SEC SPRHTR EXIT TEMP	DEG F	779.2	876.0	
PRI SPRHTR EXIT TEMP	DEG F	705.0	780.0	
ECONOMIZER EXIT TEMP	DEG F	401.9	456.0	
SCRUBBER EXIT TEMP	DEG F	289.1	293.5	
BAGHOUSE EXIT TEMP	DEG F	279.7	284.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.4		
CONDENSER EXIT TEMP	DEG F	93.1		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	89.1	75.2	89.2
RELATIVE HUMIDITY	PERCENT	32.1	32.1	78.9
WIND SPEED	MPH	10.8	0.0	18.6

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 12:50:46

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	62.9	63.5	
TEMPERATURE	DEG F	747.6	817.9	
S/H OUTLET PRESSURE	PSIG	855.9	857.2	
DRUM PRESSURE	PSIG	921.3	925.9	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	64.9	66.2	
DRUM LEVEL	INCHES	-2.4	-0.8	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	8.37	9.39	
UNDERFIRE AIR FLOW	KLBS/HR	65.2	65.6	
OVERFIRE AIR FLOW	KLBS/HR	36.5	40.7	
UNDERFIRE AIR SPLIT	%UFA	64.1	61.7	
SCAH INLET TEMP	DEG F	101.2	97.0	
SCAH EXIT TEMP	DEG F	219.2	222.1	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.27	-0.29	
BAGHOUSE dP	INWC	6.4	6.6	
AVERAGE ROOF TEMP	DEG F	1214.7	1415.3	
BOTTOM 2ND PASS TEMP	DEG F	1129.6	1357.0	
SEC SPRHTR INLET TEMP	DEG F	862.7	1023.0	
SEC SPRHTR EXIT TEMP	DEG F	780.3	886.0	
PRI SPRHTR EXIT TEMP	DEG F	705.0	788.0	
ECONOMIZER EXIT TEMP	DEG F	403.7	462.0	
SCRUBBER EXIT TEMP	DEG F	288.6	294.4	
BAGHOUSE EXIT TEMP	DEG F	277.9	285.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.0		
CONDENSER EXIT TEMP	DEG F	92.9		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	89.2	75.2	89.5
RELATIVE HUMIDITY	PERCENT	30.7	30.3	78.9
WIND SPEED	MPH	0.9	0.0	18.6

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 13:05:47

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.6	64.3
TEMPERATURE	DEG F	753.1	815.4
S/H OUTLET PRESSURE	PSIG	856.6	858.8
DRUM PRESSURE	PSIG	924.7	928.8

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	67.1	69.2
DRUM LEVEL	INCHES	-2.5	-1.0

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	10.39	9.50
UNDERFIRE AIR FLOW	KLBS/HR	65.4	66.0
OVERFIRE AIR FLOW	KLBS/HR	36.6	40.7
UNDERFIRE AIR SPLIT	%UFA	64.1	61.9
SCAH INLET TEMP	DEG F	101.2	96.8
SCAH EXIT TEMP	DEG F	219.0	222.0

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	0.33	-0.31
BAGHOUSE dP	INWC	7.3	6.6
AVERAGE ROOF TEMP	DEG F	1210.5	1419.3
BOTTOM 2ND PASS TEMP	DEG F	1128.7	1356.0
SEC SPRHTR INLET TEMP	DEG F	867.6	1019.0
SEC SPRHTR EXIT TEMP	DEG F	784.0	884.0
PRI SPRHTR EXIT TEMP	DEG F	709.5	787.0
ECONOMIZER EXIT TEMP	DEG F	406.8	460.0
SCRUBBER EXIT TEMP	DEG F	288.2	287.1
BAGHOUSE EXIT TEMP	DEG F	277.7	282.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.2
CONDENSER INLET TEMP	DEG F	71.1
CONDENSER EXIT TEMP	DEG F	93.5

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	88.6	75.2	89.5
RELATIVE HUMIDITY	PERCENT	30.7	29.6	78.9
WIND SPEED	MPH	13.4	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 13:20:47 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		BOILER 1	BOILER 2	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	67.1	61.4	
TEMPERATURE	DEG F	744.7	810.6	
S/H OUTLET PRESSURE	PSIG	858.4	856.3	
DRUM PRESSURE	PSIG	933.4	920.9	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	70.0	71.1	
DRUM LEVEL	INCHES	-2.1	-1.8	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.85	12.41	
UNDERFIRE AIR FLOW	KLBS/HR	65.2	65.1	
OVERFIRE AIR FLOW	KLBS/HR	36.8	40.7	
UNDERFIRE AIR SPLIT	%UFA	63.9	61.5	
SCAH INLET TEMP	DEG F	101.1	96.8	
SCAH EXIT TEMP	DEG F	218.9	222.2	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.18	-0.17	
BAGHOUSE dP	INWC	7.0	6.8	
AVERAGE ROOF TEMP	DEG F	1233.5	1394.0	
BOTTOM 2ND PASS TEMP	DEG F	1134.5	1354.0	
SEC SPRHTR INLET TEMP	DEG F	870.3	1014.0	
SEC SPRHTR EXIT TEMP	DEG F	784.6	887.0	
PRI SPRHTR EXIT TEMP	DEG F	707.4	792.0	
ECONOMIZER EXIT TEMP	DEG F	403.2	461.0	
SCRUBBER EXIT TEMP	DEG F	288.9	288.5	
BAGHOUSE EXIT TEMP	DEG F	279.1	275.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.2		
CONDENSER INLET TEMP	DEG F	71.1		
CONDENSER EXIT TEMP	DEG F	93.6		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	88.2	75.2	89.5
RELATIVE HUMIDITY	PERCENT	30.3	29.6	78.9
WIND SPEED	MPH	8.7	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



04/22/98 13:35:51 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	66.3	63.8	
TEMPERATURE	DEG F	743.2	808.8	
S/H OUTLET PRESSURE	PSIG	857.5	857.2	
DRUM PRESSURE	PSIG	930.9	926.6	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	69.8	68.4	
DRUM LEVEL	INCHES	-2.0	-0.8	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	8.89	11.16	
UNDERFIRE AIR FLOW	KLBS/HR	66.1	63.3	
OVERFIRE AIR FLOW	KLBS/HR	36.7	40.7	
UNDERFIRE AIR SPLIT	%UFA	64.3	60.9	
SCAH INLET TEMP	DEG F	101.3	97.2	
SCAH EXIT TEMP	DEG F	219.6	224.1	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.40	-0.17	
BAGHOUSE dP	INWC	7.2	6.8	
AVERAGE ROOF TEMP	DEG F	1224.5	1425.3	
BOTTOM 2ND PASS TEMP	DEG F	1140.6	1362.0	
SEC SPRHTR INLET TEMP	DEG F	874.9	1015.0	
SEC SPRHTR EXIT TEMP	DEG F	780.3	879.0	
PRI SPRHTR EXIT TEMP	DEG F	706.1	785.0	
ECONOMIZER EXIT TEMP	DEG F	400.3	454.0	
SCRUBBER EXIT TEMP	DEG F	292.0	283.2	
BAGHOUSE EXIT TEMP	DEG F	278.2	277.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.2		
CONDENSER INLET TEMP	DEG F	71.2		
CONDENSER EXIT TEMP	DEG F	93.4		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	88.4	75.2	89.5
RELATIVE HUMIDITY	PERCENT	31.1	29.6	78.9
WIND SPEED	MPH	3.2	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 13:50:51

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.3	63.3
TEMPERATURE	DEG F	741.0	804.8
S/H OUTLET PRESSURE	PSIG	856.3	857.2
DRUM PRESSURE	PSIG	925.9	925.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.3	68.3
DRUM LEVEL	INCHES	-1.7	-0.9

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.40	10.24
UNDERFIRE AIR FLOW	KLBS/HR	64.5	61.6
OVERFIRE AIR FLOW	KLBS/HR	36.3	40.5
UNDERFIRE AIR SPLIT	%UFA	64.0	60.3
SCAH INLET TEMP	DEG F	101.6	97.8
SCAH EXIT TEMP	DEG F	220.1	224.8

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.40	-0.24
BAGHOUSE dP	INWC	6.9	7.5
AVERAGE ROOF TEMP	DEG F	1221.1	1422.3
BOTTOM 2ND PASS TEMP	DEG F	1136.8	1357.0
SEC SPRHTR INLET TEMP	DEG F	863.1	1016.0
SEC SPRHTR EXIT TEMP	DEG F	773.6	874.0
PRI SPRHTR EXIT TEMP	DEG F	699.6	779.0
ECONOMIZER EXIT TEMP	DEG F	395.4	449.0
SCRUBBER EXIT TEMP	DEG F	293.7	283.8
BAGHOUSE EXIT TEMP	DEG F	277.7	275.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.0
CONDENSER INLET TEMP	DEG F	71.2
CONDENSER EXIT TEMP	DEG F	92.8

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	88.7	75.2	89.5
RELATIVE HUMIDITY	PERCENT	30.1	29.6	78.9
WIND SPEED	MPH	6.4	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 14:05:52

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	62.5	62.1
TEMPERATURE	DEG F	733.7	811.0
S/H OUTLET PRESSURE	PSIG	855.0	856.3
DRUM PRESSURE	PSIG	920.9	922.5

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.4	67.9
DRUM LEVEL	INCHES	-2.7	-1.1

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	10.62	10.04
UNDERFIRE AIR FLOW	KLBS/HR	64.1	62.1
OVERFIRE AIR FLOW	KLBS/HR	35.8	40.5
UNDERFIRE AIR SPLIT	%UFA	64.1	60.5
SCAH INLET TEMP	DEG F	102.1	98.9
SCAH EXIT TEMP	DEG F	220.4	226.0

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	0.11	-0.28
BAGHOUSE dP	INWC	7.7	8.0
AVERAGE ROOF TEMP	DEG F	1205.0	1409.0
BOTTOM 2ND PASS TEMP	DEG F	1109.7	1353.0
SEC SPRHTR INLET TEMP	DEG F	850.3	1013.0
SEC SPRHTR EXIT TEMP	DEG F	771.3	879.0
PRI SPRHTR EXIT TEMP	DEG F	696.7	786.0
ECONOMIZER EXIT TEMP	DEG F	394.0	456.0
SCRUBBER EXIT TEMP	DEG F	289.1	295.4
BAGHOUSE EXIT TEMP	DEG F	276.8	284.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.0
CONDENSER INLET TEMP	DEG F	71.0
CONDENSER EXIT TEMP	DEG F	92.7

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	88.5	75.2	89.5
RELATIVE HUMIDITY	PERCENT	29.5	29.1	78.9
WIND SPEED	MPH	13.2	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 14:20:52

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	62.6	64.6
TEMPERATURE	DEG F	730.0	820.9
S/H OUTLET PRESSURE	PSIG	854.4	857.8
DRUM PRESSURE	PSIG	920.9	929.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	67.9	66.9
DRUM LEVEL	INCHES	-2.6	-0.5

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.14	11.01
UNDERFIRE AIR FLOW	KLBS/HR	63.1	64.2
OVERFIRE AIR FLOW	KLBS/HR	35.2	41.1
UNDERFIRE AIR SPLIT	%UFA	64.2	61.0
SCAH INLET TEMP	DEG F	101.2	97.7
SCAH EXIT TEMP	DEG F	220.7	224.7

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.50	-0.66
BAGHOUSE dP	INWC	7.2	8.1
AVERAGE ROOF TEMP	DEG F	1225.4	1438.3
BOTTOM 2ND PASS TEMP	DEG F	1114.7	1375.0
SEC SPRHTR INLET TEMP	DEG F	852.3	1036.0
SEC SPRHTR EXIT TEMP	DEG F	767.3	893.0
PRI SPRHTR EXIT TEMP	DEG F	695.1	795.0
ECONOMIZER EXIT TEMP	DEG F	392.2	464.0
SCRUBBER EXIT TEMP	DEG F	289.7	294.9
BAGHOUSE EXIT TEMP	DEG F	277.9	285.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	71.2
CONDENSER EXIT TEMP	DEG F	93.1

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	88.2	75.2	89.5
RELATIVE HUMIDITY	PERCENT	30.3	29.1	78.9
WIND SPEED	MPH	4.7	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 14:35:53

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	67.0	69.9
TEMPERATURE	DEG F	740.3	805.9
S/H OUTLET PRESSURE	PSIG	858.4	861.9
DRUM PRESSURE	PSIG	934.4	942.5

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.6	73.1
DRUM LEVEL	INCHES	-1.4	-1.2

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.41	9.85
UNDERFIRE AIR FLOW	KLBS/HR	63.9	60.3
OVERFIRE AIR FLOW	KLBS/HR	36.2	40.6
UNDERFIRE AIR SPLIT	%UFA	63.8	59.8
SCAH INLET TEMP	DEG F	101.4	98.7
SCAH EXIT TEMP	DEG F	220.7	226.3

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.31	-0.27
BAGHOUSE dP	INWC	10.5	5.2
AVERAGE ROOF TEMP	DEG F	1257.6	1509.0
BOTTOM 2ND PASS TEMP	DEG F	1154.8	1409.0
SEC SPRHTR INLET TEMP	DEG F	871.3	1028.0
SEC SPRHTR EXIT TEMP	DEG F	770.9	880.0
PRI SPRHTR EXIT TEMP	DEG F	699.8	784.0
ECONOMIZER EXIT TEMP	DEG F	394.2	449.0
SCRUBBER EXIT TEMP	DEG F	292.8	277.0
BAGHOUSE EXIT TEMP	DEG F	278.8	276.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.2
CONDENSER INLET TEMP	DEG F	71.2
CONDENSER EXIT TEMP	DEG F	94.5

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	88.1	75.2	89.5
RELATIVE HUMIDITY	PERCENT	30.9	29.1	78.9
WIND SPEED	MPH	6.9	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 14:50:53

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.5	65.4
TEMPERATURE	DEG F	738.5	792.7
S/H OUTLET PRESSURE	PSIG	855.9	858.1
DRUM PRESSURE	PSIG	924.4	929.7

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	66.2	72.5
DRUM LEVEL	INCHES	-2.7	-0.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.46	9.91
UNDERFIRE AIR FLOW	KLBS/HR	63.8	59.2
OVERFIRE AIR FLOW	KLBS/HR	36.2	39.8
UNDERFIRE AIR SPLIT	%UFA	63.8	59.8
SCAH INLET TEMP	DEG F	100.8	98.1
SCAH EXIT TEMP	DEG F	219.9	226.7

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.44	-0.39
BAGHOUSE dP	INWC	8.6	4.9
AVERAGE ROOF TEMP	DEG F	1215.2	1483.3
BOTTOM 2ND PASS TEMP	DEG F	1120.3	1392.0
SEC SPRHTR INLET TEMP	DEG F	858.4	1016.0
SEC SPRHTR EXIT TEMP	DEG F	770.9	867.0
PRI SPRHTR EXIT TEMP	DEG F	699.6	776.0
ECONOMIZER EXIT TEMP	DEG F	397.0	440.0
SCRUBBER EXIT TEMP	DEG F	290.0	274.0
BAGHOUSE EXIT TEMP	DEG F	278.8	268.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	71.6
CONDENSER EXIT TEMP	DEG F	93.7

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	87.9	75.2	89.5
RELATIVE HUMIDITY	PERCENT	31.4	29.1	78.9
WIND SPEED	MPH	5.3	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*  
15:20:54

		BOILER 1	BOILER 2	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	66.0	64.9	
TEMPERATURE	DEG F	730.8	800.4	
S/H OUTLET PRESSURE	PSIG	856.6	857.8	
DRUM PRESSURE	PSIG	929.1	928.4	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	67.8	68.4	
DRUM LEVEL	INCHES	-2.1	-1.1	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	8.39	9.99	
UNDERFIRE AIR FLOW	KLBS/HR	66.3	59.2	
OVERFIRE AIR FLOW	KLBS/HR	36.4	39.9	
UNDERFIRE AIR SPLIT	%UFA	64.6	59.7	
SCAH INLET TEMP	DEG F	101.7	98.9	
SCAH EXIT TEMP	DEG F	220.7	227.5	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.42	-0.19	
BAGHOUSE dP	INWC	6.7	4.6	
AVERAGE ROOF TEMP	DEG F	1243.2	1478.3	
BOTTOM 2ND PASS TEMP	DEG F	1135.0	1387.0	
SEC SPRHTR INLET TEMP	DEG F	855.5	1013.0	
SEC SPRHTR EXIT TEMP	DEG F	767.8	869.0	
PRI SPRHTR EXIT TEMP	DEG F	697.1	775.0	
ECONOMIZER EXIT TEMP	DEG F	393.4	440.0	
SCRUBBER EXIT TEMP	DEG F	290.8	288.0	
BAGHOUSE EXIT TEMP	DEG F	278.2	280.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.4		
CONDENSER EXIT TEMP	DEG F	93.8		
		INSTANTANEOUS	LOW	HIGH
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	87.5	75.2	89.5
RELATIVE HUMIDITY	PERCENT	33.2	29.1	78.9
WIND SPEED	MPH	10.4	0.0	23.7

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 15:35:55

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	61.7	63.9
TEMPERATURE	DEG F	734.1	794.9
S/H OUTLET PRESSURE	PSIG	854.1	856.3
DRUM PRESSURE	PSIG	917.5	925.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	63.3	69.2
DRUM LEVEL	INCHES	-1.9	-0.8

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.26	8.01
UNDERFIRE AIR FLOW	KLBS/HR	63.7	59.1
OVERFIRE AIR FLOW	KLBS/HR	35.1	39.6
UNDERFIRE AIR SPLIT	%UFA	64.4	59.9
SCAH INLET TEMP	DEG F	101.7	98.7
SCAH EXIT TEMP	DEG F	220.8	227.4

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.47	-0.47
BAGHOUSE dP	INWC	4.5	5.1
AVERAGE ROOF TEMP	DEG F	1211.4	1459.7
BOTTOM 2ND PASS TEMP	DEG F	1110.2	1371.0
SEC SPRHTR INLET TEMP	DEG F	844.9	1003.0
SEC SPRHTR EXIT TEMP	DEG F	764.6	861.0
PRI SPRHTR EXIT TEMP	DEG F	693.5	770.0
ECONOMIZER EXIT TEMP	DEG F	393.1	438.0
SCRUBBER EXIT TEMP	DEG F	289.1	285.3
BAGHOUSE EXIT TEMP	DEG F	278.2	277.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	71.4
CONDENSER EXIT TEMP	DEG F	92.8

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	87.3	75.2	89.5
RELATIVE HUMIDITY	PERCENT	35.6	29.1	78.9
WIND SPEED	MPH	21.4	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 15:50:55

		<u>BOILER 1</u>	<u>BOILER 2</u>	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	62.5	66.6	
TEMPERATURE	DEG F	739.2	809.9	
S/H OUTLET PRESSURE	PSIG	855.9	859.4	
DRUM PRESSURE	PSIG	920.3	934.7	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	62.8	66.9	
DRUM LEVEL	INCHES	-2.2	-0.0	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	9.71	8.17	
UNDERFIRE AIR FLOW	KLBS/HR	63.4	59.5	
OVERFIRE AIR FLOW	KLBS/HR	35.8	40.1	
UNDERFIRE AIR SPLIT	%UFA	63.9	59.7	
SCAH INLET TEMP	DEG F	101.3	98.1	
SCAH EXIT TEMP	DEG F	221.0	227.1	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.21	-0.26	
BAGHOUSE dP	INWC	5.2	6.2	
AVERAGE ROOF TEMP	DEG F	1212.5	1478.3	
BOTTOM 2ND PASS TEMP	DEG F	1123.5	1387.0	
SEC SPRHTR INLET TEMP	DEG F	854.1	1032.0	
SEC SPRHTR EXIT TEMP	DEG F	766.8	879.0	
PRI SPRHTR EXIT TEMP	DEG F	697.3	782.0	
ECONOMIZER EXIT TEMP	DEG F	396.1	450.0	
SCRUBBER EXIT TEMP	DEG F	292.2	297.8	
BAGHOUSE EXIT TEMP	DEG F	279.1	284.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	71.4		
CONDENSER EXIT TEMP	DEG F	93.3		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	86.9	75.2	89.5
RELATIVE HUMIDITY	PERCENT	35.7	29.1	78.9
WIND SPEED	MPH	5.6	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 16:05:56

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	62.5	67.0
TEMPERATURE	DEG F	739.2	806.6
S/H OUTLET PRESSURE	PSIG	855.3	859.1
DRUM PRESSURE	PSIG	919.7	934.4

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.6	69.8
DRUM LEVEL	INCHES	-2.4	-0.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	9.99	8.81
UNDERFIRE AIR FLOW	KLBS/HR	63.8	59.6
OVERFIRE AIR FLOW	KLBS/HR	35.6	39.9
UNDERFIRE AIR SPLIT	%UFA	64.2	59.9
SCAH INLET TEMP	DEG F	100.9	97.9
SCAH EXIT TEMP	DEG F	220.8	226.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.19	-0.48
BAGHOUSE dP	INWC	5.1	5.5
AVERAGE ROOF TEMP	DEG F	1210.4	1469.0
BOTTOM 2ND PASS TEMP	DEG F	1122.3	1380.0
SEC SPRHTR INLET TEMP	DEG F	855.0	1022.0
SEC SPRHTR EXIT TEMP	DEG F	768.2	876.0
PRI SPRHTR EXIT TEMP	DEG F	697.1	779.0
ECONOMIZER EXIT TEMP	DEG F	397.0	447.0
SCRUBBER EXIT TEMP	DEG F	290.6	281.3
BAGHOUSE EXIT TEMP	DEG F	277.7	277.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.2
CONDENSER INLET TEMP	DEG F	71.3
CONDENSER EXIT TEMP	DEG F	93.3

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	86.5	75.2	89.5
RELATIVE HUMIDITY	PERCENT	37.6	29.1	78.9
WIND SPEED	MPH	3.6	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 16:20:56

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.8	65.9
TEMPERATURE	DEG F	734.1	798.2
S/H OUTLET PRESSURE	PSIG	857.2	859.1
DRUM PRESSURE	PSIG	926.6	931.9

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	66.0	69.5
DRUM LEVEL	INCHES	-2.2	-0.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	7.20	8.56
UNDERFIRE AIR FLOW	KLBS/HR	62.8	58.8
OVERFIRE AIR FLOW	KLBS/HR	35.7	39.8
UNDERFIRE AIR SPLIT	%UFA	63.8	59.7
SCAH INLET TEMP	DEG F	100.9	98.1
SCAH EXIT TEMP	DEG F	221.0	226.9

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.49	-0.22
BAGHOUSE dP	INWC	5.1	6.1
AVERAGE ROOF TEMP	DEG F	1229.3	1464.7
BOTTOM 2ND PASS TEMP	DEG F	1130.7	1380.0
SEC SPRHTR INLET TEMP	DEG F	852.3	1016.0
SEC SPRHTR EXIT TEMP	DEG F	768.7	871.0
PRI SPRHTR EXIT TEMP	DEG F	695.3	777.0
ECONOMIZER EXIT TEMP	DEG F	395.4	442.0
SCRUBBER EXIT TEMP	DEG F	289.9	278.3
BAGHOUSE EXIT TEMP	DEG F	277.7	271.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.1
CONDENSER INLET TEMP	DEG F	71.5
CONDENSER EXIT TEMP	DEG F	93.3

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	86.2	75.2	89.5
RELATIVE HUMIDITY	PERCENT	38.0	29.1	78.9
WIND SPEED	MPH	21.9	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 16:35:57

		<u>BOILER 1</u>	<u>BOILER 2</u>		
<b>STEAM PARAMETERS</b>					
FLOW	KLBS/HR	62.1		57.2	
TEMPERATURE	DEG F	731.9		792.7	
S/H OUTLET PRESSURE	PSIG	853.1		851.9	
DRUM PRESSURE	PSIG	918.4		909.1	
<b>FEEDWATER PARAMETERS</b>					
FEEDWATER FLOW	KLBS/HR	64.8		66.0	
DRUM LEVEL	INCHES	-2.0		-1.1	
<b>COMBUSTION AIR PARAMETERS</b>					
WET O2	PERCENT	8.83		10.07	
UNDERFIRE AIR FLOW	KLBS/HR	60.9		56.3	
OVERFIRE AIR FLOW	KLBS/HR	34.6		37.2	
UNDERFIRE AIR SPLIT	%UFA	63.7		60.2	
SCAH INLET TEMP	DEG F	101.4		98.4	
SCAH EXIT TEMP	DEG F	221.8		228.0	
<b>FURNACE GAS PARAMETERS</b>					
FURNACE PRESSURE	INWC	-0.14		-0.27	
BAGHOUSE dP	INWC	4.9		5.8	
AVERAGE ROOF TEMP	DEG F	1227.5		1404.7	
BOTTOM 2ND PASS TEMP	DEG F	1123.9		1335.0	
SEC SPRHTR INLET TEMP	DEG F	850.3		977.0	
SEC SPRHTR EXIT TEMP	DEG F	765.1		853.0	
PRI SPRHTR EXIT TEMP	DEG F	692.1		765.0	
ECONOMIZER EXIT TEMP	DEG F	392.0		436.0	
SCRUBBER EXIT TEMP	DEG F	286.2		282.1	
BAGHOUSE EXIT TEMP	DEG F	272.8		275.0	
<b>OTHER PARAMETERS</b>					
CONDENSER VACUUM	INHGA		1.0		
CONDENSER INLET TEMP	DEG F		71.5		
CONDENSER EXIT TEMP	DEG F		92.2		
		<u>INSTANTANEOUS</u>	<u>LOW</u>	<u>HIGH</u>	
<b>WEATHER STATION</b>					
AMBIENT AIR TEMP	DEG F	85.2	75.2		89.5
RELATIVE HUMIDITY	PERCENT	39.7	29.1		78.9
WIND SPEED	MPH	8.2	0.0		27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

04/22/98 \*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\* 16:50:57

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	66.6	73.2
TEMPERATURE	DEG F	734.4	776.6
S/H OUTLET PRESSURE	PSIG	860.6	865.3
DRUM PRESSURE	PSIG	933.4	951.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	77.4	77.5
DRUM LEVEL	INCHES	-2.3	-2.6

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	7.54	11.16
UNDERFIRE AIR FLOW	KLBS/HR	60.8	48.8
OVERFIRE AIR FLOW	KLBS/HR	35.9	40.8
UNDERFIRE AIR SPLIT	%UFA	62.9	54.5
SCAH INLET TEMP	DEG F	100.5	96.8
SCAH EXIT TEMP	DEG F	221.9	228.1

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.45	-0.58
BAGHOUSE dP	INWC	5.4	5.5
AVERAGE ROOF TEMP	DEG F	1241.2	1454.0
BOTTOM 2ND PASS TEMP	DEG F	1136.8	1407.0
SEC SPRHTR INLET TEMP	DEG F	860.9	1030.0
SEC SPRHTR EXIT TEMP	DEG F	767.3	874.0
PRI SPRHTR EXIT TEMP	DEG F	696.2	774.0
ECONOMIZER EXIT TEMP	DEG F	393.4	436.0
SCRUBBER EXIT TEMP	DEG F	288.3	286.7
BAGHOUSE EXIT TEMP	DEG F	276.8	275.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.3
CONDENSER INLET TEMP	DEG F	71.2
CONDENSER EXIT TEMP	DEG F	94.9

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	84.8	75.2	89.5
RELATIVE HUMIDITY	PERCENT	40.5	29.1	78.9
WIND SPEED	MPH	8.6	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 17:05:58

BOILER 1                      BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	64.5	57.1
TEMPERATURE	DEG F	735.5	761.9
S/H OUTLET PRESSURE	PSIG	855.3	852.5
DRUM PRESSURE	PSIG	925.0	908.1

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	68.0	55.1
DRUM LEVEL	INCHES	-2.4	-0.4

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.65	8.94
UNDERFIRE AIR FLOW	KLBS/HR	60.7	53.3
OVERFIRE AIR FLOW	KLBS/HR	35.4	36.5
UNDERFIRE AIR SPLIT	%UFA	63.1	59.3
SCAH INLET TEMP	DEG F	100.7	98.0
SCAH EXIT TEMP	DEG F	222.2	231.5

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.46	-0.33
BAGHOUSE dP	INWC	5.7	6.0
AVERAGE ROOF TEMP	DEG F	1254.1	1353.7
BOTTOM 2ND PASS TEMP	DEG F	1148.5	1286.0
SEC SPRHTR INLET TEMP	DEG F	863.6	937.0
SEC SPRHTR EXIT TEMP	DEG F	766.8	815.0
PRI SPRHTR EXIT TEMP	DEG F	695.7	735.0
ECONOMIZER EXIT TEMP	DEG F	391.6	412.0
SCRUBBER EXIT TEMP	DEG F	289.7	285.3
BAGHOUSE EXIT TEMP	DEG F	277.7	272.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.0
CONDENSER INLET TEMP	DEG F	71.2
CONDENSER EXIT TEMP	DEG F	92.1

INSTANTANEOUS                      LOW                      HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	85.3	75.2	89.5
RELATIVE HUMIDITY	PERCENT	39.3	29.1	78.9
WIND SPEED	MPH	16.9	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 17:20:58

		BOILER 1	BOILER 2	
		-----	-----	
<b>STEAM PARAMETERS</b>				
FLOW	KLBS/HR	63.5	64.3	
TEMPERATURE	DEG F	734.8	778.4	
S/H OUTLET PRESSURE	PSIG	855.3	856.9	
DRUM PRESSURE	PSIG	923.1	925.9	
<b>FEEDWATER PARAMETERS</b>				
FEEDWATER FLOW	KLBS/HR	65.6	67.0	
DRUM LEVEL	INCHES	-2.2	-1.1	
<b>COMBUSTION AIR PARAMETERS</b>				
WET O2	PERCENT	7.85	9.10	
UNDERFIRE AIR FLOW	KLBS/HR	59.0	55.5	
OVERFIRE AIR FLOW	KLBS/HR	34.5	39.0	
UNDERFIRE AIR SPLIT	%UFA	63.1	58.7	
SCAH INLET TEMP	DEG F	100.8	97.1	
SCAH EXIT TEMP	DEG F	222.9	228.9	
<b>FURNACE GAS PARAMETERS</b>				
FURNACE PRESSURE	INWC	-0.47	-0.40	
BAGHOUSE dP	INWC	5.7	6.3	
AVERAGE ROOF TEMP	DEG F	1228.8	1418.0	
BOTTOM 2ND PASS TEMP	DEG F	1135.2	1332.0	
SEC SPRHTR INLET TEMP	DEG F	856.2	990.0	
SEC SPRHTR EXIT TEMP	DEG F	766.8	844.0	
PRI SPRHTR EXIT TEMP	DEG F	693.0	752.0	
ECONOMIZER EXIT TEMP	DEG F	390.0	425.0	
SCRUBBER EXIT TEMP	DEG F	292.0	301.9	
BAGHOUSE EXIT TEMP	DEG F	276.8	284.0	
<b>OTHER PARAMETERS</b>				
CONDENSER VACUUM	INHGA	1.1		
CONDENSER INLET TEMP	DEG F	70.7		
CONDENSER EXIT TEMP	DEG F	92.4		
		INSTANTANEOUS	LOW	HIGH
		-----	-----	-----
<b>WEATHER STATION</b>				
AMBIENT AIR TEMP	DEG F	84.6	75.2	89.5
RELATIVE HUMIDITY	PERCENT	40.1	29.1	78.9
WIND SPEED	MPH	3.3	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*

\*\*\* OMS of LAKE INSTANTANEOUS SNAPSHOT SUMMARY \*\*\*

04/22/98 17:35:59

BOILER 1 BOILER 2

STEAM PARAMETERS

FLOW	KLBS/HR	63.8	61.8
TEMPERATURE	DEG F	734.8	778.4
S/H OUTLET PRESSURE	PSIG	855.9	855.6
DRUM PRESSURE	PSIG	924.7	920.6

FEEDWATER PARAMETERS

FEEDWATER FLOW	KLBS/HR	65.7	67.7
DRUM LEVEL	INCHES	-2.1	-0.7

COMBUSTION AIR PARAMETERS

WET O2	PERCENT	8.88	8.96
UNDERFIRE AIR FLOW	KLBS/HR	58.8	56.0
OVERFIRE AIR FLOW	KLBS/HR	34.9	38.6
UNDERFIRE AIR SPLIT	%UFA	62.8	59.2
SCAH INLET TEMP	DEG F	100.3	96.6
SCAH EXIT TEMP	DEG F	222.6	227.7

FURNACE GAS PARAMETERS

FURNACE PRESSURE	INWC	-0.38	-0.28
BAGHOUSE dP	INWC	6.0	6.9
AVERAGE ROOF TEMP	DEG F	1229.5	1386.0
BOTTOM 2ND PASS TEMP	DEG F	1138.3	1324.0
SEC SPRHTR INLET TEMP	DEG F	859.5	984.0
SEC SPRHTR EXIT TEMP	DEG F	766.2	848.0
PRI SPRHTR EXIT TEMP	DEG F	693.0	755.0
ECONOMIZER EXIT TEMP	DEG F	389.7	428.0
SCRUBBER EXIT TEMP	DEG F	290.8	299.8
BAGHOUSE EXIT TEMP	DEG F	275.4	285.0

OTHER PARAMETERS

CONDENSER VACUUM	INHGA	1.0
CONDENSER INLET TEMP	DEG F	70.7
CONDENSER EXIT TEMP	DEG F	92.4

INSTANTANEOUS LOW HIGH

WEATHER STATION

AMBIENT AIR TEMP	DEG F	85.2	75.2	89.5
RELATIVE HUMIDITY	PERCENT	39.2	29.1	78.9
WIND SPEED	MPH	21.8	0.0	27.8

Note: The data in this report are instantaneous values.

\*\*\* END OF REPORT \*\*\*



DATA LISTING

NAME: U-1&2 6M PROCESS LOCATION: OMS of LAKE STATION ID: 6

CHAN NAME	1STMF	1SDAT	1UFAF	1OFaf	2STMF	2SDAT	2UFAF	2OFaf
CHAN UNITS	K#/HR	DEG f	K#/HR	K#/HR	K#/HR	DEG f	K#/HR	K#/HR
FULL SCALE	75.0	600.0	130.0	50.0	75.0	600.0	130.0	50.0
ZERO OFFSET	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
START / CHANNEL	01	02	03	04	05	06	07	08
04/22/98 09:12	63.0	290.8	65.7	36.6	62.3	292.3	65.7	41.3
04/22/98 09:18	62.9	291.5	65.6	36.6	62.1	303.5	66.3	41.2
04/22/98 09:24	63.1	292.5	65.1	36.6	61.9	292.0	65.5	41.1
04/22/98 09:30	63.0	291.3	65.7	36.6	62.9	288.5	66.2	41.2
04/22/98 09:36	61.5	294.3	65.5	36.5	63.9	286.3	65.8	41.0
04/22/98 09:42	62.7	283.3	65.3	36.5	62.7	280.8	65.4	41.0
04/22/98 09:48	63.1	292.0	65.6	36.6	62.1	281.3	66.1	41.0
04/22/98 09:54	64.4	292.3	65.7	36.6	64.7	281.0	65.8	40.9
04/22/98 10:00	66.3	289.8	65.7	36.7	61.7	279.8	65.8	40.9
04/22/98 10:06	65.9	289.3	65.5	36.8	63.2	281.3	65.8	40.9
04/22/98 10:12	65.9	292.8	65.1	36.8	62.3	282.5	65.5	40.9
04/22/98 10:18	66.1	293.5	65.7	36.7	61.1	284.0	65.8	40.9
04/22/98 10:24	64.2	289.3	65.7	36.7	62.7	291.3	65.9	40.9
04/22/98 10:30	63.5	292.3	65.2	36.7	61.5	293.0	65.4	40.8
04/22/98 10:36	61.1	289.0	66.0	36.4	62.1	284.3	66.3	40.9
04/22/98 10:42	59.3	293.5	65.0	35.7	61.6	279.0	65.7	40.9
04/22/98 10:48	62.0	293.5	65.7	36.0	60.1	272.0	66.0	40.7
04/22/98 10:54	64.3	289.0	65.6	36.6	61.8	270.8	65.9	40.8
04/22/98 11:00	64.4	291.8	65.1	36.6	62.4	273.3	65.6	40.8
04/22/98 11:06	62.7	292.3	65.7	36.5	63.2	278.0	65.9	40.9
04/22/98 11:12	63.5	290.5	65.8	36.6	63.5	282.8	65.8	40.8
04/22/98 11:18	65.0	292.8	65.7	36.5	62.1	285.8	65.5	40.8
04/22/98 11:24	64.9	291.0	65.6	36.6	61.8	287.0	66.0	40.7
04/22/98 11:30	63.8	291.0	64.9	36.6	61.8	291.3	65.6	40.8
04/22/98 11:36	66.1	294.3	65.7	36.6	63.2	296.0	66.0	40.7
04/22/98 11:42	62.6	289.0	65.7	36.6	63.8	288.3	66.4	41.2
04/22/98 11:48	62.2	291.8	65.0	36.3	64.2	280.0	65.3	40.7
Minimum	10:42	09:42	11:30	10:42	10:48	10:54	11:48	10:48
6-minute Values	59.3	283.3	64.9	35.7	60.1	270.8	65.3	40.7
Maximum	66.3	294.3	66.0	36.8	64.7	303.5	66.4	41.3
	10:00	09:36	10:36	10:12	09:54	09:18	11:42	09:12
Average	63.6	291.3	65.5	36.5	62.5	284.6	65.8	40.9
Total	1717.2	7863.8	1768.2	986.2	1686.7	7685.5	1777.1	1104.3
Recovery (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

DATA LISTING

NAME: U-1&2 6M PROCESS LOCATION: OMS of LAKE STATION ID: 6

CHAN NAME	1STMF	1SDat	1UFaf	1OFaf	2STMF	2SDAt	2UFaf	2OFaf
CHAN UNITS	K#/HR	DEG f	K#/HR	K#/HR	K#/HR	DEG f	K#/HR	K#/HR
FULL SCALE	75.0	600.0	130.0	50.0	75.0	600.0	130.0	50.0
ZERO OFFSET	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
START / CHANNEL	01	02	03	04	05	06	07	08

04/22/98 12:24	62.8	291.5	65.5	36.4	62.7	290.3	65.8	40.8
04/22/98 12:30	63.3	293.3	65.4	36.5	60.7	291.3	65.6	40.7
04/22/98 12:36	64.2	292.5	65.0	36.4	61.1	290.8	65.5	40.8
04/22/98 12:42	63.0	291.0	65.8	36.5	62.4	291.0	66.2	40.7
04/22/98 12:48	62.1	289.5	65.5	36.3	62.3	291.3	65.7	40.8
04/22/98 12:54	64.7	294.0	65.8	36.4	63.6	290.3	66.1	40.8
04/22/98 13:00	64.8	290.0	65.7	36.5	63.2	286.5	66.0	40.7
04/22/98 13:06	64.2	290.5	64.9	36.6	65.0	283.5	65.6	40.6
04/22/98 13:12	65.3	292.0	65.7	36.6	66.5	284.5	66.2	40.7
04/22/98 13:18	66.9	290.3	65.3	36.6	62.3	285.3	65.1	40.6
04/22/98 13:24	65.1	290.3	64.5	36.6	64.3	283.0	63.4	40.7
04/22/98 13:30	65.8	293.0	65.1	36.6	63.6	281.0	63.4	40.8
04/22/98 13:36	63.1	290.0	63.8	36.5	63.6	279.3	62.9	40.7
04/22/98 13:42	61.9	289.3	64.5	36.0	63.2	278.3	62.3	40.5
04/22/98 13:48	63.0	294.5	64.1	36.0	63.1	281.0	62.1	40.4
04/22/98 13:54	64.6	289.8	63.8	36.3	63.5	287.0	61.8	40.5
04/22/98 14:00	64.3	290.5	64.5	36.4	62.3	291.5	62.3	40.4
04/22/98 14:06	67.2	293.0	64.3	36.4	60.6	292.8	62.9	40.1
04/22/98 14:12	63.0	291.0	63.0	36.1	62.1	291.5	62.9	40.2
04/22/98 14:18	61.5	290.8	62.5	35.2	63.8	291.8	64.1	40.7
04/22/98 14:24	62.0	292.8	62.4	35.3	66.2	289.8	62.3	40.4
04/22/98 14:30	63.5	292.8	63.5	35.7	68.1	278.8	61.7	40.5
04/22/98 14:36	64.8	293.0	63.7	36.3	65.4	270.8	59.5	40.1
04/22/98 14:42	63.6	290.0	63.0	36.1	65.6	267.8	58.6	40.0
04/22/98 14:48	64.3	291.8	63.8	36.0	64.4	271.5	59.2	39.8
04/22/98 14:54	66.6	293.5	63.6	36.2	63.9	280.8	59.2	39.7

Minimum	14:18	13:42	14:24	14:18	14:06	14:42	14:42	14:54
6-minute Values	61.5	289.3	62.4	35.2	60.6	267.8	58.6	39.7
Maximum	67.2	294.5	65.8	36.6	68.1	292.8	66.2	40.8
Average	14:06	13:48	12:42	13:18	14:30	14:06	12:42	12:24
Total	64.1	291.5	64.4	36.2	63.6	284.6	63.3	40.5
Recovery (%)	1665.6	7580.3	1674.6	942.0	1653.2	7400.8	1646.4	1052.6
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

DATA LISTING

NAME: U-1&2 6M PROCESS LOCATION: OMS of LAKE STATION ID: 6

CHAN NAME	1STMF	1SDAt	1UFaf	1OFaf	2STMF	2SDAt	2UFaf	2OFaf
CHAN UNITS	K#/HR	DEG f	K#/HR	K#/HR	K#/HR	DEG f	K#/HR	K#/HR
FULL SCALE	75.0	600.0	130.0	50.0	75.0	600.0	130.0	50.0
ZERO OFFSET	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0
START / CHANNEL	01	02	03	04	05	06	07	08

04/22/98 15:12	64.8	291.0	63.1	36.3	64.7	288.5	58.8	39.6
04/22/98 15:18	63.6	292.0	63.9	36.1	63.7	285.5	59.2	39.8
04/22/98 15:24	60.9	292.8	63.5	35.5	63.3	282.8	59.0	39.6
04/22/98 15:30	60.8	290.5	62.8	35.3	62.1	282.0	58.6	39.4
04/22/98 15:36	62.2	291.8	63.7	35.4	61.5	284.3	59.1	39.4
04/22/98 15:42	60.9	291.5	63.1	35.4	61.4	289.3	59.1	39.2
04/22/98 15:48	62.8	294.0	63.4	35.6	64.1	294.3	59.5	39.7
04/22/98 15:54	62.1	290.5	63.3	35.7	63.2	290.0	59.3	39.8
04/22/98 16:00	62.7	290.0	62.9	35.7	63.9	282.0	59.1	39.8
04/22/98 16:06	65.7	293.5	63.2	36.0	64.9	276.0	59.5	39.9
04/22/98 16:12	63.7	289.5	62.5	36.0	63.9	273.8	59.2	39.8
04/22/98 16:18	62.3	291.5	61.9	35.4	65.5	275.8	58.5	39.9
04/22/98 16:24	62.2	294.3	62.1	35.2	64.1	281.3	57.5	39.6
04/22/98 16:30	61.4	275.0	60.2	34.9	57.9	281.5	56.7	37.8
04/22/98 16:36	62.0	289.3	60.9	34.7	55.5	277.0	56.4	36.6
04/22/98 16:42	66.6	295.0	60.8	35.8	69.5	278.0	56.6	39.5
04/22/98 16:48	65.4	290.3	60.3	35.8	68.8	283.3	50.9	40.4
04/22/98 16:54	62.3	291.5	60.7	35.2	52.9	279.0	46.7	36.1
04/22/98 17:00	63.6	291.3	60.6	35.1	55.1	278.8	53.7	36.1
04/22/98 17:06	63.2	290.0	59.4	34.9	56.9	286.8	53.8	36.8
04/22/98 17:12	62.9	291.5	58.8	34.7	59.6	292.0	55.5	37.6
04/22/98 17:18	62.6	293.0	58.0	34.5	62.7	298.5	54.9	38.6
04/22/98 17:24	63.7	291.3	58.8	34.9	61.0	296.8	55.8	38.2
04/22/98 17:30	63.3	289.5	58.6	34.9	61.0	296.8	56.3	38.2

Minimum	15:30	16:30	17:18	17:18	16:54	16:12	16:54	17:00
6-minute Values	60.8	275.0	58.0	34.5	52.9	273.8	46.7	36.1
Maximum	66.6	295.0	63.9	36.3	69.5	298.5	59.5	40.4
	16:42	16:42	15:18	15:12	16:42	17:18	16:06	16:48
Average	63.0	290.8	61.5	35.4	62.0	284.7	56.8	38.8
Total	1511.6	6980.3	1476.5	848.8	1487.0	6833.5	1363.4	931.2
Recovery (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

BULK SYS

+18.0650 1b GROSS  
+18.0650 1b NET

+6.1790 1b GROSS  
+6.1790 1b NET  
+76.8615 1b ACCUM  
9 ACC ENTRIES

+17.7695 1b GROSS  
+17.7695 1b NET  
+80.7100 1b ACCUM  
5 ACC ENTRIES

+2.7070 1b GROSS  
+2.7070 1b NET  
+18.0650 1b ACCUM  
1 ACC ENTRIES

+16.6725 1b GROSS  
+16.6725 1b NET  
+83.0400 1b ACCUM  
10 ACC ENTRIES

+6.8165 1b GROSS  
+6.8165 1b NET  
+98.4800 1b ACCUM  
6 ACC ENTRIES

+5.1325 1b GROSS  
+5.1325 1b NET  
+20.7705 1b ACCUM  
2 ACC ENTRIES

+7.6700 1b GROSS  
+7.6700 1b NET  
+99.7125 1b ACCUM  
11 ACC ENTRIES

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+0.0000 1b NET  
+105.296 1b ACCUM  
7 ACC ENTRIES

+2.2770 1b GROSS  
+2.2770 1b NET  
+25.9030 1b ACCUM  
3 ACC ENTRIES

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+107.382 1b ACCUM  
12 ACC ENTRIES

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+23.8080 1b NET

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+16.8535 1b NET  
+28.1800 1b ACCUM  
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+7.9210 1b NET

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+15.1905 1b NET  
+23.8065 1b ACCUM  
1 ACC ENTRIES

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+17.1075 1b NET  
+45.0340 1b ACCUM  
5 ACC ENTRIES

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+22.3160 1b NET  
+7.9205 1b ACCUM  
1 ACC ENTRIES

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+16.9985 1b NET  
+38.9970 1b ACCUM  
2 ACC ENTRIES

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+2.5450 1b NET  
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6 ACC ENTRIES

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2 ACC ENTRIES

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3 ACC ENTRIES

+6.5745 1b GROSS  
+6.5745 1b NET  
+64.6870 1b ACCUM  
7 ACC ENTRIES

+20.3125 1b GROSS  
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+42.1300 1b ACCUM  
3 ACC ENTRIES

+21.8835 1b GROSS  
+21.8835 1b NET  
+74.4605 1b ACCUM  
4 ACC ENTRIES

+5.6000 1b GROSS  
+5.6000 1b NET  
+71.2615 1b ACCUM  
8 ACC ENTRIES

+18.2680 1b GROSS  
+18.2680 1b NET  
+62.4425 1b ACCUM  
4 ACC ENTRIES

+28.7745 1b GROSS  
+28.7745 1b NET  
+96.3440 1b ACCUM  
5 ACC ENTRIES

Best Available Copy

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 +24.4085 1b GROSS  
 +24.4085 1b NET  
 +125.119 1b ACCUM  
 6 ACC ENTRIES

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 +23.4585 1b GROSS  
 +23.4585 1b NET  
 +149.528 1b ACCUM  
 7 ACC ENTRIES

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 +2.7775 1b GROSS  
 +2.7775 1b NET  
 +172.987 1b ACCUM  
 8 ACC ENTRIES

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 +175.764 1b ACCUM  
 9 ACC ENTRIES

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 +7.3435 1b NET  
 +180.327 1b ACCUM  
 10 ACC ENTRIES

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 +8.1070 1b NET  
 +187.670 1b ACCUM  
 11 ACC ENTRIES

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 +24.2750 1b NET  
 +195.776 1b ACCUM  
 12 ACC ENTRIES

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 13 ACC ENTRIES

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 +236.255 1b ACCUM  
 14 ACC ENTRIES

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 +28.4570 1b NET  
 +251.983 1b ACCUM  
 15 ACC ENTRIES

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 +17.8880 1b NET  
 +280.440 1b ACCUM  
 16 ACC ENTRIES

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 +14.1900 1b NET  
 +298.328 1b ACCUM  
 17 ACC ENTRIES

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 +0.0010 1b NET  
 +312.518 1b ACCUM  
 18 ACC ENTRIES

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 +19.7595 1b NET

-----  
 +13.7660 1b GROSS  
 +13.7660 1b NET  
 +19.7640 1b ACCUM  
 1 ACC ENTRIES

-----  
 +9.8670 1b GROSS  
 +9.8670 1b NET  
 +33.5305 1b ACCUM  
 2 ACC ENTRIES

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 +20.5800 1b NET  
 +43.3975 1b ACCUM  
 3 ACC ENTRIES

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 4 ACC ENTRIES

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 +25.7090 1b NET  
 +90.5985 1b ACCUM  
 5 ACC ENTRIES

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 +19.2985 1b NET  
 +116.307 1b ACCUM  
 6 ACC ENTRIES

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 +21.4530 1b NET  
 +135.606 1b ACCUM  
 7 ACC ENTRIES

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 +2.3340 1b GROSS  
 +2.3340 1b NET  
 +157.059 1b ACCUM  
 8 ACC ENTRIES

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 +28.8085 1b GROSS  
 +28.8085 1b NET  
 +159.393 1b ACCUM  
 9 ACC ENTRIES

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 +30.4835 1b GROSS  
 +30.4835 1b NET  
 +188.202 1b ACCUM  
 10 ACC ENTRIES

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 +33.2910 1b GROSS  
 +33.2910 1b NET  
 +218.685 1b ACCUM  
 11 ACC ENTRIES

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 +10.6115 1b GROSS  
 +10.6115 1b NET  
 +251.976 1b ACCUM  
 12 ACC ENTRIES

-----  
 +22.8255 1b GROSS  
 +22.8255 1b NET  
 +262.588 1b ACCUM  
 13 ACC ENTRIES

Best Available Copy

+27.5240 1b GROSS  
+27.5240 1b NET  
+285.414 1b ACCUM  
14 ACC ENTRIES

+10.8175 1b GROSS  
+10.8175 1b NET  
+129.637 1b ACCUM  
5 ACC ENTRIES

+5.1625 1b GROSS  
+5.1625 1b NET  
+23.9590 1b ACCUM  
3 ACC ENTRIES

+16.6800 1b GROSS  
+16.6800 1b NET  
+312.938 1b ACCUM  
15 ACC ENTRIES

+9.3580 1b GROSS  
+9.3580 1b NET  
+140.454 1b ACCUM  
6 ACC ENTRIES

+26.4280 1b GROSS  
+26.4280 1b NET  
+29.1210 1b ACCUM  
4 ACC ENTRIES

+16.6800 1b GROSS  
+16.6800 1b NET  
+329.618 1b ACCUM  
16 ACC ENTRIES

+31.4255 1b GROSS  
+31.4255 1b NET  
+149.813 1b ACCUM  
7 ACC ENTRIES

+14.3540 1b GROSS  
+14.3540 1b NET  
+55.5485 1b ACCUM  
5 ACC ENTRIES

-0.0020 1b GROSS  
-0.0020 1b NET  
+346.298 1b ACCUM  
17 ACC ENTRIES  
+26.5220 1b GROSS  
+26.5220 1b NET

+9.2425 1b GROSS  
+9.2425 1b NET  
+181.239 1b ACCUM  
8 ACC ENTRIES

+10.2075 1b GROSS  
+10.2075 1b NET  
+69.8995 1b ACCUM  
6 ACC ENTRIES

+27.2755 1b GROSS  
+27.2755 1b NET  
+26.5225 1b ACCUM  
1 ACC ENTRIES

+16.3975 1b GROSS  
+16.3975 1b NET  
+190.481 1b ACCUM  
9 ACC ENTRIES

+20.5540 1b GROSS  
+20.5540 1b NET  
+80.1000 1b ACCUM  
7 ACC ENTRIES

+21.5195 1b GROSS  
+21.5195 1b NET  
+53.7980 1b ACCUM  
2 ACC ENTRIES

+0.0020 1b GROSS  
+0.0020 1b NET  
+206.878 1b ACCUM  
10 ACC ENTRIES

+24.2045 1b GROSS  
+24.2045 1b NET  
+100.656 1b ACCUM  
8 ACC ENTRIES

+27.7165 1b GROSS  
+27.7165 1b NET  
+75.3175 1b ACCUM  
3 ACC ENTRIES

+9.8445 1b GROSS  
+9.8445 1b NET

+17.8400 1b GROSS  
+17.8400 1b NET  
+124.861 1b ACCUM  
9 ACC ENTRIES

+26.6030 1b GROSS  
+26.6030 1b NET  
+103.034 1b ACCUM  
4 ACC ENTRIES

+7.2350 1b GROSS  
+7.2350 1b NET  
+0.0020 1b ACCUM  
1 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+142.701 1b ACCUM  
10 ACC ENTRIES

+16.3645 1b GROSS  
+16.3645 1b NET  
+7.5910 1b ACCUM  
2 ACC ENTRIES

+17.2020 1b GROSS  
+17.2020 1b NET

+26.4940 1b GROSS  
+26.4940 1b NET  
+214.171 1b ACCUM  
9 ACC ENTRIES

+9.4175 1b GROSS  
+9.4175 1b NET  
+82.3585 1b ACCUM  
5 ACC ENTRIES

+15.6240 1b GROSS  
+15.6240 1b NET  
+17.2020 1b ACCUM  
1 ACC ENTRIES

+23.8890 1b GROSS  
+23.8890 1b NET  
+240.663 1b ACCUM  
10 ACC ENTRIES

+30.8600 1b GROSS  
+30.8600 1b NET  
+91.7760 1b ACCUM  
6 ACC ENTRIES

+24.0740 1b GROSS  
+24.0740 1b NET  
+32.8370 1b ACCUM  
2 ACC ENTRIES

+22.5950 1b GROSS  
+22.5950 1b NET  
+264.552 1b ACCUM  
11 ACC ENTRIES

+25.3550 1b GROSS  
+25.3550 1b NET  
+122.634 1b ACCUM  
7 ACC ENTRIES

+33.6440 1b GROSS  
+33.6440 1b NET  
+56.9110 1b ACCUM  
3 ACC ENTRIES

-0.0015 1b GROSS  
-0.0015 1b NET  
+287.146 1b ACCUM  
12 ACC ENTRIES

+24.5955 1b GROSS  
+24.5955 1b NET  
+147.989 1b ACCUM  
8 ACC ENTRIES

+23.7045 1b GROSS  
+23.7045 1b NET  
+90.5545 1b ACCUM  
4 ACC ENTRIES

+5.7945 1b GROSS  
+5.7945 1b NET

+23.0005 1b GROSS  
+23.0005 1b NET  
+172.584 1b ACCUM  
9 ACC ENTRIES

+30.8540 1b GROSS  
+30.8540 1b NET  
+114.260 1b ACCUM  
5 ACC ENTRIES

+9.7380 1b GROSS  
+9.7380 1b NET  
+5.7955 1b ACCUM  
1 ACC ENTRIES

+27.6560 1b GROSS  
+27.6560 1b NET  
+195.584 1b ACCUM  
10 ACC ENTRIES

+29.1675 1b GROSS  
+29.1675 1b NET  
+145.114 1b ACCUM  
6 ACC ENTRIES

+32.7425 1b GROSS  
+32.7425 1b NET  
+15.5340 1b ACCUM  
2 ACC ENTRIES

+32.0955 1b GROSS  
+32.0955 1b NET  
+223.240 1b ACCUM  
11 ACC ENTRIES

+12.9785 1b GROSS  
+12.9785 1b NET  
+174.281 1b ACCUM  
7 ACC ENTRIES

+7.1315 1b GROSS  
+7.1315 1b NET  
+48.2770 1b ACCUM  
3 ACC ENTRIES

+29.0425 1b GROSS  
+29.0425 1b NET  
+255.335 1b ACCUM  
12 ACC ENTRIES

+26.9115 1b GROSS  
+26.9115 1b NET  
+187.259 1b ACCUM  
8 ACC ENTRIES

+26.9490 1b GROSS  
+26.9490 1b NET  
+55.4085 1b ACCUM  
4 ACC ENTRIES

+0.0010 1b GROSS  
+0.0010 1b NET  
+284.377 1b ACCUM  
13 ACC ENTRIES

+25.7295 1b GROSS  
+25.7295 1b NET

+17.8910 1b GROSS  
+17.8910 1b NET  
+151.042 1b ACCUM  
9 ACC ENTRIES

+5.1265 1b GROSS  
+5.1265 1b NET  
+67.8175 1b ACCUM  
4 ACC ENTRIES

+14.1790 1b GROSS  
+14.1790 1b NET  
+25.7295 1b ACCUM  
1 ACC ENTRIES

+11.7075 1b GROSS  
+11.7075 1b NET  
+168.933 1b ACCUM  
10 ACC ENTRIES

+13.4235 1b GROSS  
+13.4235 1b NET  
+72.9440 1b ACCUM  
5 ACC ENTRIES

+14.1005 1b GROSS  
+14.1005 1b NET  
+39.9085 1b ACCUM  
2 ACC ENTRIES

+8.6835 1b GROSS  
+8.6835 1b NET  
+180.640 1b ACCUM  
11 ACC ENTRIES

+10.1685 1b GROSS  
+10.1685 1b NET  
+86.3675 1b ACCUM  
6 ACC ENTRIES

+18.7650 1b GROSS  
+18.7650 1b NET  
+54.0000 1b ACCUM  
3 ACC ENTRIES

+23.9240 1b GROSS  
+23.9240 1b NET  
+189.324 1b ACCUM  
12 ACC ENTRIES

+5.2845 1b GROSS  
+5.2845 1b NET  
+96.5360 1b ACCUM  
7 ACC ENTRIES

+15.7340 1b GROSS  
+15.7340 1b NET  
+72.7730 1b ACCUM  
4 ACC ENTRIES

-0.0015 1b GROSS  
-0.0015 1b NET  
+213.248 1b ACCUM  
13 ACC ENTRIES

+15.3970 1b GROSS  
+15.3970 1b NET  
+101.821 1b ACCUM  
8 ACC ENTRIES

+23.4990 1b GROSS  
+23.4990 1b NET  
+88.5070 1b ACCUM  
5 ACC ENTRIES

+8.9380 1b GROSS  
+8.9380 1b NET

+16.2485 1b GROSS  
+16.2485 1b NET  
+117.217 1b ACCUM  
9 ACC ENTRIES

+19.7065 1b GROSS  
+19.7065 1b NET  
+112.005 1b ACCUM  
6 ACC ENTRIES

+26.9295 1b GROSS  
+26.9295 1b NET  
+8.9375 1b ACCUM  
1 ACC ENTRIES

+4.8560 1b GROSS  
+4.8560 1b NET  
+133.466 1b ACCUM  
10 ACC ENTRIES

+11.2950 1b GROSS  
+11.2950 1b NET  
+131.712 1b ACCUM  
7 ACC ENTRIES

+16.3345 1b GROSS  
+16.3345 1b NET  
+35.8675 1b ACCUM  
2 ACC ENTRIES

+19.1510 1b GROSS  
+19.1510 1b NET  
+138.322 1b ACCUM  
11 ACC ENTRIES

+8.0350 1b GROSS  
+8.0350 1b NET  
+143.008 1b ACCUM  
8 ACC ENTRIES

+15.6135 1b GROSS  
+15.6135 1b NET  
+52.2025 1b ACCUM  
3 ACC ENTRIES

+21.0065 1b GROSS  
+21.0065 1b NET  
+157.473 1b ACCUM  
12 ACC ENTRIES



Best Available Copy

-----  
+21.6485 1b GROSS  
+21.6485 1b NET  
+178.480 1b ACCUM  
13 ACC ENTRIES  
-----

-----  
+0.0015 1b GROSS  
+0.0015 1b NET  
+200.129 1b ACCUM  
14 ACC ENTRIES  
-----

-----  
+4.0535 1b GROSS  
+4.0535 1b NET  
-----

-----  
+10.5920 1b GROSS  
+10.5920 1b NET  
+4.0535 1b ACCUM  
1 ACC ENTRIES  
-----

-----  
+22.9365 1b GROSS  
+22.9365 1b NET  
+14.6455 1b ACCUM  
2 ACC ENTRIES  
-----

-----  
+15.6375 1b GROSS  
+15.6375 1b NET  
+37.5820 1b ACCUM  
3 ACC ENTRIES  
-----

-----  
+16.3250 1b GROSS  
+16.3250 1b NET  
+53.2195 1b ACCUM  
4 ACC ENTRIES  
-----

-----  
+7.7025 1b GROSS  
+7.7025 1b NET  
+69.5440 1b ACCUM  
5 ACC ENTRIES  
-----

-----  
+20.4710 1b GROSS  
+20.4710 1b NET  
+77.2465 1b ACCUM  
6 ACC ENTRIES  
-----

-----  
+20.5805 1b GROSS  
+20.5805 1b NET  
+97.7175 1b ACCUM  
7 ACC ENTRIES  
-----

-----  
+20.3020 1b GROSS  
+20.3020 1b NET  
+118.297 1b ACCUM  
8 ACC ENTRIES  
-----

-----  
+6.2210 1b GROSS  
+6.2210 1b NET  
+138.599 1b ACCUM  
9 ACC ENTRIES  
-----

-----  
+18.4625 1b GROSS  
+18.4625 1b NET  
+144.820 1b ACCUM  
10 ACC ENTRIES  
-----

-----  
+8.8010 1b GROSS  
+8.8010 1b NET  
+163.284 1b ACCUM  
11 ACC ENTRIES  
-----

-----  
+15.0205 1b GROSS  
+15.0205 1b NET  
+172.085 1b ACCUM  
12 ACC ENTRIES  
-----

-----  
-0.0005 1b GROSS  
-0.0005 1b NET  
+187.105 1b ACCUM  
13 ACC ENTRIES  
-----

+12.7305 1b GROSS  
+12.7305 1b NET

+18.9630 1b GROSS  
+18.9630 1b NET  
+12.7325 1b ACCUM  
1 ACC ENTRIES

+24.5335 1b GROSS  
+24.5335 1b NET  
+31.6945 1b ACCUM  
2 ACC ENTRIES

+20.8925 1b GROSS  
+20.8925 1b NET  
+56.2260 1b ACCUM  
3 ACC ENTRIES

+20.9320 1b GROSS  
+20.9320 1b NET  
+77.1190 1b ACCUM  
4 ACC ENTRIES

+27.4085 1b GROSS  
+27.4085 1b NET  
+98.0505 1b ACCUM  
5 ACC ENTRIES

+10.4535 1b GROSS  
+10.4535 1b NET  
+125.459 1b ACCUM  
6 ACC ENTRIES

+13.3930 1b GROSS  
+13.3930 1b NET  
+135.911 1b ACCUM  
7 ACC ENTRIES

+11.4420 1b GROSS  
+11.4420 1b NET  
+149.304 1b ACCUM  
8 ACC ENTRIES

+12.7175 1b GROSS  
+12.7175 1b NET  
+160.745 1b ACCUM  
9 ACC ENTRIES

+25.0265 1b GROSS  
+25.0265 1b NET  
+173.460 1b ACCUM  
10 ACC ENTRIES

+25.3350 1b GROSS  
+25.3350 1b NET  
+198.485 1b ACCUM  
11 ACC ENTRIES

+3.9145 1b GROSS  
+3.9145 1b NET  
+223.820 1b ACCUM  
12 ACC ENTRIES

+0.0015 1b GROSS  
+0.0015 1b NET  
+227.734 1b ACCUM  
13 ACC ENTRIES

Run #1

-ast Buckets  
Bulic system

4-22-98

19811 #2 STACK test Lnu Kun  
Bulk SYS

+29.1485 1b GROSS  
+29.1485 1b NET

+5.6620 1b GROSS  
+5.6620 1b NET  
+29.1485 1b ACCUM  
1 ACC ENTRIES

+20.5835 1b GROSS  
+20.5835 1b NET  
+34.8115 1b ACCUM  
2 ACC ENTRIES

+29.6900 1b GROSS  
+29.6900 1b NET  
+55.3950 1b ACCUM  
3 ACC ENTRIES

+20.1340 1b GROSS  
+20.1340 1b NET  
+85.0850 1b ACCUM  
4 ACC ENTRIES

+5.4670 1b GROSS  
+5.4670 1b NET  
+105.218 1b ACCUM  
5 ACC ENTRIES

+13.1200 1b GROSS  
+13.1200 1b NET  
+110.686 1b ACCUM  
6 ACC ENTRIES

+36.9010 1b GROSS  
+36.9010 1b NET  
+123.806 1b ACCUM  
7 ACC ENTRIES

+32.7885 1b GROSS  
+32.7885 1b NET  
+160.696 1b ACCUM  
8 ACC ENTRIES

+38.6185 1b GROSS  
+38.6185 1b NET  
+193.480 1b ACCUM  
9 ACC ENTRIES

+29.3195 1b GROSS  
+29.3195 1b NET  
+232.099 1b ACCUM  
10 ACC ENTRIES

+32.0160 1b GROSS  
+32.0160 1b NET  
+261.419 1b ACCUM  
11 ACC ENTRIES

+16.0970 1b GROSS  
+16.0970 1b NET  
+293.434 1b ACCUM  
12 ACC ENTRIES

-0.0005 1b GROSS  
-0.0005 1b NET  
+309.531 1b ACCUM  
13 ACC ENTRIES

+23.5415 1b GROSS  
+23.5415 1b NET

+8.4685 1b GROSS  
+8.4685 1b NET  
+23.5415 1b ACCUM  
1 ACC ENTRIES

+13.1555 1b GROSS  
+13.1555 1b NET  
+32.0095 1b ACCUM  
2 ACC ENTRIES

+25.1660 1b GROSS  
+25.1660 1b NET  
+45.1655 1b ACCUM  
3 ACC ENTRIES

+14.9415 1b GROSS  
+14.9415 1b NET  
+70.3310 1b ACCUM  
4 ACC ENTRIES

+24.0090 1b GROSS  
+24.0090 1b NET  
+85.2725 1b ACCUM  
5 ACC ENTRIES

+12.3580 1b GROSS  
+12.3580 1b NET  
+109.281 1b ACCUM  
6 ACC ENTRIES

+33.9790 1b GROSS  
+33.9790 1b NET  
+121.639 1b ACCUM  
7 ACC ENTRIES

+37.1475 1b GROSS  
+37.1475 1b NET  
+155.605 1b ACCUM  
8 ACC ENTRIES

+17.4060 1b GROSS  
+17.4060 1b NET  
+192.752 1b ACCUM  
9 ACC ENTRIES

+0.0000 1b GROSS  
+210.158 1b ACCUM  
10 ACC ENTRIES

+0.0000 1b GROSS  
+0.0000 1b NET

+30.6470 1b GROSS  
+30.6470 1b NET  
+145.201 1b ACCUM  
7 ACC ENTRIES

+15.4950 1b GROSS  
+15.4950 1b NET  
+62.7525 1b ACCUM  
2 ACC ENTRIES

-0.0005 1b GROSS  
-0.0005 1b NET

+16.8560 1b GROSS  
+16.8560 1b NET  
+175.848 1b ACCUM  
8 ACC ENTRIES

+31.4330 1b GROSS  
+31.4330 1b NET  
+78.2470 1b ACCUM  
3 ACC ENTRIES

+21.3755 1b GROSS  
+21.3755 1b NET

+27.3815 1b GROSS  
+27.3815 1b NET  
+192.703 1b ACCUM  
9 ACC ENTRIES

+31.4285 1b GROSS  
+31.4285 1b NET  
+109.679 1b ACCUM  
4 ACC ENTRIES

+16.7125 1b GROSS  
+16.7125 1b NET  
+21.3765 1b ACCUM  
1 ACC ENTRIES

+17.7440 1b GROSS  
+17.7440 1b NET  
+220.084 1b ACCUM  
10 ACC ENTRIES

+23.6230 1b GROSS  
+23.6230 1b NET  
+141.107 1b ACCUM  
5 ACC ENTRIES

+14.5925 1b GROSS  
+14.5925 1b NET  
+38.0085 1b ACCUM  
2 ACC ENTRIES

+24.8160 1b GROSS  
+24.8160 1b NET  
+237.828 1b ACCUM  
11 ACC ENTRIES

+26.4875 1b GROSS  
+26.4875 1b NET  
+164.729 1b ACCUM  
6 ACC ENTRIES

+19.0295 1b GROSS  
+19.0295 1b NET  
+52.6805 1b ACCUM  
3 ACC ENTRIES

+0.0010 1b GROSS  
+0.0010 1b NET  
+262.644 1b ACCUM  
12 ACC ENTRIES

+17.4235 1b GROSS  
+17.4235 1b NET  
+191.216 1b ACCUM  
7 ACC ENTRIES

+26.6300 1b GROSS  
+26.6300 1b NET  
+71.7100 1b ACCUM  
4 ACC ENTRIES

+9.5600 1b GROSS  
+9.5600 1b NET  
+208.639 1b ACCUM  
8 ACC ENTRIES

+22.8955 1b GROSS  
+22.8955 1b NET  
+98.3395 1b ACCUM  
5 ACC ENTRIES

+35.3775 1b GROSS  
+35.3775 1b NET

+25.2400 1b GROSS  
+25.2400 1b NET  
+218.199 1b ACCUM  
9 ACC ENTRIES

+23.9670 1b GROSS  
+23.9670 1b NET  
+121.234 1b ACCUM  
6 ACC ENTRIES

+27.3775 1b GROSS  
+27.3775 1b NET  
+35.3760 1b ACCUM  
1 ACC ENTRIES

+24.6220 1b GROSS  
+24.6220 1b NET  
+243.439 1b ACCUM  
10 ACC ENTRIES

+16.8835 1b GROSS  
 +16.8835 1b NET  
 +268.061 1b ACCUM  
 11 ACC ENTRIES

+14.4585 1b GROSS  
 +14.4585 1b NET  
 +284.945 1b ACCUM  
 12 ACC ENTRIES

-0.0015 1b GROSS  
 -0.0015 1b NET  
 +299.404 1b ACCUM  
 13 ACC ENTRIES

+28.2025 1b GROSS  
 +28.2025 1b NET

+26.5005 1b GROSS  
 +26.5005 1b NET  
 +28.2025 1b ACCUM  
 1 ACC ENTRIES

+15.1625 1b GROSS  
 +15.1625 1b NET  
 +54.7030 1b ACCUM  
 2 ACC ENTRIES

+10.4585 1b GROSS  
 +10.4585 1b NET  
 +69.8670 1b ACCUM  
 3 ACC ENTRIES

+16.2830 1b GROSS  
 +16.2830 1b NET  
 +80.3250 1b ACCUM  
 4 ACC ENTRIES

+22.6355 1b GROSS  
 +22.6355 1b NET  
 +96.6060 1b ACCUM  
 5 ACC ENTRIES

+34.6340 1b GROSS  
 +34.6340 1b NET  
 +119.242 1b ACCUM  
 6 ACC ENTRIES

+20.6135 1b GROSS  
 +20.6135 1b NET  
 +153.875 1b ACCUM  
 7 ACC ENTRIES

+20.6205 1b GROSS  
 +20.6205 1b NET  
 +174.489 1b ACCUM  
 8 ACC ENTRIES

+35.6120 1b GROSS  
 +35.6120 1b NET  
 +195.109 1b ACCUM  
 9 ACC ENTRIES

+14.5735 1b GROSS  
 +14.5735 1b NET  
 +230.720 1b ACCUM  
 10 ACC ENTRIES

+22.3290 1b GROSS  
 +22.3290 1b NET  
 +245.293 1b ACCUM  
 11 ACC ENTRIES

+22.4605 1b GROSS  
 +22.4605 1b NET  
 +267.621 1b ACCUM  
 12 ACC ENTRIES

-0.0005 1b GROSS  
 -0.0005 1b NET  
 +290.082 1b ACCUM  
 13 ACC ENTRIES

+17.6330 1b GROSS  
 +17.6330 1b NET

+16.8985 1b GROSS  
 +16.8985 1b NET  
 +17.6330 1b ACCUM  
 1 ACC ENTRIES

+28.1195 1b GROSS  
 +28.1195 1b NET  
 +34.5305 1b ACCUM  
 2 ACC ENTRIES

+26.1725 1b GROSS  
 +26.1725 1b NET  
 +62.6490 1b ACCUM  
 3 ACC ENTRIES

+9.7500 1b GROSS  
 +9.7500 1b NET  
 +80.8210 1b ACCUM  
 4 ACC ENTRIES

+17.4520 1b GROSS  
 +17.4520 1b NET  
 +98.5710 1b ACCUM  
 5 ACC ENTRIES

+12.7595 1b GROSS  
 +12.7595 1b NET  
 +116.022 1b ACCUM  
 6 ACC ENTRIES

4 of 11

+13.5500 1b GROSS  
+13.5500 1b NET  
+128.782 1b ACCUM  
7 ACC ENTRIES

+12.8000 1b GROSS  
+12.8000 1b NET  
+142.331 1b ACCUM  
8 ACC ENTRIES

+16.6355 1b GROSS  
+16.6355 1b NET  
+155.139 1b ACCUM  
9 ACC ENTRIES

+12.1990 1b GROSS  
+12.1990 1b NET  
+171.775 1b ACCUM  
10 ACC ENTRIES

+28.6005 1b GROSS  
+28.6005 1b NET  
+183.973 1b ACCUM  
11 ACC ENTRIES

+0.0000 1b GROSS  
+0.0000 1b NET  
+212.574 1b ACCUM  
12 ACC ENTRIES

+11.1455 1b GROSS  
+11.1455 1b NET

+14.5295 1b GROSS  
+14.5295 1b NET  
+11.1455 1b ACCUM  
1 ACC ENTRIES

+19.7555 1b GROSS  
+19.7555 1b NET  
+25.6750 1b ACCUM  
2 ACC ENTRIES

+18.6855 1b GROSS  
+18.6855 1b NET  
+45.4295 1b ACCUM  
3 ACC ENTRIES

+11.0625 1b GROSS  
+11.0625 1b NET  
+64.1145 1b ACCUM  
4 ACC ENTRIES

+15.7395 1b GROSS  
+15.7395 1b NET  
+75.1775 1b ACCUM  
5 ACC ENTRIES

+11.3845 1b GROSS  
+11.3845 1b NET  
+90.9170 1b ACCUM  
6 ACC ENTRIES

+8.6410 1b GROSS  
+8.6410 1b NET  
+102.301 1b ACCUM  
7 ACC ENTRIES

+12.0255 1b GROSS  
+12.0255 1b NET  
+110.942 1b ACCUM  
8 ACC ENTRIES

+24.3860 1b GROSS  
+24.3860 1b NET  
+122.968 1b ACCUM  
9 ACC ENTRIES

+12.7405 1b GROSS  
+12.7405 1b NET  
+147.353 1b ACCUM  
10 ACC ENTRIES

+12.8580 1b GROSS  
+12.8580 1b NET  
+160.094 1b ACCUM  
11 ACC ENTRIES

-0.0005 1b GROSS  
-0.0005 1b NET  
+172.951 1b ACCUM  
12 ACC ENTRIES

+17.5900 1b GROSS  
+17.5900 1b NET

+10.9785 1b GROSS  
+10.9785 1b NET  
+17.5900 1b ACCUM  
1 ACC ENTRIES

+15.4320 1b GROSS  
+15.4320 1b NET  
+28.5685 1b ACCUM  
2 ACC ENTRIES

+19.4590 1b GROSS  
+19.4590 1b NET  
+44.0000 1b ACCUM  
3 ACC ENTRIES

+22.8550 1b GROSS  
+22.8550 1b NET  
+63.4600 1b ACCUM  
4 ACC ENTRIES

+12.7705 1b GROSS  
+12.7705 1b NET  
+86.3150 1b ACCUM  
5 ACC ENTRIES

+18.4390 1b GROSS  
+18.4390 1b NET  
+99.0850 1b ACCUM  
6 ACC ENTRIES

+8.5505 1b GROSS  
+8.5505 1b NET  
+117.526 1b ACCUM  
7 ACC ENTRIES

+26.2005 1b GROSS  
+26.2005 1b NET  
+126.076 1b ACCUM  
8 ACC ENTRIES

+12.4290 1b GROSS  
+12.4290 1b NET  
+152.277 1b ACCUM  
9 ACC ENTRIES

+14.2485 1b GROSS  
+14.2485 1b NET  
+164.705 1b ACCUM  
10 ACC ENTRIES

+0.0000 1b GROSS  
+0.0000 1b NET  
+178.954 1b ACCUM  
11 ACC ENTRIES

+24.9480 1b GROSS  
+24.9480 1b NET

+15.7140 1b GROSS  
+15.7140 1b NET  
+24.9480 1b ACCUM  
1 ACC ENTRIES

+19.2370 1b GROSS  
+19.2370 1b NET  
+40.6620 1b ACCUM  
2 ACC ENTRIES

+18.1240 1b GROSS  
+18.1240 1b NET  
+59.8990 1b ACCUM  
3 ACC ENTRIES

+7.6160 1b GROSS  
+7.6160 1b NET  
+78.0230 1b ACCUM  
4 ACC ENTRIES

~~+26.0015 1b GROSS  
+26.0015 1b NET  
+85.6385 1b ACCUM  
5 ACC ENTRIES~~

+26.8145 1b GROSS  
+26.8145 1b NET  
+85.6385 1b ACCUM  
5 ACC ENTRIES

+26.8475 1b GROSS  
+26.8475 1b NET  
+112.454 1b ACCUM  
6 ACC ENTRIES

+14.3510 1b GROSS  
+14.3510 1b NET  
+139.302 1b ACCUM  
7 ACC ENTRIES

+16.2635 1b GROSS  
+16.2635 1b NET  
+153.652 1b ACCUM  
8 ACC ENTRIES

+13.7220 1b GROSS  
+13.7220 1b NET  
+169.915 1b ACCUM  
9 ACC ENTRIES

+26.3100 1b GROSS  
+26.3100 1b NET  
+183.637 1b ACCUM  
10 ACC ENTRIES

+21.0470 1b GROSS  
+21.0470 1b NET  
+209.947 1b ACCUM  
11 ACC ENTRIES

+0.0015 1b GROSS  
+0.0015 1b NET  
+230.995 1b ACCUM  
12 ACC ENTRIES

+32.3070 1b GROSS  
+32.3070 1b NET

+26.0130 1b GROSS  
+26.0130 1b NET  
+32.3120 1b ACCUM  
1 ACC ENTRIES

+11.2735 1b GROSS  
+11.2735 1b NET  
+58.3245 1b ACCUM  
2 ACC ENTRIES

+11.2735 1b GROSS  
+11.2735 1b NET  
+69.5975 1b ACCUM  
3 ACC ENTRIES

+20.8520 1b GROSS  
+20.8520 1b NET  
+80.8710 1b ACCUM  
4 ACC ENTRIES

+21.2325 1b GROSS  
+21.2325 1b NET  
+101.723 1b ACCUM  
5 ACC ENTRIES

+16.5520 1b GROSS  
+16.5520 1b NET  
+122.955 1b ACCUM  
6 ACC ENTRIES

+17.0795 1b GROSS  
+17.0795 1b NET  
+139.507 1b ACCUM  
7 ACC ENTRIES

+31.7700 1b GROSS  
+31.7700 1b NET  
+156.586 1b ACCUM  
8 ACC ENTRIES

+23.6540 1b GROSS  
+23.6540 1b NET  
+188.355 1b ACCUM  
9 ACC ENTRIES

+24.7015 1b GROSS  
+24.7015 1b NET  
+212.009 1b ACCUM  
10 ACC ENTRIES

+19.3220 1b GROSS  
+19.3220 1b NET  
+236.711 1b ACCUM  
11 ACC ENTRIES

+19.3220 1b GROSS  
+19.3220 1b NET  
+256.032 1b ACCUM  
12 ACC ENTRIES

+19.1365 1b GROSS  
+19.1365 1b NET  
+275.354 1b ACCUM  
13 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+294.492 1b ACCUM  
14 ACC ENTRIES

+9.6205 1b GROSS  
+9.6205 1b NET

+14.7710 1b GROSS  
+14.7710 1b NET  
+9.6205 1b ACCUM  
1 ACC ENTRIES

+4.2825 1b GROSS  
+4.2825 1b NET  
+24.3915 1b ACCUM  
2 ACC ENTRIES

+20.5345 1b GROSS  
+20.5345 1b NET  
+28.6735 1b ACCUM  
3 ACC ENTRIES

+12.5090 1b GROSS  
+12.5090 1b NET  
+49.2085 1b ACCUM  
4 ACC ENTRIES

+25.9895 1b GROSS  
+25.9895 1b NET  
+61.7175 1b ACCUM  
5 ACC ENTRIES

+16.5090 1b GROSS  
+16.5090 1b NET  
+87.7065 1b ACCUM  
6 ACC ENTRIES

+34.4470 1b GROSS  
+34.4470 1b NET  
+104.216 1b ACCUM  
7 ACC ENTRIES

+25.9995 1b GROSS  
+25.9995 1b NET  
+138.640 1b ACCUM  
8 ACC ENTRIES

+25.9965 1b GROSS  
+25.9965 1b NET  
+164.639 1b ACCUM  
9 ACC ENTRIES

+12.2355 1b GROSS  
+12.2355 1b NET  
+190.636 1b ACCUM  
10 ACC ENTRIES

+17.9750 1b GROSS  
+17.9750 1b NET  
+202.872 1b ACCUM  
11 ACC ENTRIES

+16.8635 1b GROSS  
+16.8635 1b NET  
+220.846 1b ACCUM  
12 ACC ENTRIES

-0.0025 1b GROSS  
-0.0025 1b NET  
+237.709 1b ACCUM  
13 ACC ENTRIES

+17.2305 1b GROSS  
+17.2305 1b NET

+20.3600 1b GROSS  
+20.3600 1b NET  
+17.2305 1b ACCUM  
1 ACC ENTRIES

+10.5515 1b GROSS  
+10.5515 1b NET  
+37.5905 1b ACCUM  
2 ACC ENTRIES



+30.0455 1b GROSS  
+30.0455 1b NET  
+48.1425 1b ACCUM  
3 ACC ENTRIES

+30.0555 1b GROSS  
+30.0555 1b NET  
+48.1415 1b ACCUM  
4 ACC ENTRIES

+26.3400 1b GROSS  
+26.3400 1b NET  
+78.1965 1b ACCUM  
5 ACC ENTRIES

+27.9260 1b GROSS  
+27.9260 1b NET  
+104.536 1b ACCUM  
6 ACC ENTRIES

+34.2500 1b GROSS  
+34.2500 1b NET  
+132.462 1b ACCUM  
7 ACC ENTRIES

+33.1960 1b GROSS  
+33.1960 1b NET  
+166.700 1b ACCUM  
8 ACC ENTRIES

+17.0390 1b GROSS  
+17.0390 1b NET  
+199.895 1b ACCUM  
9 ACC ENTRIES

+14.1780 1b GROSS  
+14.1780 1b NET  
+216.933 1b ACCUM  
10 ACC ENTRIES

+21.5485 1b GROSS  
+21.5485 1b NET  
+231.111 1b ACCUM  
11 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+252.659 1b ACCUM  
12 ACC ENTRIES

+34.7175 1b GROSS  
+34.7175 1b NET

+20.1875 1b GROSS  
+20.1875 1b NET  
+34.7175 1b ACCUM  
1 ACC ENTRIES

+33.1370 1b GROSS  
+33.1370 1b NET  
+54.9035 1b ACCUM  
2 ACC ENTRIES

+10.1470 1b GROSS  
+10.1470 1b NET  
+88.0405 1b ACCUM  
3 ACC ENTRIES

+23.7100 1b GROSS  
+23.7100 1b NET  
+98.1875 1b ACCUM  
4 ACC ENTRIES

+16.5045 1b GROSS  
+16.5045 1b NET  
+121.897 1b ACCUM  
5 ACC ENTRIES

+27.1520 1b GROSS  
+27.1520 1b NET  
+138.402 1b ACCUM  
6 ACC ENTRIES

+15.1260 1b GROSS  
+15.1260 1b NET  
+165.553 1b ACCUM  
7 ACC ENTRIES

+6.4150 1b GROSS  
+6.4150 1b NET  
+180.678 1b ACCUM  
8 ACC ENTRIES

+14.4815 1b GROSS  
+14.4815 1b NET  
+187.093 1b ACCUM  
9 ACC ENTRIES

+17.0610 1b GROSS  
+17.0610 1b NET  
+201.575 1b ACCUM  
10 ACC ENTRIES

-0.0015 1b GROSS  
-0.0015 1b NET  
+210.637 1b ACCUM  
11 ACC ENTRIES

+9.0365 1b GROSS  
+9.0365 1b NET

+16.3700 1b GROSS  
+16.3700 1b NET  
+9.0365 1b ACCUM  
1 ACC ENTRIES

+20.8640 1b GROSS  
+20.8640 1b NET  
+25.4065 1b ACCUM  
2 ACC ENTRIES

-----  
 +23.6630 1b GROSS  
 +23.6630 1b NET  
 +46.2700 1b ACCUM  
 3 ACC ENTRIES

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 +14.0570 1b GROSS  
 +14.0570 1b NET  
 +69.9325 1b ACCUM  
 4 ACC ENTRIES

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 +18.1945 1b GROSS  
 +18.1945 1b NET  
 +83.9900 1b ACCUM  
 5 ACC ENTRIES

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 +4.1550 1b GROSS  
 +4.1550 1b NET  
 +102.184 1b ACCUM  
 6 ACC ENTRIES

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 +6.9665 1b GROSS  
 +6.9665 1b NET  
 +106.339 1b ACCUM  
 7 ACC ENTRIES

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 +9.8435 1b GROSS  
 +9.8435 1b NET  
 +113.306 1b ACCUM  
 8 ACC ENTRIES

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 +27.3190 1b GROSS  
 +27.3190 1b NET  
 +123.148 1b ACCUM  
 9 ACC ENTRIES

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 +10.1220 1b GROSS  
 +10.1220 1b NET  
 +150.468 1b ACCUM  
 10 ACC ENTRIES

-----  
 +7.6565 1b GROSS  
 +7.6565 1b NET  
 +160.590 1b ACCUM  
 11 ACC ENTRIES

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 +0.0000 1b GROSS  
 +0.0000 1b NET  
 +168.246 1b ACCUM  
 12 ACC ENTRIES

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 +12.6710 1b GROSS  
 +12.6710 1b NET

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 +12.9040 1b GROSS  
 +12.9040 1b NET  
 +12.6710 1b ACCUM  
 1 ACC ENTRIES

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 +16.5815 1b GROSS  
 +16.5815 1b NET  
 +25.5750 1b ACCUM  
 2 ACC ENTRIES

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 +11.0765 1b GROSS  
 +11.0765 1b NET  
 +42.1570 1b ACCUM  
 3 ACC ENTRIES

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 +27.3845 1b GROSS  
 +27.3845 1b NET  
 +53.2335 1b ACCUM  
 4 ACC ENTRIES

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 +15.5805 1b GROSS  
 +15.5805 1b NET  
 +80.6180 1b ACCUM  
 5 ACC ENTRIES

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 +14.2765 1b GROSS  
 +14.2765 1b NET  
 +96.1980 1b ACCUM  
 6 ACC ENTRIES

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 +18.5550 1b GROSS  
 +18.5550 1b NET  
 +110.475 1b ACCUM  
 7 ACC ENTRIES

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 +20.3755 1b GROSS  
 +20.3755 1b NET  
 +129.028 1b ACCUM  
 8 ACC ENTRIES

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 +22.3490 1b GROSS  
 +22.3490 1b NET  
 +149.403 1b ACCUM  
 9 ACC ENTRIES

-----  
 +25.0895 1b GROSS  
 +25.0895 1b NET  
 +171.752 1b ACCUM  
 10 ACC ENTRIES

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 +9.5195 1b GROSS  
 +9.5195 1b NET  
 +196.842 1b ACCUM  
 11 ACC ENTRIES

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 +0.0020 1b GROSS  
 +0.0020 1b NET  
 +206.361 1b ACCUM  
 12 ACC ENTRIES

+22.7890 1b GROSS  
+22.7890 1b NET  
+169.410 1b ACCUM  
9 ACC ENTRIES

+24.2240 1b GROSS  
+24.2240 1b NET  
+192.199 1b ACCUM  
10 ACC ENTRIES

+22.9925 1b GROSS  
+22.9925 1b NET  
+216.424 1b ACCUM  
11 ACC ENTRIES

+19.9100 1b GROSS  
+19.9100 1b NET  
+239.416 1b ACCUM  
12 ACC ENTRIES

-0.0010 1b GROSS  
-0.0010 1b NET  
+259.325 1b ACCUM  
13 ACC ENTRIES

+37.2810 1b GROSS  
+37.2810 1b NET

+15.6635 1b GROSS  
+15.6635 1b NET  
+37.2810 1b ACCUM  
1 ACC ENTRIES

+32.9415 1b GROSS  
+32.9415 1b NET  
+52.9450 1b ACCUM  
2 ACC ENTRIES

+13.5180 1b GROSS  
+13.5180 1b NET  
+85.8870 1b ACCUM  
3 ACC ENTRIES

+18.6345 1b GROSS  
+18.6345 1b NET  
+99.4045 1b ACCUM  
4 ACC ENTRIES

+23.6085 1b GROSS  
+23.6085 1b NET  
+118.039 1b ACCUM  
5 ACC ENTRIES

+19.1395 1b GROSS  
+19.1395 1b NET  
+141.648 1b ACCUM  
6 ACC ENTRIES

+8.8725 1b GROSS  
+8.8725 1b NET  
+160.787 1b ACCUM  
7 ACC ENTRIES

+11.3995 1b GROSS  
+11.3995 1b NET  
+169.660 1b ACCUM  
8 ACC ENTRIES

+20.8265 1b GROSS  
+20.8265 1b NET  
+181.059 1b ACCUM  
9 ACC ENTRIES

+32.2440 1b GROSS  
+32.2440 1b NET  
+201.886 1b ACCUM  
10 ACC ENTRIES

+12.3240 1b GROSS  
+12.3240 1b NET

+20.2735 1b GROSS  
+20.2735 1b NET  
+12.3250 1b ACCUM  
1 ACC ENTRIES

+10.7785 1b GROSS  
+10.7785 1b NET  
+32.6005 1b ACCUM  
2 ACC ENTRIES

+18.6920 1b GROSS  
+18.6920 1b NET  
+43.3785 1b ACCUM  
3 ACC ENTRIES

+24.6105 1b GROSS  
+24.6105 1b NET  
+62.0710 1b ACCUM  
4 ACC ENTRIES

+24.6115 1b GROSS  
+24.6115 1b NET  
+86.6825 1b ACCUM  
5 ACC ENTRIES

+24.6075 1b GROSS  
+24.6075 1b NET  
+111.293 1b ACCUM  
6 ACC ENTRIES

+7.7105 1b GROSS  
+7.7105 1b NET  
+135.901 1b ACCUM  
7 ACC ENTRIES

+25.7995 1b GROSS  
+25.7995 1b NET  
+143.611 1b ACCUM  
8 ACC ENTRIES

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+24.7240 1b GROSS  
+24.7240 1b NET  
+234.131 1b ACCUM  
11 ACC ENTRIES

-----  
-0.0005 1b GROSS  
-0.0005 1b NET  
+258.854 1b ACCUM  
12 ACC ENTRIES

-----  
+19.7645 1b GROSS  
+19.7645 1b NET

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+19.0555 1b GROSS  
+19.0555 1b NET  
+19.7635 1b ACCUM  
1 ACC ENTRIES

-----  
+17.1205 1b GROSS  
+17.1205 1b NET  
+38.8190 1b ACCUM  
2 ACC ENTRIES

-----  
+26.4080 1b GROSS  
+26.4080 1b NET  
+55.9395 1b ACCUM  
3 ACC ENTRIES

-----  
+27.9175 1b GROSS  
+27.9175 1b NET  
+82.3470 1b ACCUM  
4 ACC ENTRIES

-----  
+28.0030 1b GROSS  
+28.0030 1b NET  
+110.264 1b ACCUM  
5 ACC ENTRIES

-----  
+21.6975 1b GROSS  
+21.6975 1b NET  
+138.266 1b ACCUM  
6 ACC ENTRIES

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+30.0675 1b GROSS  
+30.0675 1b NET  
+159.965 1b ACCUM  
7 ACC ENTRIES

-----  
+21.7665 1b GROSS  
+21.7665 1b NET  
+190.032 1b ACCUM  
8 ACC ENTRIES

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+14.1660 1b GROSS  
+14.1660 1b NET  
+211.800 1b ACCUM  
9 ACC ENTRIES

-----  
+23.4375 1b GROSS  
+23.4375 1b NET  
+225.966 1b ACCUM  
10 ACC ENTRIES

-----  
+27.0300 1b GROSS  
+27.0300 1b NET  
+249.403 1b ACCUM  
11 ACC ENTRIES

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+0.0000 1b GROSS  
+0.0000 1b NET  
+276.433 1b ACCUM  
12 ACC ENTRIES

+14.3350 1b GROSS  
+14.3350 1b NET

-----  
+17.2535 1b GROSS  
+17.2535 1b NET  
+14.3350 1b ACCUM  
1 ACC ENTRIES

-----  
+16.3115 1b GROSS  
+16.3115 1b NET  
+31.5890 1b ACCUM  
2 ACC ENTRIES

-----  
+15.1440 1b GROSS  
+15.1440 1b NET  
+47.9000 1b ACCUM  
3 ACC ENTRIES

-----  
+26.9445 1b GROSS  
+26.9445 1b NET  
+63.0440 1b ACCUM  
4 ACC ENTRIES

-----  
+10.8220 1b GROSS  
+10.8220 1b NET  
+89.9875 1b ACCUM  
5 ACC ENTRIES

-----  
+25.1545 1b GROSS  
+25.1545 1b NET  
+100.810 1b ACCUM  
6 ACC ENTRIES

-----  
+28.9530 1b GROSS  
+28.9530 1b NET  
+125.968 1b ACCUM  
7 ACC ENTRIES

-----  
+19.0920 1b GROSS  
+19.0920 1b NET  
+154.921 1b ACCUM  
8 ACC ENTRIES

-----  
+22.8560 1b GROSS  
+22.8560 1b NET  
+174.108 1b ACCUM  
9 ACC ENTRIES

-----  
+24.7845 1b GROSS  
+24.7845 1b NET  
+196.963 1b ACCUM  
10 ACC ENTRIES

-----  
+23.9605 1b GROSS  
+23.9605 1b NET  
+221.747 1b ACCUM  
11 ACC ENTRIES

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-0.0010 1b GROSS  
-0.0010 1b NET  
+245.708 1b ACCUM  
12 ACC ENTRIES

+20.4350 1b GROSS  
+20.4350 1b NET

+28.1490 1b GROSS  
+28.1490 1b NET  
+20.4350 1b ACCUM  
1 ACC ENTRIES

+29.0550 1b GROSS  
+29.0550 1b NET  
+48.5240 1b ACCUM  
2 ACC ENTRIES

+21.8250 1b GROSS  
+21.8250 1b NET  
+77.5785 1b ACCUM  
3 ACC ENTRIES

+28.0605 1b GROSS  
+28.0605 1b NET  
+99.4035 1b ACCUM  
4 ACC ENTRIES

+29.1570 1b GROSS  
+29.1570 1b NET  
+127.464 1b ACCUM  
5 ACC ENTRIES

+28.9050 1b GROSS  
+28.9050 1b NET  
+156.621 1b ACCUM  
6 ACC ENTRIES

+17.8305 1b GROSS  
+17.8305 1b NET  
+185.526 1b ACCUM  
7 ACC ENTRIES

+19.5625 1b GROSS  
+19.5625 1b NET  
+203.357 1b ACCUM  
8 ACC ENTRIES

+35.9530 1b GROSS  
+35.9530 1b NET  
+310.827 1b ACCUM  
12 ACC ENTRIES

+0.0000 1b GROSS  
+0.0000 1b NET  
+346.802 1b ACCUM  
13 ACC ENTRIES

+17.6315 1b GROSS  
+17.6315 1b NET

+33.5010 1b GROSS  
+33.5010 1b NET  
+17.5880 1b ACCUM  
1 ACC ENTRIES

+17.3495 1b GROSS  
+17.3495 1b NET  
+51.1020 1b ACCUM  
2 ACC ENTRIES

+23.3250 1b GROSS  
+23.3250 1b NET  
+68.4540 1b ACCUM  
3 ACC ENTRIES

+29.5230 1b GROSS  
+29.5230 1b NET  
+91.7770 1b ACCUM  
4 ACC ENTRIES

+26.5185 1b GROSS  
+26.5185 1b NET  
+121.300 1b ACCUM  
5 ACC ENTRIES

+18.0505 1b GROSS  
+18.0505 1b NET  
+147.819 1b ACCUM  
6 ACC ENTRIES

+26.3550 1b GROSS  
+26.3550 1b NET  
+108.860 1b ACCUM  
4 ACC ENTRIES

+19.0535 1b GROSS  
+19.0535 1b NET  
+135.215 1b ACCUM  
5 ACC ENTRIES

+26.3195 1b GROSS  
+26.3195 1b NET  
+154.269 1b ACCUM  
6 ACC ENTRIES

+21.4560 1b GROSS  
+21.4560 1b NET  
+180.588 1b ACCUM  
7 ACC ENTRIES

+32.6490 1b GROSS  
+32.6490 1b NET  
+202.043 1b ACCUM  
8 ACC ENTRIES

+30.1225 1b GROSS  
+30.1225 1b NET  
+234.692 1b ACCUM  
9 ACC ENTRIES

+23.0095 1b GROSS  
+23.0095 1b NET  
+264.808 1b ACCUM  
10 ACC ENTRIES

+23.0095 1b GROSS  
+23.0095 1b NET  
+287.818 1b ACCUM  
11 ACC ENTRIES

+28.8275 1b GROSS  
+28.8275 1b NET  
+222.919 1b ACCUM  
9 ACC ENTRIES

+30.7010 1b GROSS  
+30.7010 1b NET  
+251.730 1b ACCUM  
10 ACC ENTRIES

+21.8790 1b GROSS  
+21.8790 1b NET  
+282.433 1b ACCUM  
11 ACC ENTRIES

+25.2415 1b GROSS  
+25.2415 1b NET  
+304.310 1b ACCUM  
12 ACC ENTRIES

+0.0010 1b GROSS  
+0.0010 1b NET  
+328.702 1b ACCUM  
13 ACC ENTRIES

+32.8615 1b GROSS  
+32.8615 1b NET

+27.0475 1b GROSS  
+27.0475 1b NET  
+32.9770 1b ACCUM  
1 ACC ENTRIES

+22.0040 1b GROSS  
+22.0040 1b NET  
+60.0245 1b ACCUM  
2 ACC ENTRIES

+27.8000 1b GROSS  
+27.8000 1b NET  
+81.0605 1b ACCUM  
3 ACC ENTRIES

-----  
+27.7635 1b GROSS  
+27.7635 1b NET  
+22.9075 1b ACCUM  
1 ACC ENTRIES

-----  
+26.8450 1b GROSS  
+26.8450 1b NET  
+50.6710 1b ACCUM  
2 ACC ENTRIES

-----  
+31.0680 1b GROSS  
+31.0680 1b NET  
+77.4860 1b ACCUM  
3 ACC ENTRIES

-----  
+36.5020 1b GROSS  
+36.5020 1b NET  
+108.527 1b ACCUM  
4 ACC ENTRIES

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+15.3480 1b GROSS  
+15.3480 1b NET  
+145.024 1b ACCUM  
5 ACC ENTRIES

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+34.8005 1b GROSS  
+34.8005 1b NET  
+160.372 1b ACCUM  
6 ACC ENTRIES

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+24.9575 1b GROSS  
+24.9575 1b NET  
+195.161 1b ACCUM  
7 ACC ENTRIES

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+22.3500 1b GROSS  
+22.3500 1b NET  
+220.119 1b ACCUM  
8 ACC ENTRIES

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+21.0430 1b GROSS  
+21.0430 1b NET  
+165.856 1b ACCUM  
7 ACC ENTRIES

-----  
+18.6835 1b GROSS  
+18.6835 1b NET  
+186.899 1b ACCUM  
8 ACC ENTRIES

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+22.8220 1b GROSS  
+22.8220 1b NET  
+205.583 1b ACCUM  
9 ACC ENTRIES

-----  
+24.7230 1b GROSS  
+24.7230 1b NET  
+228.404 1b ACCUM  
10 ACC ENTRIES

-----  
+37.7990 1b GROSS  
+37.7990 1b NET  
+253.126 1b ACCUM  
11 ACC ENTRIES

-----  
+29.8820 1b GROSS  
+29.8820 1b NET  
+253.125 1b ACCUM  
12 ACC ENTRIES

-----  
+20.2335 1b GROSS  
+20.2335 1b NET  
+282.321 1b ACCUM  
13 ACC ENTRIES

-----  
+0.0010 1b GROSS  
+0.0010 1b NET  
+302.555 1b ACCUM  
14 ACC ENTRIES

-----  
+22.9080 1b GROSS  
+22.9080 1b NET

-----  
+10.4490 1b GROSS  
+10.4490 1b NET  
+242.468 1b ACCUM  
9 ACC ENTRIES

-----  
+12.0155 1b GROSS  
+12.0155 1b NET  
+252.916 1b ACCUM  
10 ACC ENTRIES

-----  
+22.6740 1b GROSS  
+22.6740 1b NET  
+264.931 1b ACCUM  
11 ACC ENTRIES

-----  
+30.0150 1b GROSS  
+30.0150 1b NET  
+287.604 1b ACCUM  
12 ACC ENTRIES

-----  
-0.0005 1b GROSS  
-0.0005 1b NET  
+317.592 1b ACCUM  
13 ACC ENTRIES

-----  
+32.1430 1b GROSS  
+32.1430 1b NET

-----  
+9.1415 1b GROSS  
+9.1415 1b NET  
+32.0950 1b ACCUM  
1 ACC ENTRIES

-----  
+39.9820 1b GROSS  
+39.9820 1b NET  
+41.2370 1b ACCUM  
2 ACC ENTRIES

-----  
+23.4460 1b GROSS  
+23.4460 1b NET  
+81.2190 1b ACCUM  
3 ACC ENTRIES



+27.2910 1b GROSS  
+27.2910 1b NET  
+144.326 1b ACCUM  
8 ACC ENTRIES

+16.6555 1b GROSS  
+16.6555 1b NET  
+171.617 1b ACCUM  
9 ACC ENTRIES

+9.5885 1b GROSS  
+9.5885 1b NET  
+188.273 1b ACCUM  
10 ACC ENTRIES

+9.2815 1b GROSS  
+9.2815 1b NET  
+197.860 1b ACCUM  
11 ACC ENTRIES

+21.0125 1b GROSS  
+21.0125 1b NET  
+207.142 1b ACCUM  
12 ACC ENTRIES

-0.0015 1b GROSS  
-0.0015 1b NET  
+228.155 1b ACCUM  
13 ACC ENTRIES

+34.4625 1b GROSS  
+34.4625 1b NET

+26.9775 1b GROSS  
+26.9775 1b NET  
+34.4715 1b ACCUM  
1 ACC ENTRIES

+15.5095 1b GROSS  
+15.5095 1b NET  
+61.4490 1b ACCUM  
2 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+260.413 1b ACCUM  
12 ACC ENTRIES

+35.3290 1b GROSS  
+35.3290 1b NET

+15.9370 1b GROSS  
+15.9370 1b NET  
+35.3000 1b ACCUM  
1 ACC ENTRIES

+7.2000 1b GROSS  
+7.2000 1b NET  
+51.2365 1b ACCUM  
2 ACC ENTRIES

+12.6720 1b GROSS  
+12.6720 1b NET  
+58.8635 1b ACCUM  
3 ACC ENTRIES

+27.3890 1b GROSS  
+27.3890 1b NET  
+71.5355 1b ACCUM  
4 ACC ENTRIES

+16.5735 1b GROSS  
+16.5735 1b NET  
+98.9235 1b ACCUM  
5 ACC ENTRIES

+13.6570 1b GROSS  
+13.6570 1b NET  
+115.497 1b ACCUM  
6 ACC ENTRIES

+15.1715 1b GROSS  
+15.1715 1b NET  
+129.155 1b ACCUM  
7 ACC ENTRIES

+16.5295 1b GROSS  
+16.5295 1b NET  
+104.665 1b ACCUM  
4 ACC ENTRIES

+28.2950 1b GROSS  
+28.2950 1b NET  
+121.193 1b ACCUM  
5 ACC ENTRIES

+14.6975 1b GROSS  
+14.6975 1b NET  
+149.943 1b ACCUM  
6 ACC ENTRIES

+20.7415 1b GROSS  
+20.7415 1b NET  
+164.642 1b ACCUM  
7 ACC ENTRIES

+18.5205 1b GROSS  
+18.5205 1b NET  
+185.384 1b ACCUM  
8 ACC ENTRIES

+39.0365 1b GROSS  
+39.0365 1b NET  
+203.898 1b ACCUM  
9 ACC ENTRIES

+18.4685 1b GROSS  
+18.4685 1b NET  
+203.898 1b ACCUM  
9 ACC ENTRIES

+14.0775 1b GROSS  
+14.0775 1b NET  
+222.366 1b ACCUM  
10 ACC ENTRIES

+23.9665 1b GROSS  
+23.9665 1b NET  
+236.445 1b ACCUM  
11 ACC ENTRIES

-----  
+20.2955 1b GROSS  
+20.2955 1b NET  
+108.463 1b ACCUM  
5 ACC ENTRIES

-----  
+17.2105 1b GROSS  
+17.2105 1b NET  
+128.757 1b ACCUM  
6 ACC ENTRIES

-----  
+20.5350 1b GROSS  
+20.5350 1b NET  
+145.968 1b ACCUM  
7 ACC ENTRIES

-----  
+21.3035 1b GROSS  
+21.3035 1b NET  
+166.503 1b ACCUM  
8 ACC ENTRIES

-----  
+24.0490 1b GROSS  
+24.0490 1b NET  
+187.805 1b ACCUM  
9 ACC ENTRIES

-----  
+29.9410 1b GROSS  
+29.9410 1b NET  
+211.854 1b ACCUM  
10 ACC ENTRIES

-----  
+25.3990 1b GROSS  
+25.3990 1b NET  
+241.795 1b ACCUM  
11 ACC ENTRIES

-----  
+0.0010 1b GROSS  
+0.0010 1b NET  
+267.194 1b ACCUM  
12 ACC ENTRIES

-----  
+17.8315 1b GROSS  
+17.8315 1b NET  
+196.334 1b ACCUM  
11 ACC ENTRIES

-----  
+21.3410 1b GROSS  
+21.3410 1b NET  
+214.164 1b ACCUM  
12 ACC ENTRIES

-----  
+0.0035 1b GROSS  
+0.0035 1b NET  
+235.504 1b ACCUM  
13 ACC ENTRIES

-----  
+25.8025 1b GROSS  
+25.8025 1b NET

-----  
+23.4970 1b GROSS  
+23.4970 1b NET  
+25.8040 1b ACCUM  
1 ACC ENTRIES

-----  
+21.6750 1b GROSS  
+21.6750 1b NET  
+49.3000 1b ACCUM  
2 ACC ENTRIES

-----  
+16.7735 1b GROSS  
+16.7735 1b NET  
+70.9755 1b ACCUM  
3 ACC ENTRIES

-----  
+20.7145 1b GROSS  
+20.7145 1b NET  
+87.7490 1b ACCUM  
4 ACC ENTRIES

-----  
+19.6615 1b GROSS  
+19.6615 1b NET  
+76.9500 1b ACCUM  
3 ACC ENTRIES

-----  
+10.4445 1b GROSS  
+10.4445 1b NET  
+96.6200 1b ACCUM  
4 ACC ENTRIES

-----  
+11.1915 1b GROSS  
+11.1915 1b NET  
+107.064 1b ACCUM  
5 ACC ENTRIES

-----  
+28.8510 1b GROSS  
+28.8510 1b NET  
+118.256 1b ACCUM  
6 ACC ENTRIES

-----  
+5.5005 1b GROSS  
+5.5005 1b NET  
+147.107 1b ACCUM  
7 ACC ENTRIES

-----  
+15.9350 1b GROSS  
+15.9350 1b NET  
+152.607 1b ACCUM  
8 ACC ENTRIES

-----  
+13.4970 1b GROSS  
+13.4970 1b NET  
+168.542 1b ACCUM  
9 ACC ENTRIES

-----  
+14.2940 1b GROSS  
+14.2940 1b NET  
+182.040 1b ACCUM  
10 ACC ENTRIES

+10.3805 1b GROSS  
+10.3805 1b NET  
+35.0245 1b ACCUM  
1 ACC ENTRIES

+23.8460 1b GROSS  
+23.8460 1b NET  
+45.4045 1b ACCUM  
2 ACC ENTRIES

+36.3320 1b GROSS  
+36.3320 1b NET  
+69.2515 1b ACCUM  
3 ACC ENTRIES

+20.1985 1b GROSS  
+20.1985 1b NET  
+105.583 1b ACCUM  
4 ACC ENTRIES

+27.2165 1b GROSS  
+27.2165 1b NET  
+125.780 1b ACCUM  
5 ACC ENTRIES

+18.2895 1b GROSS  
+18.2895 1b NET  
+152.997 1b ACCUM  
6 ACC ENTRIES

+26.5460 1b GROSS  
+26.5460 1b NET  
+171.287 1b ACCUM  
7 ACC ENTRIES

+19.8850 1b GROSS  
+19.8850 1b NET  
+197.833 1b ACCUM  
8 ACC ENTRIES

+30.1950 1b GROSS  
+30.1950 1b NET  
+217.718 1b ACCUM  
9 ACC ENTRIES

+21.7100 1b GROSS  
+21.7100 1b NET  
+212.173 1b ACCUM  
9 ACC ENTRIES

+24.6740 1b GROSS  
+24.6740 1b NET  
+233.883 1b ACCUM  
10 ACC ENTRIES

+18.8485 1b GROSS  
+18.8485 1b NET  
+258.557 1b ACCUM  
11 ACC ENTRIES

+23.8555 1b GROSS  
+23.8555 1b NET  
+277.405 1b ACCUM  
12 ACC ENTRIES

+35.1085 1b GROSS  
+35.1085 1b NET  
+301.284 1b ACCUM  
13 ACC ENTRIES

-0.0010 1b GROSS  
-0.0010 1b NET  
+336.373 1b ACCUM  
14 ACC ENTRIES

+35.0635 1b GROSS  
+35.0635 1b NET

+21.2755 1b GROSS  
+21.2755 1b NET

+17.7300 1b GROSS  
+17.7300 1b NET  
+21.2755 1b ACCUM  
1 ACC ENTRIES

+26.4670 1b GROSS  
+26.4670 1b NET  
+39.0065 1b ACCUM  
2 ACC ENTRIES

+8.2565 1b GROSS  
+8.2565 1b NET  
+65.4740 1b ACCUM  
3 ACC ENTRIES

+23.1980 1b GROSS  
+23.1980 1b NET  
+73.7300 1b ACCUM  
4 ACC ENTRIES

+24.2185 1b GROSS  
+24.2185 1b NET  
+96.9275 1b ACCUM  
5 ACC ENTRIES

+29.5330 1b GROSS  
+29.5330 1b NET  
+121.147 1b ACCUM  
6 ACC ENTRIES

+38.5045 1b GROSS  
+38.5045 1b NET  
+150.681 1b ACCUM  
7 ACC ENTRIES

+22.9820 1b GROSS  
+22.9820 1b NET  
+189.191 1b ACCUM  
8 ACC ENTRIES

+31.1750 1b GROSS  
+31.1750 1b NET

+28.0270 1b GROSS  
+28.0270 1b NET  
+31.1740 1b ACCUM  
1 ACC ENTRIES

+21.5960 1b GROSS  
+21.5960 1b NET  
+60.0415 1b ACCUM  
2 ACC ENTRIES

+21.3400 1b GROSS  
+21.3400 1b NET  
+81.6370 1b ACCUM  
3 ACC ENTRIES

+20.6825 1b GROSS  
+20.6825 1b NET  
+102.973 1b ACCUM  
4 ACC ENTRIES

+32.8270 1b GROSS  
+32.8270 1b NET  
+123.655 1b ACCUM  
5 ACC ENTRIES

+35.8000 1b GROSS  
+35.8000 1b NET  
+156.463 1b ACCUM  
6 ACC ENTRIES

+17.6560 1b GROSS  
+17.6560 1b NET  
+192.340 1b ACCUM  
7 ACC ENTRIES

+0.0000 1b GROSS  
+0.0000 1b NET  
+209.995 1b ACCUM  
8 ACC ENTRIES

+25.7645 1b GROSS  
+25.7645 1b NET  
+91.6365 1b ACCUM  
4 ACC ENTRIES

+26.4935 1b GROSS  
+26.4935 1b NET  
+117.407 1b ACCUM  
5 ACC ENTRIES

+19.4545 1b GROSS  
+19.4545 1b NET  
+143.903 1b ACCUM  
6 ACC ENTRIES

+19.0955 1b GROSS  
+19.0955 1b NET  
+163.357 1b ACCUM  
7 ACC ENTRIES

+21.8915 1b GROSS  
+21.8915 1b NET  
+182.452 1b ACCUM  
8 ACC ENTRIES

-0.0025 1b GROSS  
-0.0025 1b NET  
+204.344 1b ACCUM  
9 ACC ENTRIES

+26.9145 1b GROSS  
+26.9145 1b NET  
+247.913 1b ACCUM  
10 ACC ENTRIES

+17.8440 1b GROSS  
+17.8440 1b NET  
+274.828 1b ACCUM  
11 ACC ENTRIES

+0.0005 1b GROSS  
+0.0005 1b NET  
+292.672 1b ACCUM  
13 ACC ENTRIES

+22.0440 1b GROSS  
+22.0440 1b NET

+17.4385 1b GROSS  
+17.4385 1b NET  
+22.0445 1b ACCUM  
1 ACC ENTRIES

+28.7300 1b GROSS  
+28.7300 1b NET  
+39.4835 1b ACCUM  
2 ACC ENTRIES

+23.4220 1b GROSS  
+23.4220 1b NET  
+68.2125 1b ACCUM  
3 ACC ENTRIES

4-22-98

#2 STACK TEST 17' RUN

CRANE MED WASTE

BEST AVAILABLE COPY

HOURLY  
 03:00 04/22/98  
 CH-2 +00007620 1b  
 03:07 04/22/98  
 ON+00440 1b  
 OT+00000 1b  
 03:17 04/22/98  
 ON+00400 1b  
 OT+00000 1b  
 03:34 04/22/98  
 ON+00380 1b  
 OT+00000 1b  
 03:43 04/22/98  
 ON+00480 1b  
 OT+00000 1b  
 03:47 04/22/98  
 ON+00260 1b  
 OT+00000 1b  
 03:58 04/22/98  
 ON+00200 1b  
 OT+00000 1b

HOURLY  
 10:00 04/22/98  
 10:10 04/22/98  
 ON+00180 1b  
 OT+00000 1b  
 10:19 04/22/98  
 ON+00340 1b  
 OT+00000 1b  
 10:23 04/22/98  
 ON+00400 1b  
 OT+00000 1b  
 10:30 04/22/98  
 ON+00320 1b  
 OT+00000 1b  
 10:37 04/22/98  
 ON+00340 1b  
 OT+00000 1b  
 10:44 04/22/98  
 ON+00320 1b  
 OT+00000 1b

HOURLY  
 11:00 04/22/98

11:13 04/22/98  
 ON+00320 1b  
 OT+00000 1b  
 11:18 04/22/98  
 ON+00300 1b  
 OT+00000 1b  
 11:26 04/22/98  
 ON+00260 1b  
 OT+00000 1b  
 11:30 04/22/98  
 ON+00260 1b  
 OT+00000 1b  
 11:40 04/22/98  
 ON+00140 1b  
 OT+00000 1b  
 11:47 04/22/98  
 ON+00220 1b  
 OT+00000 1b

11:55 04/22/98  
 H CH-2 ST +00000000 1b  
 D CH-2 ST +00144460 1b

WEST CRANE MED WASTE HOPPER

4-22-98

#2 STACK TEST 1<sup>ST</sup> RUN

EAST CRANE

09:15 04/22/98  
CH 1 AD G+01520 1b  
09:25 04/22/98  
CH 2 AD G+00920 1b  
09:27 04/22/98  
CH 1 AD G+02260 1b  
09:38 04/22/98  
CH 2 AD G+03120 1b  
09:50 04/22/98  
CH 2 AD G+02100 1b  
09:52 04/22/98  
CH 2 AD G+02400 1b  
09:53 04/22/98  
CH 1 AD G+02360 1b  
HOURLY  
10:00 04/22/98  
CH 1 +00009440 1b  
CH 2 +00010360 1b  
10:00 04/22/98  
CH 1 AD G+01520 1b  
10:02 04/22/98  
CH 1 AD G+01880 1b  
10:04 04/22/98  
CH 2 AD G+03240 1b  
10:05 04/22/98  
CH 1 AD G+01820 1b  
10:13 04/22/98  
CH 2 AD G+01680 1b  
10:14 04/22/98  
CH 1 AD G+02800 1b  
10:25 04/22/98  
CH 2 AD G+02400 1b  
10:32 04/22/98  
CH 1 AD G+03540 1b  
10:34 04/22/98  
CH 1 AD G+02640 1b  
10:39 04/22/98  
CH 2 AD G+01520 1b  
10:40 04/22/98  
CH 2 AD G+01540 1b  
10:49 04/22/98  
CH 2 AD G+02420 1b  
10:51 04/22/98  
CH 1 AD G+02640 1b  
10:54 04/22/98  
CH 2 AD G+03180 1b  
10:55 04/22/98  
CH 2 AD G+02560 1b  
HOURLY  
11:00 04/22/98  
CH 1 +00016840 1b  
CH 2 +00018540 1b  
11:03 04/22/98  
CH 2 AD G+03400 1b  
11:08 04/22/98  
CH 1 AD G+03560 1b  
11:10 04/22/98  
ON+02400 1b  
OT+00220 1b  
11:12 04/22/98  
ON+00480 1b  
OT+00220 1b  
11:20 04/22/98  
CH 2 AD G+01900 1b  
11:21 04/22/98  
CH 1 AD G+02940 1b  
11:33 04/22/98  
CH 2 AD G+02280 1b  
11:34 04/22/98  
CH 1 AD G+01600 1b  
11:42 04/22/98  
CH 2 AD G+02460 1b  
11:44 04/22/98  
CH 1 AD G+03640 1b

West  
med. grapple

1235  
START 2<sup>nd</sup> Run  
NATIONWIDE

HOURLY  
 12:00 04/22/98  
 12:34 04/22/98  
 0N+00200 1b  
 0T+00000 1b  
 12:39 04/22/98  
 0N+00300 1b  
 0T+00000 1b  
 12:47 04/22/98  
 0N+00300 1b  
 0T+00000 1b  
 HOURLY  
 13:00 04/22/98  
 13:01 04/22/98  
 0N+00200 1b  
 0T+00000 1b  
 13:06 04/22/98  
 0N+00220 1b  
 0T+00000 1b

BIO SPAC

13:17 04/22/98  
 0N+00220 1b  
 0T+00000 1b  
 13:32 04/22/98  
 0N+00400 1b  
 0T+00000 1b  
 13:44 04/22/98  
 0N+00600 1b  
 0T+00000 1b  
 13:50 04/22/98  
 0N+00500 1b  
 0T+00000 1b  
 HOURLY  
 14:00 04/22/98  
 14:06 04/22/98  
 0N+00740 1b  
 0T+00000 1b  
 14:15 04/22/98  
 0N+00440 1b  
 0T+00000 1b  
 14:21 04/22/98  
 0N+00400 1b  
 0T+00000 1b  
 14:29 04/22/98  
 0N+00300 1b  
 0T+00000 1b  
 14:37 04/22/98  
 0N+00320 1b  
 0T+00000 1b  
 14:52 04/22/98  
 0N+00400 1b  
 0T+00000 1b

END 2<sup>nd</sup> RUN  
1446

PHOTOS 5-73  
East CRANE

12:34 04/22/98  
 0N+002960 1b  
 0T+00220 1b  
 12:40 04/22/98  
 CH 2 AD G+01520 1b  
 12:55 04/22/98  
 CH 2 AD G+01700 1b  
 12:56 04/22/98  
 CH 1 AD G+01640 1b  
 HOURLY  
 13:00 04/22/98  
 CH 1 +00007000 1b  
 CH 2 +00011520 1b  
 13:09 04/22/98  
 CH 2 AD G+03300 1b  
 13:12 04/22/98  
 CH 1 AD G+03340 1b  
 13:18 04/22/98  
 CH 2 AD G+02640 1b  
 13:19 04/22/98  
 CH 1 AD G+01760 1b  
 13:33 04/22/98  
 CH 2 AD G+02000 1b  
 13:34 04/22/98  
 CH 2 AD G+03220 1b  
 13:36 04/22/98  
 0N+03400 1b  
 0T+00220 1b  
 13:38 04/22/98  
 CH 1 AD G+02300 1b  
 13:52 04/22/98  
 CH 2 AD G+02460 1b  
 13:55 04/22/98  
 0N+02540 1b  
 0T+00220 1b  
 13:58 04/22/98  
 CH 1 AD G+03660 1b  
 HOURLY  
 14:00 04/22/98  
 CH 1 +00011640 1b  
 CH 2 +00013700 1b  
 14:22 04/22/98  
 CH 2 AD G+02840 1b  
 14:23 04/22/98  
 CH 2 AD G+02100 1b  
 14:25 04/22/98  
 CH 1 AD G+03000 1b  
 14:31 04/22/98  
 CH 2 AD G+00900 1b  
 14:34 04/22/98  
 CH 1 AD G+03640 1b  
 14:48 04/22/98  
 CH 1 AD G+02540 1b  
 14:56 04/22/98  
 CH 1 AD G+02900 1b  
 HOURLY  
 15:00 04/22/98  
 CH 1 +00012160 1b  
 CH 2 +00005920 1b  
 15:03 04/22/98  
 0N+02740 1b  
 0T+00220 1b  
 15:05 04/22/98  
 CH 1 AD G+02500 1b  
 15:06 04/22/98  
 CH 2 AD G+01300 1b  
 15:09 04/22/98  
 CH 2 AD G+02800 1b  
 15:13 04/22/98  
 CH 2 AD G+03300 1b  
 15:24 04/22/98  
 CH 1 AD G+01900 1b

Finish 2<sup>nd</sup>

BEST AVAILABLE COPY

med. grapple

START 3RD  
1525 Run

HOURLY  
15:00 04/22/98

15:31 04/22/98  
ON+00600 1b  
OT+00000 1b  
15:37 04/22/98  
ON+00660 1b  
OT+00000 1b  
15:51 04/22/98  
ON+00640 1b  
OT+00000 1b

HOURLY  
16:00 04/22/98  
16:05 04/22/98  
ON+00480 1b  
OT+00000 1b  
16:14 04/22/98  
ON+00640 1b  
OT+00000 1b  
16:19 04/22/98  
ON+00380 1b  
OT+00000 1b  
16:40 04/22/98  
ON+00480 1b  
OT+00000 1b

HOURLY  
17:00 04/22/98  
17:01 04/22/98  
ON+00420 1b  
OT+00000 1b  
17:17 04/22/98  
ON+00400 1b  
OT+00000 1b  
17:31 04/22/98  
ON+00600 1b  
OT+00000 1b

Finish 3RD Run

Ready  
15:31 04/22/98  
/98  
ON+00000 1b  
OT+00000 1b  
15:39 04/22/98  
CH 1 AD G+01940 1b

15:43 04/22/98  
CH 1 AD G+02640 1b

15:45 04/22/98  
CH 2 AD G+00620 1b  
15:52 04/22/98  
CH 1 AD G+01900 1b  
15:55 04/22/98  
CH 2 AD G+02540 1b  
15:57 04/22/98  
CH 2 AD G+01840 1b  
15:59 04/22/98  
CH 1 AD G+01500 1b

HOURLY  
16:00 04/22/98  
CH 1 +00012400 1b  
CH 2 +00005000 1b  
16:07 04/22/98  
CH 1 AD G+02920 1b  
16:19 04/22/98  
CH 1 AD G+01460 1b  
16:26 04/22/98  
CH 2 AD G+02040 1b  
16:28 04/22/98  
CH 1 AD G+03140 1b  
16:31 04/22/98  
CH 1 AD G+02620 1b  
16:42 04/22/98  
CH 2 AD G+03400 1b  
16:43 04/22/98  
CH 1 AD G+02080 1b  
16:45 04/22/98  
CH 2 AD G+03140 1b  
16:54 04/22/98  
CH 1 AD G+01820 1b

HOURLY  
17:00 04/22/98  
CH 1 +00014040 1b  
CH 2 +00009500 1b  
17:01 04/22/98  
CH 2 AD G+00900 1b  
17:03 04/22/98  
CH 1 AD G+02480 1b  
17:18 04/22/98  
CH 1 AD G+01060 1b  
17:20 04/22/98  
CH 1 AD G+02940 1b  
17:21 04/22/98  
CH 2 AD G+03340 1b  
17:25 04/22/98  
CH 1 AD G+02760 1b  
17:32 04/22/98  
ON+00360 1b  
OT+00000 1b  
17:34 04/22/98

East Coast

Start Run 3RD





Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

April 6, 2000

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gary K. Crane  
Executive Vice President  
Ogden Energy Group, Inc.  
40 Lane Road  
Fairfield, New Jersey 07004

Re: DEP File No. 0690046-002-AC, PSD-FL-113A  
Ogden Martin Systems of Lake, Inc. / Lake County

Dear Mr. Crane

Enclosed is one copy of the Draft Air Construction Permit Modification for the Ogden Martin Systems of Lake, Inc. located at 3830 Rogers Industrial Park Road, Okahumpka, Lake County. The Technical Evaluation and Preliminary Determination, the Department's Intent to Issue Air Construction Permit Modification and the Public Notice of Intent to Issue Air Construction Permit Modification are also included.

The Public Notice of Intent to Issue Air Construction Permit Modification must be published one time only, as soon as possible, in the legal advertisement section of a newspaper of general circulation in the area affected, pursuant to the requirements Chapter 50, Florida Statutes. Proof of publication, i.e., newspaper affidavit, must be provided to the Department's Bureau of Air Regulation office within seven days of publication. Failure to publish the notice and provide proof of publication may result in the denial of the permit.

Please submit any written comments you wish to have considered concerning the Department's proposed action to A. A. Linero, P.E., Administrator, New Source Review Section at the above letterhead address. If you have any other questions, please contact Michael P. Halpin at 850/921-9530.

Sincerely,

A handwritten signature in black ink, appearing to read "C. H. Fancy".

C. H. Fancy, P.E., Chief,  
Bureau of Air Regulation

CHF/mph  
Enclosures

"More Protection, Less Process"

Printed on recycled paper.

In the Matter of an  
Application for Permit by:

Mr. Gary Crane, Executive Vice President  
Ogden Energy Group, Inc.  
40 Lane Road  
Fairfield, New Jersey 07004

DEP File No. 0690046-002-AC, PSD-FL-113A  
Ogden Martin Systems of Lake, Inc.  
Lake County

### INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit Modification (copy of Draft permit attached) for the proposed project, detailed in the application specified above and the enclosed Technical Evaluation and Preliminary Determination, for the reasons stated below.

The applicant, Mr. Gary Crane, Executive Vice President, Ogden Energy Group, Inc. applied on September 29, 1998, to the Department for an Air Construction Permit Modification for its Ogden Martin Systems of Lake, Inc. located at 3830 Rogers Industrial Park Road, Okahumpka, Lake County. In addition to allowing for the installation of an SNCR for the control of nitrogen oxide as well as revising certain emission test requirements, the permit is to clarify what fuels are permitted for combustion and in what quantities.

The Department has permitting jurisdiction under the provisions of Chapter 403, Florida Statutes (F.S.), and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-212. The above actions are not exempt from permitting procedures. The Department has determined that an Air Construction Permit Modification is required to allow for the installation of an SNCR and revise existing permit requirements

The Department intends to issue this Air Construction Permit Modification based on the belief that reasonable assurances have been provided to indicate that operation of these emission units will not adversely impact air quality, and the emission units will comply with all appropriate provisions of Chapters 62-4, 62-204, 62-210, 62-212, 62-296, and 62-297, F.A.C.

Pursuant to Section 403.815, F.S., and Rule 62-110.106(7)(a) 1., F.A.C., you (the applicant) are required to publish at your own expense the enclosed Public Notice of Intent to Issue Air Construction Permit Modification. The notice shall be published one time only in the legal advertisement section of a newspaper of general circulation in the area affected. Rule 62-110.106(7)(b), F.A.C., requires that the applicant cause the notice to be published as soon as possible after notification by the Department of its intended action. For the purpose of these rules, "publication in a newspaper of general circulation in the area affected" means publication in a newspaper meeting the requirements of Sections 50.011 and 50.031, F.S., in the county where the activity is to take place. If you are uncertain that a newspaper meets these requirements, please contact the Department at the address or telephone number listed below. The applicant shall provide proof of publication to the Department's Bureau of Air Regulation, at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, Florida 32399-2400 (Telephone: 850/488-0114; Fax 850/922-6979). You must provide proof of publication within seven days of publication, pursuant to Rule 62-110.106(5), F.A.C. No permitting action for which published notice is required shall be granted until proof of publication of notice is made by furnishing a uniform affidavit in substantially the form prescribed in section 50.051, F.S. to the office of the Department issuing the permit. Failure to publish the notice and provide proof of publication may result in the denial of the permit pursuant to Rules 62-110.106(9) & (11), F.A.C.

The Department will issue the final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of Public Notice of Intent to Issue Air Construction Permit Modification. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

In addition to the above, a person subject to regulation has a right to apply for a variance from or waiver of the requirements of particular rules, on certain conditions, under Section 120.542 F.S. The relief provided by this state statute applies only to state rules, not statutes, and not to any federal regulatory requirements. Applying for a variance or waiver does not substitute or extend the time for filing a petition for an administrative hearing or exercising any other right that a person may have in relation to the action proposed in this notice of intent.

The application for a variance or waiver is made by filing a petition with the Office of General Counsel of the Department, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000. The petition must specify the following information: (a) The name, address, and telephone number of the petitioner; (b) The name, address, and telephone number of the attorney or qualified representative of the petitioner, if any; (c) Each rule or portion of a rule from which a variance or waiver is requested; (d) The citation to the statute underlying (implemented by) the rule identified in (c) above; (e) The type of action requested; (f) The specific facts that would justify a variance or waiver for the petitioner; (g) The reason why the variance or waiver would serve the purposes of the underlying statute

(implemented by the rule); and (h) A statement whether the variance or waiver is permanent or temporary and, if temporary, a statement of the dates showing the duration of the variance or waiver requested.

The Department will grant a variance or waiver when the petition demonstrates both that the application of the rule would create a substantial hardship or violate principles of fairness, as each of those terms is defined in Section 120.542(2) F.S., and that the purpose of the underlying statute will be or has been achieved by other means by the petitioner.

Persons subject to regulation pursuant to any federally delegated or approved air program should be aware that Florida is specifically not authorized to issue variances or waivers from any requirements of any such federally delegated or approved program. The requirements of the program remain fully enforceable by the Administrator of the EPA and by any person under the Clean Air Act unless and until the Administrator separately approves any variance or waiver in accordance with the procedures of the federal program.

Executed in Tallahassee, Florida.



C. H. Fancy, P.E., Chief  
Bureau of Air Regulation

#### CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Intent to Issue Air Construction Permit Modification (including the Public Notice of Intent to Issue Air Construction Permit Modification, Technical Evaluation and Preliminary Determination, and the Draft permit) was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on 4-10-00 to the person(s) listed:

Mr. Gary K. Crane, Ogden Energy Group, Inc. \*  
Mr. Brian Bahor, Ogden Energy Group, Inc. \*  
Mr. David Crowe, Lake County Dept. of Solid Waste  
Mr. Len Kozlov, Central District  
Ms. Jan Rae Clark, FDEP  
Ms. Edith Coulter, FDOH  
Mr. Richard Shine, Landers & Parsons, P.A.  
Ms. Mary F. Smallwood, RMSS&R, P.A.  
Ms. Valerie Fachs, Lake County Attorney's Office  
Ms. Rhonda H. Gerber, Lake County, Board of County Commissioners  
Mr. Gregg Worley, EPA  
Mr. John Bunyak, NPS

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to §120.52, Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kimi Weber  
(Clerk)

4-10-00  
(Date)

**PUBLIC NOTICE OF INTENT TO ISSUE AIR CONSTRUCTION PERMIT MODIFICATION**

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEP File No. 0690046-002-AC

Ogden Energy Group, Inc.  
Ogden Martin Systems of Lake, Inc.  
Lake County

The Department of Environmental Protection (Department) gives notice of its intent to issue an Air Construction Permit Modification to Ogden Energy Group, Inc. to provide for the installation of a selective non-catalytic reduction system (SNCR); clarify what fuels are permitted for combustion and in what quantities; and revise certain emission test requirements at the resource recovery facility located at 3830 Rogers Industrial Park Road, Okahumpka, Lake County. A Best Available Control Technology (BACT) determination was not required pursuant to Rule 62-212.400, F.A.C. and 40 CFR 52.21, Prevention of Significant Deterioration (PSD). The applicant's name and mailing address are: Ogden Energy Group, 40 Lane Road, Fairfield, New Jersey 07004.

The existing facility produces electricity by combusting solid waste, recovering the heat as steam, and expanding the steam in an electrical generator. The electricity produced is sold to the local utility. The maximum facility generating capacity is 15.7 MW. The existing boilers are equipped with lime injection, carbon injection and baghouse fabric filters. The purpose of the SNCR system is to control nitrogen oxide emissions and to comply with 40 CFR 60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995. These requirements are incorporated in Department Rule 62-204.800(8), F.A.C.

The units were permitted in 1990 to burn "wood chips and municipal waste (MSW), which can by definition include biohazardous waste." This modified permit will specify and limit the amounts and types of wastes that can be burned. In addition to other specified waste streams, the facility will be limited to burning no more than 9 percent of medical/infectious wastes on a 30-day rolling basis. A similar limit already exists in the present operating permit applicable to the facility.

An air quality impact analysis was not required. Emissions from the facility will not consume PSD increment and will not significantly cause or contribute to a violation of any state or federal ambient air quality standards. The technical evaluation and draft permit modification can be accessed at the Department's website ([www.dep.state.fl.us/air/permitting](http://www.dep.state.fl.us/air/permitting)) or as detailed below.

The Department will issue the Final permit with the attached conditions unless a response received in accordance with the following procedures results in a different decision or significant change of terms or conditions.

The Department will accept written comments and requests for public meetings concerning the proposed permit issuance action for a period of 30 (thirty) days from the date of publication of this Public Notice of Intent to Issue Air Construction Permit Modification. Written comments and requests for public meetings should be provided to the Department's Bureau of Air Regulation at 2600 Blair Stone Road, Mail Station #5505, Tallahassee, FL 32399-2400. Any written comments filed shall be made available for public inspection. If written comments received result in a significant change in the proposed agency action, the Department shall revise the proposed permit and require, if applicable, another Public Notice.

The Department will issue the permit with the attached conditions unless a timely petition for an administrative hearing is filed pursuant to sections 120.569 and 120.57 F.S., before the deadline for filing a petition. The procedures for petitioning for a hearing are set forth below. Mediation is not available in this proceeding.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must

**NOTICE TO BE PUBLISHED IN THE NEWSPAPER**

contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000. Petitions filed by the permit applicant or any of the parties listed below must be filed within fourteen days of receipt of this notice of intent. Petitions filed by any persons other than those entitled to written notice under section 120.60(3) of the Florida Statutes must be filed within fourteen days of publication of the public notice or within fourteen days of receipt of this notice of intent, whichever occurs first. Under section 120.60(3), however, any person who asked the Department for notice of agency action may file a petition within fourteen days of receipt of that notice, regardless of the date of publication. A petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under sections 120.569 and 120.57 F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205 of the Florida Administrative Code.

A petition that disputes the material facts on which the Department's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner, the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of how and when petitioner received notice of the agency action or proposed action; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action; and (g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts upon which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the Department on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

A complete project file is available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at:

Department of Environmental Protection  
Bureau of Air Regulation  
Suite 4, 111 S. Magnolia Drive  
Tallahassee, Florida, 32301  
Telephone: 850/488-0114  
Fax: 850/922-6979

Department of Environmental Protection  
Central District  
3319 Maguire Boulevard Suite, 232  
Orlando, Florida 32803-3767  
Telephone: 407/894-7555  
Fax: 407/897-5963

The complete project file includes the application, technical evaluations, Draft permit, and the information submitted by the responsible official, exclusive of confidential records under Section 403.111, F.S. Interested persons may contact the Administrator, New Source Review Section at 111 South Magnolia Drive, Suite 4, Tallahassee, Florida 32301, or call 850/488-0114, for additional information.

NOTICE TO BE PUBLISHED IN THE NEWSPAPER

TECHNICAL EVALUATION  
AND  
PRELIMINARY DETERMINATION

Lake County Resource Recovery Facility

Ogden Martin Systems of Lake, Inc.  
Okahumpka, Florida  
Lake, County

DEP FILE: 0690046-002-AC (PSD-FL-113A)

Facility ID No.: 0690046

Department of Environmental Protection  
Division of Air Resources Management  
Bureau of Air Regulation

March 30, 2000

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 1.0 APPLICATION INFORMATION

### 1.1 *Applicant Name and Address*

Ogden Energy Group, Inc.  
40 Lane Road  
Fairfield, New Jersey 07004

*Authorized Representative*  
Gary K. Crane, Executive Vice President

### 1.2 *Reviewing and Process Schedule*

09-29-98:	Date of Receipt of Application
10-24-98:	Notice of Application published in Lake Sentinel section of Orlando Sentinel
11-04-98:	Second Notice published in Lake Sentinel section of Orlando Sentinel
12-01-98:	Request for additional information submitted to Ogden
02-25-99:	Extension granted for Ogden's response to Department's request
05-27-99:	Second extension
07-06-99:	Third extension
09-16-99:	Fourth extension
11-29-99:	Fifth extension
02-29-00:	Application complete

## 2. FACILITY INFORMATION

### 2.1 *Facility Location*

The Ogden Martin Systems of Lake, Inc. facility is located at 3830 Rogers Industrial Park Road, Okahumpka, Lake County. The UTM coordinates of this facility are Zone 17; 413.12 km E; 3,179.21 km N.



Facility: Ogden Martin Systems of Lake, Inc.

Facility I.D. No. 0690046  
PSD- FL-113A



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 2.2 Standard Industrial Classification Code (SIC)

Major Group No.	49	Electric, Gas, and Sanitary Services
Group No.	495	Sanitary Services
Industry No.	4953	Refuse Systems

## 2.3 Facility Category

This facility produces electricity by combusting solid waste, recovering the heat as steam, and expanding the steam in an electrical generator. The solid waste burned is typically characterized as "refuse such as garbage and trash" or as municipal solid waste (MSW). Each of the incinerators at the facility is permitted to combust up to 288 tons per day (115% of rated capacity) of municipal solid waste (MSW). Certain segregated wastes consisting of materials typically found in MSW are mixed into the waste while maintaining the overall characteristics of the waste within the typical ranges of heat and moisture content as well as emission characteristics. The electricity produced is sold to the local utility. The maximum facility generating capacity is 15.7 MW.

The facility is classified as a major, or Title V, source of air pollution because emissions of at least one regulated air pollutant exceed 100 tons per year. Air pollutant emissions are over 100 TPY for sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO). It is also a major source because emissions of hazardous air pollutants exceed 10 tons per year individually or 25 tons per year in the aggregate.

This facility is on the list of the 28 Major Facility Categories, Table 62-212.400-1, F.A.C. Because emissions are greater than 100 tons per year for at least one criteria pollutant, the facility is also a major facility with respect to Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD).

The facility was issued a PSD permit, including a determination of Best Available Control Technology (BACT), by the FDEP on February 24, 1988. This PSD permit was later modified on December 10, 1990.

Lake County Resource Recovery Facility photographs follow:



# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 3. PROJECT DESCRIPTION

3.1 *This permit addresses the following emissions units:*

EMISSION UNIT NO.	SYSTEM	EMISSION UNIT DESCRIPTION
-001	Unit #1	288 Tons per Day (maximum) MSW Incinerator
-002	Unit #2	288 Tons per Day (maximum) MSW Incinerator
-003	-	Activated Carbon Silo

On September 28, 1998, Ogden Martin Systems of Lake, Inc requested a revision to their existing PSD permit for clarification of the permitted fuels allowed to be combusted at the Lake County Resource Recovery Facility. The permit currently allows that the MWC shall be fueled with wood chips or municipal solid waste "which can include biohazardous waste. Radioactive waste may not be burned unless the combustor has been issued a permit or waste is such quantity to be exempt in accordance with .... Hazardous waste may not be burned unless the combustor has been issued a permit or the waste is of such quantity to be exempt in accordance with.... Other wastes shall not be burned without specific prior written approval of Florida DER." A number of amendments to the air operating permit have been issued, many of which were attempting to quantify and qualify the applicant's ability to combust biohazardous waste. The applicant has provided some documentation, intended to show that the maximum throughput of biomedical waste, which the incinerators are capable of combusting, is 10 tons per hour. This permitting action will explicitly specify which materials can be burned in Emissions Units 001 and 002, as well as the applicable emission limits for each incinerator.

The existing boilers are already equipped with lime injection, carbon injection and baghouse fabric filters. Ogden additionally uses a mercury separation program to manage mercury emissions.

The following details the applicant's request and portions of the Department's determination:

### 3.2 *Waste fuels*

The units were originally permitted to utilize "refuse such as garbage and trash" as defined in the Department's solid waste rules. The applicant requests that the modified permit specify the wastes and certain segregated wastes as solid waste including municipal solid waste (MSW) as defined at 40 CFR 60.51b and Section 403.706 (5), Florida Statutes (1995). The applicant additionally requests that 62-210.200, F.A.C. apply to the definition of biomedical waste.

3.2.1 The applicant proposes the following examples of processible non-hazardous waste:

Wood pallets; construction, renovation, and demolition wastes; clean wood; industrial process or manufacturing wastes; yard wastes; refuse-derived fuel; and motor vehicle maintenance materials. Items or materials suitable for human, plant, or domesticated animal use, consumption and/or application whose shelf life has expired or which the generator wishes to remove from the market and ensure the proper destruction of, such as, but not limited to: off-specification or expired consumer-packaged products and pharmaceuticals, non-prescription

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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medications, health care products, toothpaste, hand creams, cosmetics, shampoos, foodstuffs, nutritional supplements, returned goods, and controlled substances.

Consumer-packaged products intended for human (or domesticated animal) use and/or application but not consumption, such as, but not limited to: carpet cleaners, household or bathroom cleaners, polishes, waxes, detergents, etc.

Waste materials generated in the manufacture of items in the categories above that are functionally or commercially useless (expired, rejected or spent), or finished products not yet formed or packaged for commercial distribution.

Packaging materials, natural and synthetic fibers, clothing, floor coverings of all types, fabric remnants, empty containers, debris items such as, but not limited to: aprons, gloves, floor sweepings and paints.

Waste materials that contain oil from routine cleanup of industrial or commercial establishments and machinery (such as, but not limited to non-turn or specialty oil filters) or the oil-contaminated materials used in the cleanup of spills of used or virgin petroleum products (including, but not limited to items such as: rags, lints and absorbents).

Waste materials generated by manufacturing, industrial, commercial, or agricultural activities including but not limited to items such as: filtercake from the manufacture of synthetic oil, paint overspray, or other filtration materials from industrial processes and systems.

Confidential documents (including, but not limited to business records, lottery tickets, event tickets, and microfilm).

Contraband, which may be disposed of at the request of appropriately, authorized local, state, or federal government agencies.

The authorized fuels may be received either as a mixture or as a single-item stream of household, commercial, institutional, agricultural, or industrial discards. The facility may receive oil spill debris. Waste tires may be accepted, but may not exceed 3% of the facility's fuel. The authorized fuels shall be well mixed with MSW or alternately charged with MSW. The facility owner shall not process prohibited fuels, such as lead-acid batteries, and sewage sludge from Publicly Owned Treatment Works.

3.2.2 In addition to "refuse such as garbage and trash" as well as wood chips, the Department authorizes, subject to the limitations contained in the permit, that the following fuels for the facility that are not MSW, may also be combusted.

The fuel may be received either as a mixture or as a single-item stream (segregated load) of discarded materials. If the facility intends to use an authorized fuel that is segregated non-MSW material, the fuel shall be either:

- a) well mixed with MSW in the refuse pit; or
- b) alternately charged with MSW in the hopper.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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The facility operator shall prepare and maintain records concerning the types and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below. For the purposes of this permit, a segregated load is defined to mean a container or truck that is primarily or exclusively filled with a single item or type of waste material.

To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:

- a) comply with good combustion operating practices in accordance with 40 CFR 60.53b;
- b) install, operate and maintain continuous emissions monitors (CEMS) for oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and temperature in accordance with 40 CFR 60.58b; and
- c) record and maintain the CEMS data in accordance with 40 CFR 60.59b.

These steps shall be used to ensure and verify continuous compliance with the emissions limitations in this permit.

Natural gas or distillate fuel oil may be used as fuel during warm-up, startup, shutdown, and malfunction periods, and at other times when necessary and consistent with good combustion practices.

Subject to the conditions and limitations contained in the permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material):

- a) Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
- b) Contraband that is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
- c) Wood pallets, clean wood, and land clearing debris;
- d) Packaging materials and containers;
- e) Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
- f) Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.

Subject to the conditions and limitations contained in the permit waste tires may be used as fuel at the facility. The total quantity of waste tires received as segregated loads and burned at the facility shall not exceed 3%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30-day average [in accordance with a specific condition of the permit].

Subject to the conditions and limitations contained in the permit, the following other solid waste materials may be used as fuel at the facility (i.e. the following are authorized fuels that are non-MSW material). The total quantity of the following non-MSW material received as segregated loads and burned at the facility shall not exceed 5%, by weight, of the facility's total fuel. Compliance with this limitation shall be determined by using a rolling 30-day average [in accordance with a specific condition of the permit].

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Facility: Ogden Martin Systems of Lake, Inc.

Facility I.D. No. 0690046  
PSD- FL-113A

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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- a) Construction and demolition debris.
- b) Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and person care products cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
- c) Consumer-packaged products intended for human or domesticated animal use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
- d) Waste materials that:
  - (i.) are generated in the manufacture of items in categories (b) or (c), above and are functionally or commercially useless (expired, rejected or spent);  
or
  - (ii.) are not yet formed or packaged for commercial distribution.  
Such items or materials must be substantially similar to other items or materials routinely found in MSW.
- e) Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.

However, the facility shall not burn:

- a) those materials that are prohibited by state or federal law;
- b) those materials that are prohibited or not authorized by this permit;
- c) lead acid batteries;
- d) hazardous waste;
- e) nuclear waste;
- f) radioactive waste;
- g) sewage sludge;
- h) explosives;
- i) Ni-cad batteries;
- j) Hg containing devices

### 3.2.3. Medical Waste

An evaluation of the facility's request with respect to combusting medical waste is provided in Section 5. However, for the purposes of describing Medical Waste, the definition from 40 CFR 60 Subpart Ec (60.51c) is offered:

*Medical/infectious waste* means any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals that is listed in paragraphs (1) through (7) of this definition. The definition of medical/infectious waste does not include hazardous waste identified or listed under regulations in part 261 of this chapter; household waste, as defined in §261.4(b)(1) of this chapter; ash from incineration of medical/infectious waste, once the incineration has been completed; human corpses, remains, and anatomical parts that are intended for interment; and domestic sewage materials identified in §261.4(a)(1) of this chapter.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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- (1) Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.
- (2) Human pathological waste, including tissues, organs, and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.
- (3) Human blood and blood products including:
  - (i) Liquid waste human blood
  - (ii) Products of blood;
  - (iii) Items saturated and/or dripping with human blood; or
  - (iv) Items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals.  
Intravenous bags are also included in this category.
- (4) Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.
- (5) Animal waste including contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals or testing pharmaceuticals.
- (6) Isolation wastes including biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.
- (7) Unused sharps including unused, discarded sharps; hypodermic needles, suture needles, syringes, and scalpel blades.

### 3.2.4. Segregated Solid Waste Record Keeping:

The following records shall be made and kept to demonstrate compliance with the segregated non-MSW percentage limitations of specified in 3.2.2.

Each segregated load of non-MSW materials, that is subject to the percentage weight limitation of section 3.2.2., which is received for processing shall be documented as to waste description and weight. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

Each day the total weight of segregated tires received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30-day total weight of tires shall be divided by the total weight of all waste materials received in the same 30-

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 3% limitation.

Each day the total weight of segregated non-MSW materials received that are subject to the 5% restriction shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30-day total weight of segregated non-MSW materials shall be divided by the total weight of all waste materials received in the same 30-day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the 5% limitation.

### 3.2.6. Record Keeping of Medical Waste Combusted

The following records shall be made and kept to demonstrate compliance with the medical waste limitations specified within Section 5. This waste will be delivered boxed and in segregated loads and shall be alternately charged with MSW in the hopper for combustion.

Each load of medical waste materials, which is received for processing, shall be documented as to waste description and weight. This shall be compared to the shipping records of each load and discrepancies noted. These records shall be maintained at the site for a period of five years. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.

Each day the total weight of medical waste received shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days. The resultant 30-day total weight of medical waste shall be divided by the total weight of all waste materials received in the same 30-day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms. The percentage computed shall be compared to the limitation identified in Section 5.

### 3.3. *Emission Limits*

- The applicant proposes that the following emissions limits currently in the PSD be deleted:
- Beryllium emission limit be deleted since the facility has continuously demonstrated compliance with these limits (all test results were non-detectable).
- To eliminate the VOCs emission limit since the existing CO limit and continuous monitor would provide assurance that emissions of VOCs remain low.
- To eliminate the fluoride emissions limit since hydrogen fluoride is removed in the semi-dry scrubber. The low emissions are evidenced by the consistently low test results and the current monitoring of SO<sub>2</sub> emissions is proposed as an adequate surrogate.

The Department's Bureau of Air Regulation has determined that a CO limit shall be part of the permit. The CO limit requirement is one of the rationales to demonstrate continuous compliance with GCP stated in the EPA Municipal Waste Combustion: Background Document mentioned below and is also a part of the applicable Subpart Cb emissions standards.

Regarding beryllium (Be) and hydrogen fluoride (HF), the Department has test results accomplished during the initial and routine performance testing to demonstrate that the burning

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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of the previously combusted fuels does not exceed the permitted limits imposed as part of the original BACT-PSD permit.

The Department recognizes that 40 CFR 60, Subpart Cb includes no emission standards for these pollutants. However, considering the change in fuel slates requested herein, rather than a complete elimination of further testing, the demonstration of compliance will be extended to testing once every 5 years.

### 3.4. *Removal of 300 °F SDA/FF outlet Temperature Limit*

The applicant proposed that the existing 300°F temperature limit at the acid gas control device exit (fabric filter outlet) be replaced with the Subpart Cb particulate control device inlet temperature limit.

The applicant contends that the 40 CFR 60 Subpart Cb temperature limit is determined during annual compliance testing and therefore it is directly tied to actual emissions performance of the boiler and air pollution control equipment. It is presumed that the current limit of 300°F at the exit of the acid gas control device was primarily intended to ensure that the acid gas control device would achieve a high removal rate of acid gases and secondarily to ensure that trace metals and semivolatile organics such as mercury and dioxins would be condensed onto particulate and therefore collected in the particulate control device.

40 CFR 60 Subpart Cb incorporates emission limits for MWC acid gases (HCl and SO<sub>2</sub>). The HCl limit is based on annual stack testing but can be continuously achieved by SDA/FF air pollution control equipment irrespective of a 300°F temperature limit. The applicant affirms that, the Subpart Cb temperature limit derived directly from annual compliance tests ensures that control of trace metals and dioxins or other organics will be continuously achieved. Consequently, maintaining a 300°F baghouse outlet temperature provides no additional control for these metals.

Based on the above, the applicant believes that the substitution of the Subpart Cb particulate control device inlet temperature limit for the existing 300°F limit will ensure that high removal levels of all metals and semivolatile organics will be continuously achieved.

As has been done in previous Determinations, the Department concurs with the applicant and its proposal. The outlet temperature requirement is deleted from the permit and replaced by the inlet temperature to the control device as required by 40 CFR 60, Subpart Cb.

As explained in the EPA's Background Information Document to the 40 CFR 60 Subpart Cb Emissions Guidelines, EPA decided to select the inlet temperature to the control device as the control parameter. EPA's explanation of how to determine the maximum PM control device inlet temperature is to "take the highest average PM control device inlet temperature measured during any one of three successful performance run for dioxin/furans and to add 17°C (30°F). The averaging time for the PM control device inlet temperature limit must be consistent with the averaging time for a single dioxin/furan performance test (approximately 4 hours). If an 8-hour averaging time was allowed for the inlet temperature, then a unit could theoretically operate for 4



## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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hours at temperatures above those shown to be safe by the dioxin/furan performance test. The PM control device inlet temperature requirements help ensure that conditions for high dioxin/furan formation rates do not occur. The temperature limit also controls partitioning of dioxin/furan between the solid and vapor phase. At lower temperatures, dioxins/furans remain absorbed on PM and are disposed with the collected fly ash. There is no evidence that dioxin/furans absorbed on fly ash can be volatilized at ambient temperatures nor leached in landfills. EPA adds that the temperature at which low dioxin/furan emissions is achieved may defer between MWC units, and that the requirements take that into consideration”<sup>1</sup>.

### 3.5 *Furnace Temperature Requirements*

The PSD permit requires that the furnace temperature be monitored and maintained above 1,800°F for a combustion residence time of at least one second. Through operating permit changes, this permit condition was altered to say that the applicant may utilize a roof temperature of 1138°F as a surrogate for the secondary chamber temperature of 1800°F as required for medical waste incineration proposes. In light of the fuel slate changes being incorporated herein, the applicant shall be required to comply with the 1800°F requirement. Additionally, the applicant should be required to comply with the good combustion practices (GCP) outlined in the 40 CFR 60, Subpart Cb.

### 3.6 *Selective Non Catalytic Reduction (SNCR) System*

To comply with the NO<sub>x</sub> emission limits specified in 40 CFR 60 Subpart Cb, the applicant is proposing to install a selective non-catalytic reduction (SNCR) system as well as a continuous emission monitor for NO<sub>x</sub>. The following describes a typical system:

The retrofit will store, convey, and inject aqueous urea into the furnace of each boiler immediately above the over fire air zone. The SNCR system may use urea, instead of ammonia, to provide the reducing reaction with NO<sub>x</sub> forming nitrogen and water. That reaction occurs across a wider temperature range than ammonia and reduces the potential health and safety risks associated with the release of ammonia during handling or storage.

The SNCR unit will be designed to allow the concentrated reagent to be delivered to the facility in a heated, self-unloading tanker truck and transferred to a heated fiberglass reinforced plastic tank for on site storage. The tank will provide approximately one to two weeks of storage capacity under normal operating conditions.

A common circulation module transfers the chemical from the storage tank to the individual boiler metering modules. A recirculation pump and a supplemental electric heater, both located on the circulation module, provide agitation and heating capability. Flow and pressure control of the urea and dilution water fluids used in the SNCR process is performed with the metering modules. Metering of the concentrated reagent, dilution of the reagent with water and mixing of the resulting solution is also accomplished at these modules. The diluted reagent is pumped to the distribution modules where the individual distribution panels are located. The panel regulates the compressed air and diluted reagent flows to the individual fluid injection nozzles.

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The Department's Bureau of Air Regulation allows the installation of the SNCR system to reduce NO<sub>x</sub> emissions to comply with the 40 CFR 60 Subpart Cb NO<sub>x</sub> standard, allowing for 10 ppmvd ammonia slip at 7% O<sub>2</sub>.

## 4. PROCESS DESCRIPTION

### 4.1 *General Information*

The facility is a waste-to-energy installation employing mass burning of solid waste, heat recovery as superheated steam, and power generation in a steam electric cycle. Other than landfilling, this is the most common method of solid waste disposal in the United States. There are twelve such facilities in the State of Florida. Following is a description of the process.

Waste is received via transfer, roll-off, or collection vehicles. Upon arrival, each vehicle is weighed at the scale house and the waste is categorized. Any unacceptable waste is diverted at this time. All acceptable waste is taken to the Refuse Receiving Building, where it is deposited into the refuse storage pit. The refuse is stored at this location until needed to charge the combustion units.

Charging of the combustion units is accomplished using overhead cranes equipped with grapples. These grapples stack, mix, relocate waste within the pit and transfer it into the feed hoppers serving each unit. Currently, the waste enters the two refuse-fired steam generators, each of which consists of a Martin GmbH Reverse-Reciprocating Stoker Grate and Heat Recovery/Steam generator components manufactured by Zurn Industries. A Biomedical Waste Operating Plan has been submitted in accordance with the D.O.H. Bureau of Environmental Health Program, Chapter 64E-16, F.A.C.

Combustion air is drawn from the refuse tipping area (assisting in odor control) and conveyed through the gas side of the air preheater and into the refuse-fired generators where the waste is combusted. The units are fitted for lime and carbon injection via the flue gas. Exhaust gases from each refuse-fired combustors pass through heat recovery devices and are ducted to the air pollution control system which presently consists of a fabric filter manufactured by Joy Environmental Equipment. Treated gases are exhausted to the atmosphere via two existing 199-foot stacks, which share one support structure. Bottom ash from the furnaces is removed, quenched and processed for metal recovery and disposal.

The design output is 64,418 lbs/hr of steam at 830°F and 865 psig. The turbine powers a single 15.7-megawatt electric power generator. The electric power is introduced into the electrical grid and is purchased by the local power company.

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## 4.2 *Operating Window*

Ogden operates the plant within a so-called 115 percent "operating window," or ~288 tons per day normalized around the previous nominal capacity of 250 tons per day at a waste heat content of 5,000 Btu per pound (Btu/lb). Because of the wide range in waste heat content, Ogden wishes to continue with sufficient flexibility to burn varied waste streams to achieve the desired steam production, particularly when waste heat content is low. This is a common and recognized industrial and regulatory practice. This permitting action will not revise the allowed operating window but will clarify maximum rated capacities of the units in terms of waste throughput, heat input and steam flow consistent with the above operating window.

## 5. RULE APPLICABILITY

This facility is located in Lake County, an area designated as attainment for all criteria pollutants in accordance with Rule 62-204.360, F.A.C.

Because the project, as proposed, is expected to reduce NO<sub>x</sub> air emissions it would not normally be considered a modification under Chapters 62-210 and 62-212, F.A.C. However the applicant plans to burn a more varied slate of wastes on one of the Emission Units. Therefore the project must be assessed for permitting requirements and preconstruction review requirements. Some of these changes, including the proposed emission limits and requested deletion of the VOC emission limit, prompt a permit modification whether or not the project constitutes a facility or source modification.

The main rules applicable to this project would be 40 CFR 60, Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995 (the Emission Guideline), Rule 62-296.401(4), F.A.C. Biological Waste Incineration Facilities and Rule 62-296.416, F.A.C., Waste-to-Energy Facilities. Physical or operational changes made to an existing unit primarily for the purpose of compliance with the Emission Guideline are not considered in determining whether the unit is a modified or reconstructed facility under 40 CFR 60, Subparts Ea or Eb. The latter subparts are Standards of Performance for MWCs on which construction commenced after December 20, 1989 and September 20, 1994, respectively. The Emission Guideline and the other Subparts are all adopted by reference in Rule 62-204.800(7) and (8), F.A.C.

Based upon prior permitting actions, Emissions Unit 001 has been authorized to combust up to 2.15 TPH of boxed medical waste subject to certain requirements. This application requests the ability to burn the 2.15 TPH of medical waste in either unit, i.e. also in Emission Unit 002. Had the applicant requested authorization to increase the maximum amount of medical waste to be combusted at the facility (beyond the quantity previously allowed), the Department would have evaluated the request in a different light, placing additional emphasis on the requirements of Subpart Ce - Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators and Subpart Ec - Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996. These subparts will be considered in developing the Department's Determination, and authorization of the request will require the applicant to satisfy the Department via permit conditions concerning the following issues:

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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- 1) Characterization of the medical incinerator ash - Lead (lead bitewings from dentistry) and cadmium (the pigment used to color some red regulated medical waste bags and sharps containers) are two common contaminants requiring TCLP testing. Eight RCRA regulated metals should be analyzed (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). The fly ash, bottom ash and scrubber residuals should be analyzed while firing the maximum amount of medical waste immediately following an outage after which time all prior ash remnants have been removed and like-wise sampled. The applicant shall certify that these ash samples represent the 2 cases of "no medical waste incineration" and "maximum medical waste incineration". Bottom ash, fly ash and scrubber residuals should be handled and stored in a manner that prevents mixing as well as entrainment in to ambient air. Ash disposal must be according to state and federal guidelines.
- 2) Transportation of medical waste - Shipping infectious substances requires coordinated action by the shipper, the transporter and the receiver to ensure safe transport. Packages must be prepared in such a fashion so as to present no hazard to persons or animals during conveyance. Rules exist concerning watertightness, boxing, etc. These requirements are detailed in 42 CFR 72 and 49 CFR 173.196. A certifying official must certify that the package is properly packed and ready for transport. Exempted from the regulated medical waste transport requirements are hazardous wastes identified or listed under the regulations in 40 CFR Part 261; household wastes as defined in 40 CFR 261.4(b)(1); ash from incineration of regulated medical waste once the incineration process has been completed; residues from treatment and destruction processes of regulated medical waste once the waste has been both treated and destroyed; animal waste generated in animal husbandry or food production; laundry or medical equipment that conforms to 29 CFR 1910.1030; and human corpses, remains, and anatomical parts that are intended for interment or cremation. In the event the package of regulated medical waste leaks during transport, the shipper, Federal and State authorities must be notified.
- 3) Personnel training - It is important to note that both OSHA and the EPA have specific training requirements for personnel handling hazardous materials and wastes. Training must be conducted by employers to comply with OSHA, EPA and DOT requirements. Additionally, the State of California has issued rules for operator training such as Section 93104, Title 17(b)(7), which states (in part) that "No person shall operate a medical waste incinerator unless each individual who operates or maintains the incinerator obtains either a certificate of training in medical waste incineration issued by the American Society of Mechanical Engineers within nine months of the commencement of the training program, or equivalent training as determined by the Air Pollution Control Officer. Copies of the training certificates for the operators and maintenance engineers shall be submitted to the districts and the original certificates shall be available for inspection at the facility with the permit to operate." 40 CFR 60.53c additionally details operator training requirements.

Upon properly satisfying these issues, the Department determines that the total quantity of boxed medical waste received as segregated loads and burned at the facility shall not exceed 9% by weight, of the facility's total fuel and can be burned in either unit (EU-001 or EU-002), but not simultaneously. Compliance with this limitation shall be determined by using a rolling 30-day average [in accordance with a specific condition of the permit]. The Department makes this determination on the following basis:

$$2.15 \text{ TPH} / 24 \text{ TPH capacity (for both incinerators)} = 9\%$$

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Facility: Ogden Martin Systems of Lake, Inc.

Facility I.D. No. 0690046  
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## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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These incinerators, when viewed together, are considered to be "co-fired" medical waste combustors, based upon the definition supplied in 40 CFR 60, Subparts Ec. This definition necessitates an enforceable requirement limiting the amount of medical waste combusted to 10% or less on a calendar quarter basis.

The Emission Guideline under 40 CFR 60 Subpart Cb, with which the facility will comply, was developed pursuant to Section 129 (Solid Waste Combustion) of the Clean Air Act as amended in 1990. It requires and achieves the same objectives as MACT for existing facilities.

This facility shall comply with all applicable provisions of the following guidelines and regulations:

- 40 CFR 60 Subpart Cb Emissions Guidelines and Compliance Times for Existing Municipal Waste Combustors Constructed on or Before December 19, 1995.
- 40 CFR 51 Subpart P Protection of Visibility.
- 40 CFR 60, Subpart Db Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units.
- 40 CFR 60, Subpart E Standards of Performance for Incinerators.
- 40 CFR 60, Subpart A General Provisions
- 40 CFR 64 Compliance Assurance Monitoring Rule
- 40 CFR 50 National Primary and Secondary Ambient Air Quality Standards

This facility is also subject to the applicable requirements related to used fuels and wastes given in 40 CFR 240, 40 CFR 279, 40 CFR 273 and 40 CFR 261, which are adopted by reference in Chapters 62-710, 62-737 and 62-730, F.A.C.

Biomedical waste storage requirements, as well as operational and contingency requirements found in Chapter 64E-16, F.A.C., shall be incorporated into the air construction and operation permits.

## TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

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The emission units affected by this revision shall comply with all applicable provisions of the Florida Administrative Code (including applicable portions of the Code of Federal Regulations incorporated therein) and, specifically, the following Chapters and Rules:

Chapter 62-4	Permits.
Rule 62-204.220	Ambient Air Quality Protection
Rule 62-204.240	Ambient Air Quality Standards
Rule 62-204.260	Prevention of Significant Deterioration Increments
Rule 62-204.360	Designation of Prevention of Significant Deterioration Areas
Rule 62-204.800	Federal Regulations Adopted by Reference
Rule 62-210.300	Permits Required
Rule 62-210.350	Public Notice and Comments
Rule 62-210.370	Reports
Rule 62-210.550	Stack Height Policy
Rule 62-210.650	Circumvention
Rule 62-210.700	Excess Emissions
Rule 62-210.900	Forms and Instructions
Rule 62-212.300	General Preconstruction Review Requirements
Rule 62-212.400	Prevention of Significant Deterioration
Chapter 62-213	Operation Permits for Major Sources of Air Pollution
Chapter 62-214	Requirements For Sources Subject To The Federal Acid Rain Program
Rule 62-296.320	General Pollutant Emission Limiting Standards
Rule 62-296.401	Incinerators
Rule 62-297.310	General Test Requirements
Rule 62-297.401	Compliance Test Methods
Rule 62-296.410(3)	Specific Emission Limiting and Performance Standards Requirements for Incinerators
Rule 62-296.416	Waste to Energy Facilities
Chapter 62-256	Open Burning and Frost Protection Fires
Rule 62-297.570	Test Reports
Rule 62-297.520	EPA Continuous Monitor Performance Specifications
Chapter 62-701	Solid Waste Management Facilities
Chapter 62-702	Solid Waste Combustor Ash Management
Chapter 62-710	Used Oil Management
Chapter 62-711	Waste Tire Rule
Chapter 62-730	Hazardous Waste
Chapter 62-737	The Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling
Chapter 64E-16	Biomedical Waste Management Requirements

# TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

## 6. PROJECTED EMISSIONS

### 6.1 Emission Limitations

The maximum allowable short-term emission limits for the facility (EU-001 and -002) before and after this permitting action are as follows:

Pollutant	Engineering Units	Existing Permit	Subpart			Recommended
			Cb	Ce	Ec	
PM	mg/dscm @ 7% O2		27	34	34	27 (annual test)
	percent opacity		10% (6 min. avg.)			10% (6 min. avg.)
	grains/dscf @ 12%CO2	0.015				
Cadmium	mg/dscm @ 7% O2	N/A	0.04	0.16	0.04	0.04 (annual test)
Lead	mg/dscm @ 7% O2		0.44	1.2	0.07	0.44 (annual test)
	grains/dscf @ 12%CO2	0.00031			.00003	
Mercury	mg/dscm @ 7% O2		0.08 (FLA= 0.07)	0.55	0.55	0.07 (CEMS)
	percent reduction		85%	85%	85%	85% (annual test)
	grains/dscf @ 12%CO2	0.00034				
	Averaging period (hr)					24 hr. block
Sulfur Dioxide	percent reduction		75%			75% (annual test)
	ppmvd @ 7% O2		29	55	55	29 (CEMS)
	ppmvd @ 12% CO2	60				
	Averaging period (hr)	6	24			6
Hydrogen Chloride	percent reduction	90%	95%	93%	99%	95% (annual test)
	ppmvd @ 7% O2	50	29	100	15	29 (annual test)
Dioxins/Furans	ppmvd @ 7% O2	N/A				
	ng/dscm (grains/bdcsf)		30	125 (55)	25(11)	25 (annual test)
Nitrogen Oxides	ppmvd @ 7% O2	385	205	250	250	205 (annual test)
	Averaging period (hr)		24			24 (CEMS)
Carbon Monoxide	ppmvd @ 7% O2	100	100	40	40	40 (annual test)
	Averaging period		4	4	4	4 (CEMS)
Fluoride	grains/dscf @ 12%CO2	0.0015	N/A	N/A	N/A	0.0015
						(5-year test)
Beryllium	grains/dscf @ 12%CO2	2.0 e-7	N/A	N/A	N/A	2.0 e-7
						(5-year test)
VOC	ppmvd @ 12% CO2	70	N/A	N/A	N/A	N/A

Note: CEMS = Continuous Emissions Monitoring System

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## 6.2 Recent Stack Test Results

The following is a summary of recent stack test results of Unit 2 while co-firing 2.15 tons per hour biohazardous waste and the comparison with the Department's proposed limits. As the table shows, where test results were taken, all were well below the applicable Subpart limits except for the NO<sub>x</sub> standard. It is expected pursuant to 40 CFR 52.21 (b)(2)(iii)(h), that this project, with limits as proposed by the Department, would not have significant increase in representative actual emissions of any pollutant. A selective non-catalytic system (SNCR) is to be installed for the control of NO<sub>x</sub>.

POLLUTANT	UNITS	EMISSIONS 002	Recommended limit (at 7% O <sub>2</sub> )
SO <sub>2</sub>	ppm @ 12 % CO <sub>2</sub>	2.2	29
NO <sub>x</sub>	ppm @ 12 % CO <sub>2</sub>	269.3	205
CO	ppm @ 7 % O <sub>2</sub>	21.7	40
PM	mg/dscm @ 7 % O <sub>2</sub>	1.3	27
Pb	mg/dscm @ 7 % O <sub>2</sub>	Not Checked	0.44
Hg	ug/dscm @ 7 % O <sub>2</sub>	16.4	70
Dioxins/Furans	ng/dscm @ 7 % O <sub>2</sub>	Not Checked	25
HCl	ppm @ 7 % O <sub>2</sub>	Not Checked	29
Cd	mg/dscm @ 7 % O <sub>2</sub>	Not Checked	0.04
Opacity	Percent	0%	10%

Source: Table 2.1 Summary of Source Test Results (4/98) as compared to Department's Recommended Limits. Ogden's request dated September 28, 1998.

## 6.3 Control Technology Review

There will be no change to the existing emissions control systems for acid gases and particulate matter. Each unit is equipped with a spray dryer adsorber and a fabric filter baghouse system. A selective non-catalytic reduction (SNCR) system will be installed to control NO<sub>x</sub> emissions. This facility will control mercury emissions by implementation of a mercury waste separation program as well as activated carbon injection. Additionally, a mercury CEMS will be installed to ensure continuous compliance with the mercury emissions limitation (required for reasonable assurance purposes, as the facility has had a recent mercury emissions non-compliance event). Quarterly testing for mercury emissions should additionally be required via the permit.

## 6.4 Emissions Summary

There will be no increase in air emissions as a result of this action.



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## 6.5 *Air Quality Analysis*

An air quality analysis was not required for this project.

## 7. CONCLUSION

Based on the foregoing technical evaluation of the application submitted by Ogden Martin Systems of Lake, Inc., the Department has made a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations provided certain conditions are met. The Specific Conditions are listed in the attached draft permit amendment.

*Permit Engineer: Michael P. Halpin, P.E.*

*NSR Administrator: A.A. Linero, P.E.*

## REFERENCES

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<sup>1</sup> EPA- 453/R-95-0136 Municipal Waste Combustion, Background Information Document for Promulgated Standards and Guidelines- Public comments and Responses. October 1995.

# AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

PSD-FL-113 is hereby modified as follows:

**DRAFT**

## PROJECT DESCRIPTION

For the construction of two (nominal) 250 ton-per-day combustors, which will be fueled by wood chips, and municipal waste and specified percentages of waste tires, boxed medical/infectious wastes (as defined in 40 CFR 60.51c and also referred to herein as biohazardous or biomedical waste, and regulated according to 64E-16, F.A.C.) and other non-hazardous non-Municipal Solid Waste (MSW), which can, by definition, include biohazardous waste. A specially designed conveyor is to be constructed to transport boxed biohazardous waste from tipping floor to combustor feed hopper so that biohazardous waste is not mixed with other municipal solid waste until it enters the feed hopper.

## SPECIFIC CONDITIONS

### 1. Municipal Waste Combustor

- a. Each of the two municipal waste combustors (MWC) shall have a design rated capacity of 250 tons Municipal Solid Waste (MSW) per day, 104 million BTU input per hour and 60,200 pounds steam output per hour with MSW having a heating value of 5,000 BTU per pound.
  - b. 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).
  - c. The design furnace mean temperature at the fully mixed zone of the combustor shall be no less than 1,800°F for a combustion gas residence time of at least one second.
  - d. The normal operating range of the MWC shall be 80% to 115% of design rated capacity.
  - e. ~~The MWC shall be fueled with wood chips or municipal solid waste which can include biohazardous waste. Radioactive waste may not be burned unless the combustor has been issued a permit 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 or the waste is of such quantity to be exempt in accordance with Department Rule 17-30, F.A.C. Other wastes shall not be burned without specific prior written approval of Florida DER.~~
- (1). The firing of non-hazardous waste contaminated with virgin or used oil products shall be allowed if the following conditions are met:
- A. The maximum percentage of oil-contaminated solid waste defined as oil spill cleanup debris and absorbing media, including oil filters, fired in the MWC shall be twenty (20) percent by weight of the total solid waste input, based on a rolling 30-day average. All "used oil" shall comply with the definition stated in 40 CFR 260.10 and shall not exceed the specification levels for arsenic, cadmium, chromium, lead, and total halogens contained in Table 1 of 40 CFR 261.3. The used oil shall have a polychlorinated biphenyl (PCB) content of less than 50 ppm (wt.)
  - B. Records shall be maintained showing the oil-contaminated waste generator's written certification that the waste is non-hazardous. Documentation requirements shall include a written description of the waste, a material characterization form (sample submitted with application), and the applicable material safety data sheets for the waste components. Tonnages of oil-contaminated solid waste fired shall be recorded and made available for inspection by the Department. These records shall be maintained for a period of ~~two~~ five years.
  - C. Quantities of used oil not commingled with solid waste may be burned provided that the oil has been generated entirely from internal operations of the OMS-Lake facility (i.e. no used oil in liquid form from outside generators). Records shall be maintained showing the tonnages of internally generated used oil fired.
  - D. The permittee shall comply with all applicable requirements of federal, state and local regulations including 40 CFR 261 (federal Hazardous Waste regulations), 40 CFR 279 (Federal Used Oil

## AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

Management), Chapter 62-701, F.A.C. (Solid Waste Management Facilities), Chapter 710, F.A.C. (Used Oil Management Regulations), Chapter 62-730, F.A.C. (Hazardous Waste Regulations).

- (2). The firing of non-hazardous non-MSW waste shall be allowed if the following conditions are met. The facility operator shall prepare and maintain records concerning the types and quantities of all segregated loads of non-MSW material which are received and used as fuel at the facility, and subject to a percentage weight limitation, below. For the purposes of this permit, a segregated load is defined to mean a container or truck that is primarily or exclusively filled with a single item or type of waste material.
- A. To ensure that the facility's fuel does not adversely affect the facility's combustion process or emissions, the facility operator shall:
1. Comply with good combustion operating practices in accordance with 40 CFR 60.34b;
  2. Install, operate and maintain continuous emissions monitors (CEMS) for mercury as well as oxygen, carbon monoxide, sulfur dioxide, oxides of nitrogen and temperature in accordance with 40 CFR 60.58b; and
  3. Record and maintain the CEMS data in accordance with 40 CFR 60.59b.
  4. Where percentage limitations over a 30-day rolling average apply, the following method shall be used to demonstrate compliance:
    - a. Each day the total weight of the limited fuel shall be computed, and the daily total shall be added to the sum of the daily totals from the previous 29 days.
    - b. The resultant 30-day total weight of limited fuel shall be divided by the total weight of all waste materials received in the same 30-day period, and the resultant number shall be multiplied by 100 to express the ratio in percentage terms.
    - c. The percentage computed shall be compared to the percentage limitation.
    - d. These records shall be maintained at the site for a period of five years.
- B. The following non-MSW wastes are permitted for combustion with no percentage limitations:
1. Confidential, proprietary or special documents (including but not limited to business records, lottery tickets, event tickets, coupons and microfilm);
  2. Contraband that is being destroyed at the request of appropriately authorized local, state or federal governmental agencies, provided that such material is not an explosive, a propellant, a hazardous waste, or otherwise prohibited at the facility. For the purposes of this section, contraband includes but is not limited to drugs, narcotics, fruits, vegetables, plants, counterfeit money, and counterfeit consumer goods;
  3. Wood pallets, clean wood, and land clearing debris;
  4. Packaging materials and containers;
  5. Clothing, natural and synthetic fibers, fabric remnants, and similar debris, including but not limited to aprons and gloves; or
  6. Rugs, carpets, and floor coverings, but not asbestos-containing materials or polyethylene or polyurethane vinyl floor coverings.
- C. The following non-MSW wastes are permitted to be received as segregated loads and burned at the facility. The total quantity of this non-MSW waste shall not exceed 5% by weight, of the facility's total fuel. These wastes shall be either well mixed in the refuse pit or alternately charged with MSW in the hopper. Compliance with the percentage limitation shall be determined by using a 30-day rolling average:
1. Construction and demolition debris.

## AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

2. Items suitable for human, plant or domesticated animal use, consumption or application where the item's shelf life has expired or the generator wishes to remove the items from the market. Such items or materials include but are not limited to off-specification or expired consumer products, pharmaceuticals, medications, health and personal care products cosmetics, foodstuffs, nutritional supplements, returned goods, and controlled substances.
  3. Consumer-packaged products intended for human use or application but not consumption. Such items or materials include but are not limited to carpet cleaners, household or bathroom cleaners, polishes, waxes and detergents.
  4. Waste materials that:
    - a. are generated in the manufacture of items in categories 2 or 3, above and are functionally or commercially useless (expired, rejected or spent); or
    - b. are not yet formed or packaged for commercial distribution.

Such items or materials must be substantially similar to other items or materials routinely found in MSW.
  5. Waste materials generated by manufacturing, industrial or agricultural activities, provided that these items or materials are substantially similar to items or materials that are found routinely in MSW, subject to prior approval of the Department.
- D. Boxed medical/infectious wastes (as defined in 40 CFR 60.51c) are permitted to be received and handled (as per 64E-16, F.A.C.) and burned at the facility. The total quantity of this waste shall not exceed 9.0% by weight, of the facility's total fuel and compliance with this limitation shall be determined by using a 30-day rolling average. These wastes shall be alternately charged with MSW in the hopper and combustion shall not occur simultaneously within Emissions Units 001 and 002. The following conditions shall also apply:
1. Storage of medical/infectious waste shall not exceed 30 days.
  2. Storage areas shall be designated in the written operating plan.
  3. Storage areas shall be located away from pedestrian traffic.
  4. Storage areas shall be constructed of smooth, easily cleanable materials that are impervious to liquids. Storage areas shall be vermin and insect-free, and shall be maintained in a sanitary condition.
  5. Outdoor storage areas, including containers and trailers, shall, in addition to the above criteria, be conspicuously marked with the international biological hazard symbol as described in paragraph 64E-16.004(2)(b), F.A.C., and shall be secured against vandalism and unauthorized entry. The international biological hazard symbol on an outdoor storage area shall be a minimum of six inches in diameter.
  6. An independent laboratory shall complete an initial TCLP characterization of the ash from combusting medical/infectious waste. A minimum of eight RCRA regulated metals should be analyzed (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). The fly ash, bottom ash and scrubber residuals should be individually analyzed while firing the maximum amount of medical/infectious waste immediately following an outage after which time all prior ash remnants have been removed and like-wise sampled. The applicant shall certify that these ash samples represent the 2 cases of "no medical/infectious waste incineration" and "maximum medical/infectious waste incineration" and forward the analyses to FDEP/Tallahassee within 90 days of firing medical/infectious waste in Emissions Unit 002. Bottom ash, fly ash and scrubber residuals should be handled and stored in a manner that prevents mixing as well as entrainment in to ambient air.
  7. Personnel shall be adequately trained to comply with applicable OSHA, EPA, DEP, DOH and DOT requirements. At any time during which medical/infectious waste is being combusted, a person in charge shall be present, who is certified by either the ASME or the EPA in medical/infectious waste incineration practices. Copies of current training certificates shall be

## AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

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forwarded to the DEP Central District office and made available at the facility for inspection purposes.

8. Each load of medical/infectious waste materials, which is received for processing shall be documented as to waste description and weight. This shall be compared to the shipping records of each load and discrepancies noted. These records shall be maintained at the site for a period of five years. The weight of all waste materials received for processing shall be measured using the facility truck scale and recorded.
- E. Waste tires may be accepted and combusted, but may not exceed 3% of the facility's fuel. Compliance with this limitation shall be determined by using a 30-day rolling average. This authorized fuel shall be well mixed with MSW or alternately charged with MSW.
- F. Unless specifically listed above, the combustion of all other fuels shall be prohibited. Additionally, the following items are expressly forbidden from being combusted at this facility:
  1. those materials that are prohibited by state or federal law;
  2. those materials that are prohibited or not authorized by this permit;
  3. lead acid batteries;
  4. hazardous waste;
  5. nuclear waste;
  6. radioactive waste;
  7. sewage sludge;
  8. explosives; further, the facility shall not knowingly burn;
  9. Ni-cad batteries (pursuant to Section 403.7192(3), F.S.; and
  10. Hg containing devices and lamps (pursuant to Section 403.7186(2) and (3), F.S.

The permittee shall comply with all applicable requirements of federal, state and local regulations including 40 CFR 261 (Federal Hazardous Waste regulations), 40 CFR 279 (Federal Used Oil Management), Chapter 62-701, F.A.C. (Solid Waste Management Facilities), Chapter 62-702, F.A.C. (Solid Waste Combustor Ash Management), Chapter 62-710, F.A.C. (Used Oil Management Regulations), Chapter 62-711, F.A.C. (Waste Tire Rule), Chapter 62-730, F.A.C. (Hazardous Waste Regulations) and 62-737, F.A.C. (The Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling). This facility is also subject to the applicable requirements related to wastes given in 40 CFR 273, which is adopted by reference in Chapter 62-737, F.A.C.

The permittee shall comply with biomedical waste storage requirements, as well as operational and contingency requirements found in Chapter 64E-16, F.A.C.

- f. 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.
- g. Auxiliary fuel burner(s) shall be used at start up during the introduction of MSW fuel (other than biohazardous) until design furnace gas temperature is achieved. Incineration of biohazardous waste shall not begin until the combustion chamber temperature requirement of 1800°F is attained. 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 wastes are incinerated. During shut down, the combustion chamber temperature requirement shall be maintained using auxiliary burners until the wastes are completely combusted.
- h. The facility may operate continuously (8760 hrs/yr.).
- i. The combustor shall be fed so as to prevent opening the combustor to the room environment.
- j. The applicant shall submit a copy of a certificate verifying the incinerator operators' satisfactory completion of a Department-approved training program prior to issuance of the operating permit.

# AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

## 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 control device designed to remove at least ~~90~~ 95% of acid gases and ~~70~~ 75% 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).
- d. Each MWC shall be equipped with an SNCR designed to ensure that NO<sub>x</sub> emissions shall be less than 205 ppmvd at 7% O<sub>2</sub>.
- e. Each MWC shall be equipped with a carbon injection system designed to remove at least 85% of mercury emissions and result in a mercury emission rate of 0.07 mg/dscm or less at 7% O<sub>2</sub>.

## 3. Flue gas emissions from each unit shall not exceed the following:

- a. Particulate: ~~0.0150 gr/dscf dry volume corrected to 12% CO<sub>2</sub> or 0.020 grains/dscf corrected to 7% O<sub>2</sub>, whichever is less.~~
- b. Sulfur Dioxide: ~~60 ppmvd corrected to 12% CO<sub>2</sub>, 6 hour rolling average or 70% reduction of uncontrolled SO<sub>2</sub> emissions, 6 hour rolling average. Not to exceed 120 ppmvd corrected to 12% CO<sub>2</sub>, 6 hr rolling average.~~
- c. Nitrogen Oxides: ~~385 ppmvd corrected to 12% CO<sub>2</sub>.~~
- d. Carbon Monoxide: ~~100 ppmvd corrected to 7% O<sub>2</sub> on an hourly average basis.~~
- e. VOC's: ~~70 ppmvd as carbon corrected to 12% O<sub>2</sub>.~~
- f. Lead:  ~~$3.1 \times 10^{-4}$  gr/dscf corrected to 12% CO<sub>2</sub>.~~
- g. Fluoride:  ~~$1.5 \times 10^{-2}$  gr/dscf corrected to 12% CO<sub>2</sub>.~~
- h. Beryllium:  ~~$2.0 \times 10^{-7}$  gr/dscf corrected to 12% CO<sub>2</sub>.~~
- i. Mercury:  ~~$3.4 \times 10^{-4}$  gr/dscf corrected to 12% CO<sub>2</sub>.~~
- 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, shutdown, 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 ppmvd, corrected to 7% O<sub>2</sub> on a three hour average basis; or shall be reduced by 90% by weight on an hourly average basis.~~

For each pollutant for which a continuous emissions monitoring system is required in Condition No. 5, the emission averaging time specified above shall be used to establish operating limits and reporting excess emissions.

Compliance with the permit emission limits shall be determined by EPA reference method tests included in 40 CFR Parts 60 and 61 and listed in Condition No. 4 of this permit or by equivalent methods approved by Florida DER.

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For the purpose of establishing specific increment consumption for TSP and SO<sub>2</sub> at the facility, an hourly emission rate shall be established for each pollutant at the time of performance testing using flue gas flow rates (corrected to 12% CO<sub>2</sub> and prorated to 115% rated furnace capacities) and the applicable concentration limits established above for TSP and SO<sub>2</sub>. Projected emissions are listed below:

Pollutant	Limit ppm or gr/dscf (a)	Projected Emissions	
		@100% lb/hr <sup>(1)</sup> (b)	@115% lb/hr (c)
Particulate	0.0150 gr/dscf	3.3	3.8
SO <sub>2</sub> <sup>(2)</sup>	60 ppmvd	15.5	17.8
	120 ppmvd	31.0	35.6
NO <sub>x</sub>	385 ppmvd	71.8	82.5
CO	100 ppmvd	11.3	13.1
VOC	70 ppmvd	3.4	3.9
Lead	3.1 x 10 <sup>-4</sup> gr/dscf	0.069	0.079
Fluoride	1.5 x 10 <sup>-3</sup>	0.33	0.38
Beryllium	2.0 x 10 <sup>-7</sup>	4.5 x 10 <sup>-5</sup>	5.1 x 10 <sup>-5</sup>
Mercury	3.4 x 10 <sup>-4</sup>	0.076	0.087
H <sub>2</sub> SO <sub>4</sub>		<0.42	<0.42

1. Conversion from concentration to mass emission rate assumes F<sub>c</sub> = 1,800 scf CO<sub>2</sub>/10<sup>6</sup> Btu for MSW fuel.

2. Proposed SO<sub>2</sub> limit: 60 ppm maximum expected emission, 120 ppm maximum allowed after 70% control without permit revision.

Existing permit: 29.2 lb/hr 30-day rolling average 58.4 lb/hr short term maximum.

The units are subject to 40 CFR Part 60, Subpart E, and Subpart Db, New Source Performance Standards (NSPS), except that where requirements within the permit are more restrictive, the requirements of the permit shall apply.

## AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

The following limits apply as a result of Permit Modification PSD-FL-113A (DEP File No. 0690046-002-AC) and implementation of 40 CFR Subpart Cb - Emission Guideline and Compliance Times for Municipal Waste Combustors That Are Constructed on or Before December 19, 1995.

Pollutant	Engineering Units	Past Permit	New Limits
Particulate Matter	mg/dscm @ 7% O <sub>2</sub>		27.0 (annual test)
	percent opacity	15%	10% (6 min. avg.) CEMS
	grains/dscf @ 12%CO <sub>2</sub>	0.015	
Cadmium	mg/dscm @ 7% O <sub>2</sub>	N/A	0.04 (annual test)
Lead	mg/dscm @ 7% O <sub>2</sub>		0.44 (annual test)
	grains/dscf @ 12%CO <sub>2</sub>	0.00031	
Mercury	mg/dscm @ 7% O <sub>2</sub>		0.07
	percent reduction		85% (quarterly test)
	grains/dscf @ 12%CO <sub>2</sub>	0.00034	
	Averaging period (hr)		24 hr. block (CEMS)
Sulfur Dioxide	percent reduction	70%	75% (annual test)
	ppmvd @ 7% O <sub>2</sub>		29.0
	ppmvd @ 12% CO <sub>2</sub>	60	
	Averaging period (hr)	6	6 hr. rolling (CEMS)
Hydrogen Chloride	percent reduction (hourly)	90%	95% (annual test)
	ppmvd @ 7% O <sub>2</sub>	50	29.0 (annual test)
Dioxins/Furans	ppmvd @ 7% O <sub>2</sub>	N/A	
	ng/dscm (grains/bdscf)		25.0 (annual test)
Nitrogen Oxides	ppmvd @ 7% O <sub>2</sub>	385	205.0 (annual test)
	Averaging period (hr)		24 hr. block (CEMS)
Ammonia Slip	ppmvd @ 7% O <sub>2</sub>	N/A	10 (annual test)
Carbon Monoxide	ppmvd @ 7% O <sub>2</sub>	100	40.0 (annual test)
	Averaging period	1	4 hr. rolling (CEMS)
Fluoride	grains/dscf @ 12%CO <sub>2</sub>	0.0015	0.0015
			(5 year test)
Beryllium	grains/dscf @ 12%CO <sub>2</sub>	2.0 e-7	2.0 e-7
			(5 year test)
VOC	ppmvd @ 12% CO <sub>2</sub>	70	N/A

Basis of "Revised Permit" column is TEPD dated 3/30/00.

#### 4. Compliance Tests

- a. Initial compliance tests for particulate matter, SO<sub>2</sub>, nitrogen oxides, CO, VOC, lead, fluorides, mercury and beryllium shall be conducted in accordance with 40 CFR 60.8 (a), (b), (d), (e), and (f).
- b. Annual compliance test(s) for particulate matter and nitrogen oxides shall be performed. Tests may be performed in the common stack.
- c. Compliance with the opacity standard shall be determined in accordance with 40 CFR 60.11(b) and (e).
- d. Compliance with the requirement for ~~70~~75% control of sulfur dioxide emissions will be determined by using the test methods in Condition 4.f. below or a continuous monitoring system for SO<sub>2</sub> emissions before and after the air pollution control equipment which meets the requirements of Performance Specification 2 of 40 CFR 60, Appendix B.



## AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

- e. The compliance tests shall be conducted at the maximum capacity and at the maximum firing rate of each permitted fuel.
- f. The following test methods and procedures of 40 CFR parts 60 and 61 or equivalent methods having prior approval of Florida DEP shall be used for compliance testing:
  - (1) Method 1 for selection of sample site and sample traverses.
  - (2) Method 2 for determining stack gas flow rate.
  - (3) Method 3 or 3A for gas analysis for calculation of percent O<sub>2</sub> and CO<sub>2</sub>.
  - (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 SO<sub>2</sub>.
  - (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 concentrations.
  - (12) Method 25 or 25A for determination of VOC concentration.
  - (13) Method ~~101A~~ 29 (as per 62-296.416, F.A.C.) for determination of mercury emission control rate.
  - (14) Method 104 for determination of beryllium emission rate.

### 5. ~~Continuous Emission Monitoring~~ Additional Compliance Requirements

Continuous emission monitors for opacity, oxygen, carbon monoxide, carbon dioxide, mercury, nitrogen oxides 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 SO<sub>2</sub> 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, SO<sub>2</sub> 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 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.
- 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, Mercury, NO<sub>x</sub> and SO<sub>2</sub> emission concentrations, corrected for CO<sub>2</sub>, 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. 5 herein, which exceeds the applicable emission limit in Condition No. 3.

### 6. Operations Monitoring

- a. Devices shall be installed 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

## AIR CONSTRUCTION PERMIT MODIFICATION PSD-FL-113(A)

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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.

- b. The furnace heat load shall be maintained between 80% and 115% 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.

### 7. Reporting

- a. Fifteen (15) days prior notification of compliance test shall be given to the Florida DER district office.
- b. The results of compliance test shall be submitted to the Florida DER 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 measure 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 state 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)).
8. The construction shall reasonably conform to the plans and schedule submitted in the application. If the permittee is unable to complete construction on schedule, the Department must be notified in writing 60 days prior to the expiration of the construction permit and submit a new schedule and request for an extension of the construction permit, (Rule 17-2; F.A.C.).

To obtain a permit to operate, the permittee must demonstrate compliance with the conditions of the construction permit and submit a complete application for an operating permit, including the application fee, along with compliance test results and Certificate of Completion, to the Department's District office 90 days prior to the expiration date of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until its expiration date. Operation beyond the construction permit expiration date requires a valid permit to operate. (Rules 17-2 and 17-4, F.A.C.)

If the construction permit expires prior to the permittee requesting an extension or obtaining a permit to operate, then all activities at the project must cease and the permittee must apply for a new permit to construct which can take up to 90 days to process a complete application. (Rule 17-4, F.A.C.)

9. Any change in the method of operation, fuels, equipment or operating hours shall be submitted for approval to DER's district office.

May xx, 2000

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. Gary Crane  
Executive Vice President  
Ogden Energy Group, Inc.  
40 Lane Road  
Fairfield, NJ 07004

Re: DEP File No. 0690046-002-AC; Permit No. PSD-FL-113A  
Ogden Martin Systems of Lake, Inc. / Lake County

Dear Mr. Crane:

The applicant, Ogden Energy Group, Inc., applied on September 29, 1998, to the Department for a modification to PSD permit number PSD-FL-113 for its Ogden Martin Systems of Lake, Inc. facility located in Lake County. The modification is primarily to clarify which materials and in what quantities the two existing incinerators are permitted to combust. Additionally, the applicant has requested certain permit changes related to the emissions of VOC, Beryllium, Fluorides and NO<sub>x</sub>.

The Department has reviewed the modification request. The referenced permit is hereby modified as shown in the attached document. All of the Specific Conditions of the original permit as previously amended are shown for purposes of clarity (strike-through and underline notation is used to denote changes prompted by this action):

A copy of this letter and the attachment shall be filed with the referenced permit and shall become part of the permit. This permit modification is issued pursuant to Chapter 403, Florida Statutes.

Any party to this order (permit modification) has the right to seek judicial review of it under Section 120.68, F.S., 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 thirty days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida.

\_\_\_\_\_  
Howard L. Rhodes, Director  
Division of Air Resources Management

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this permit modification was sent by certified mail (\*) and copies were mailed by U.S. Mail before the close of business on \_\_\_\_\_ to the person(s) listed:

- Mr. Gary K. Crane, Ogden Energy Group, Inc. \*
- Mr. Brian Bahor, Ogden Energy Group, Inc. \*
- Mr. David Crowe, Lake County Dept. of Solid Waste
- Mr. Len Kozlov, Central District
- Ms. Jan Rae Clark, FDEP
- Ms. Edith Coulter, FDOH
- Mr. Richard Shine, Landers & Parsons, P.A.
- Ms. Mary F. Smallwood, RMSS&R, P.A.
- Ms. Valerie Fachs, Lake County Attorney's Office
- Ms. Rhonda H. Gerber, Board of County Commissioners
- Mr. Doug Neeley, EPA
- Mr. John Bunyak, NPS

Clerk Stamp

**FILING AND ACKNOWLEDGMENT**  
**FILED**, on this date, pursuant to §120.52,  
Florida Statutes, with the designated  
Department Clerk, receipt of which is hereby  
acknowledged.

\_\_\_\_\_  
(Clerk)

\_\_\_\_\_  
(Date)

**RUDEN**  
**MCCLOSKEY**  
**SMITH**  
**SCHUSTER &**  
**RUSSELL, P.A.**  
**ATTORNEYS AT LAW**

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301

TELEPHONE: (850) 681-9027  
FAX: (850) 224-2032

E-MAIL: MFS@RUDEN.COM

July 6, 1999

**RECEIVED**

**JUL 07 1999**

**BUREAU OF  
AIR REGULATION**

Clair Fancy  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blairstone Road, MS 5505  
Tallahassee, FL 32399-2400

Re: Ogden Martin Systems of Lake, Inc.  
DEP File No. 0690046-002-AC  
Extension of Time to Respond to Request for Additional Information

Dear Clair:

Pursuant to our telephone conversation today, this is to confirm that the Department is in agreement that Ogden Martin Systems of Lake, Inc. (OMSL) will have additional time until October 1, 1999, to respond to the Department's request for additional information on the above-referenced permit application.

As I indicated, OMSL is in the process of resolving certain compliance issues with the Department's Central District office. While those issues are not directly related to the pending permit application, we believe it is in everyone's interest to address the compliance issues before proceeding further on the application.

I will keep you advised of our progress. We appreciate your cooperation in this regard.

Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.



Mary F. Smallwood

MFS/mb  
cc: Gary K. Crane  
Nancy Tammi  
Jason Gorrie  
Cecil Boatwright



Jeb Bush  
Governor

# Department of Environmental Protection

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

David B. Struhs  
Secretary

May 27, 1999

Mary F. Smallwood  
Ruden, McClosky, Smith, Schuster & Russell, P.A.  
215 South Monroe Street  
Suite 815  
Tallahassee, Florida 32301

RE: Ogden Energy Group - Lake County Recovery Facility

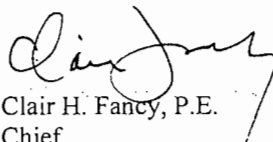
Dear Mary:

We are in receipt of your May 11 letter and wish to respond to your formal request concerning the permit application. You requested that the Department approve an additional 30 day extension of time (beyond June 7) to submit the information requested by the Department in its December 1, 1998 letter to Mr. Crane. The reasons cited for this extension appear to be largely related to the compliance issues, which are currently being addressed by the facility.

Based upon these factors as well as our understanding that the facility intends to incorporate a maximum processing rate of biohazardous waste of 4 tons/hour for each unit into the permit application, the extension is granted. The new deadline for responding to our request for information is July 6.

Please note that the permit application has been reassigned to Mr. Michael P. Halpin, P.E. and future correspondence concerning this matter should be forwarded accordingly.

Sincerely,

  
Clair H. Fancy, P.E.  
Chief  
Bureau of Air Regulation

cc: Howard L. Rhodes  
Vivian Garfein

mph

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

Printed on recycled paper.

RUDEN  
MCCLOSKEY  
SMITH  
SCHUSTER &  
RUSSELL, P.A.  
ATTORNEYS AT LAW

*Clair - if you need to do anything as result of this letter plz handle it Howard 5/14*

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301  
TELEPHONE: (850) 681-9027  
FAX: (850) 224-2032  
E-MAIL: MFS@RUDEN.COM

RECEIVED

MAY 12 1999  
DIVISION OF AIR  
RESOURCES MANAGEMENT

May 11, 1999

Howard Rhodes, Director  
Division of Air Quality  
Department of Environmental Protection  
Mail Station 5500  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Vivian Garfein, Director  
Central District  
Department of Environmental Protection  
3319 Maguire Blvd  
Suite 232  
Orlando, Florida 32803-3767

Re: Ogden Energy Group - Lake County Resource Recovery Facility

Dear Howard and Vivian:

Thank you both again for meeting with us April 29, 1999, regarding the situation at the Lake County Resource Recovery Facility. The purpose of this letter is to confirm our understanding of the agreements reached at that meeting and to supplement the information we provided you at that time.

As you know, the reasons for the meeting were to address both the compliance status of the Facility following the January 1999 stack test and the status of the pending permit application for increased processing of biohazardous waste.

Let me summarize the chronology of events we discussed with you on the telephone conference call. After receiving the results from the January sampling event, Ogden Energy Group ("OEG") began internal investigations to determine the possible source(s) of mercury contamination. Based on the company's experience in Florida and elsewhere, it was immediately suspected that the January results had to be the result of a problem with the incoming waste stream. Additional stack testing was undertaken in February 1999, to confirm that the January results indeed were an anomaly. As the data provided to you both in March 1999 and at our meeting indicate, the mercury results at the time of the February stack test were well within the applicable emission limiting standard for mercury.

Howard Rhodes  
Vivian Garfein  
May 11, 1999  
Page 2

At the same time, OEG was attempting to identify any unusual sources of mercury in the area that might be contributing the facility's waste stream. After identifying a potential source of mercury bearing materials in the waste stream through anecdotal information, OEG implemented a stepped up inspection program for waste coming into the facility from one particular route. While the company's internal waste inspection procedures contemplate random inspections of typically six (6) loads per day, OEG began targeting all incoming trucks from the questionable route for inspection in early to mid-March. In addition, the facility acquired a "Jerome" meter to aid in the detection of elemental mercury vapors from suspect loads of waste and began using that instrument in early to mid-April when the Facility came out of a scheduled outage. A copy of the formal inspection process routinely utilized by OEG is attached to this correspondence for your information.

As a result of the visual inspection and vapor monitoring initiated in March, OEG personnel discovered the mercury-containing materials in a truckload of waste delivered on April 22, 1999. Based on visual observation of the mercury-contaminated materials, some of which were labelled, these materials appeared to have originated at Florida Medical Industries located in Fruitland Park. Because of the concern that some of the contaminated materials could have gotten into the pit and that mercury vapors from the waste were being drawn in to the air intakes to the units, OEG decided to postpone a portion of the compliance testing scheduled to start April 22, 1999. As you know, OEG was able to complete the scheduled compliance test for Unit 2 on that date; however, compliance testing at Unit 1 did not take place the following day. Instead, with the concurrence of Department personnel, OEG ceased accepting new waste deliveries and continued processing as much of the municipal solid waste remaining in the pit over the weekend of April 24-25, 1999, as was possible given operational constraints. As recommended by the Department, the carbon injection rate was increased to 30 pounds per unit and "grab" mercury stack samples were taken from each Unit on each of those days. The preliminary results of the April sampling have already been provided to the Department by separate cover. Fortunately, those results appear to confirm that no contaminated material was placed in the pit since the inlet and outlet data for the samples were within the normally expected mercury concentration range.

In accordance with the Department's agreement at the April 29 meeting, OEG has discontinued the increased carbon injection rate and is again utilizing a rate of 23 pounds of carbon per Unit.

With respect to the pending permit application, OEG is obviously in agreement with Clair Fancy's statement that the January sampling event should not further delay the permit processing. As mentioned, OEG had originally intended to conduct stack sampling in March while processing biohazardous waste to support the permit application. That testing did not occur because of the uncertainty resulting from the January stack testing. OEG would now propose to conduct a test of Unit 1 (which is presently equipped to handle biohazardous waste) during the next 30 days. Based on the discussion at our meeting, that test would serve a two-fold purpose. First, it would be submitted to show compliance for Unit 1 for all purposes. As Len Kozlov has noted, compliance for Unit 2 has been demonstrated by the April 22, 1999, test. Second, the results would be submitted to the air permitting section for review in conjunction with the pending application for both Units. At present time, the anticipated processing rate for biohazardous waste would be 4 tons/hour for each unit.



Howard Rhodes  
Vivian Garfein  
May 11, 1999  
Page 3

As we pointed out at the meeting, the Department has set a June 7, 1999, date for responding to the request for additional information supplementing the permit application. Since the rescheduled testing on Unit 1 may not occur until late May or early June, we are formally requesting an extension of time of 30 days to submit the requested information. We understand from Clair's comments that the Department has no problem with that request.

The failure of the January stack test to demonstrate compliance with the applicable mercury limits raises another issue which we would like to address here. It has been brought to OEG's attention that the Department may be contemplating instituting an enforcement action against the Facility as a result of that failure. It is OEG's position that such enforcement is not warranted for the reasons discussed herein.

First, a comparison of the January 1999 test results with both past and subsequent mercury test results supports our contention that the high levels of mercury were caused by an unusual and unanticipated source in the waste stream. As expressed at our meeting, OEG has never experienced inlet levels as high as those found during the January test. There is absolutely no evidence to suggest that the problem was caused by an operational failure at the Facility. In fact, subsequent testing in February and April showed levels of mercury that were well within the regulatory limits.<sup>1</sup>

Any enforcement action against the Facility would penalize the operator (and, ultimately, Lake County) for an event that is essentially out of its control. As we have indicated above, OEG has implemented a comprehensive waste screening procedure at this facility that exceeds the industry standard or any regulatory requirements. In addition, even more extensive screening procedures were imposed once the Facility became aware of a suspected source of mercury in the waste stream. It should be obvious that it is not possible, for operational, economic, and employee health and safety reasons, to check every load of waste coming into the facility on an ongoing basis. OEG strongly believes that its screening process is more than adequate under normal circumstances and demonstrates the Facility's good faith efforts to assure compliance.

In addition, OEG continues to be very concerned that it was never notified of the presence of Florida Medical Industries as a potential source of mercury, particularly in light of that company's record of past noncompliance with hazardous waste laws. This omission is even more difficult to understand in light of the fact that OEG brought that possibility to the attention of the Department shortly after the January testing. While we understand that personnel within the Department have varied responsibilities and perfect communication is impossible, OEG does not believe it is equitable to punish the Lake County Resource Recovery Facility under these circumstances.

Finally, all of the testing at the facility points to the fact that the exceedance of the mercury emission standard which the Facility experienced in January was a one-time event. Any exceedance of the emission standard was both brief and unavoidable. We appreciate Vivian's assurance that no enforcement action would be initiated without letting us know in advance of the Department's stance.

---

<sup>1</sup> We would note that the February testing was conducted at a rate of 11 pounds of carbon injection while the April test on Unit 2 was conducted at 23 pounds.

Howard Rhodes  
Vivian Garfein  
May 11, 1999  
Page 4

Again, OEG appreciates the time and effort the Department has put into this matter. Your assistance in responding to the immediate situation in April and meeting with us to work through subsequent issues has been very valuable. Hopefully the information contained in this letter has addressed questions of concern to the Department. We would be happy to discuss any of these issues with either of you in greater detail at your convenience.

Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.



Mary F. Smallwood

MFS/mb  
cc: Nancy Tammi  
Gary Crane  
Clair Fancy  
Len Kozlov  
Bill Bostwick  
Jason Gorrie  
Cecil Boatwright



# Department of Environmental Protection

Jeb Bush  
Governor

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

David B. Struhs  
Secretary

XC: MIKE HALPIN ✓

TO: Jim Pennington DATE: 8/5/99

DEPT: FDEP FAX#: 850-922-6979

Number of Pages: 3 (including cover page)

FROM: Caroline Shine

PROGRAM: AIR RESOURCES MGMT SECTION

TELEPHONE # 407-893-3333, 3334  
SC 325-3333, 3334

FAX #: 407-897-5963  
SC 342-5963

COMMENTS: re: Odgen Martin  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8/3-Done-DJ

Copies to

Caroline  
John/Davey

Ken Hayman  
DGC

File



State of Florida  
Department of Environmental Protection  
3319 Maguire Boulevard  
Suite 232  
Orlando, Florida 32803

Attention: Ms Caroline D. Shine  
Manager

Reference: Enforcement Inquiry Ogden Martin Systems of Lake County;  
Mercury Emissions and Testing

Dear Ms Shine,

We have recently read that the State of Florida is in the inquiry phase of an enforcement action regarding the Ogden incinerator located in Okahumpka, Florida. This letter is written to assist you in that effort by making you aware of some Ogden company history. We have chosen not to sign this letter at this time as we are current and former Ogden employees and are fearful of Company reprisal affecting our benefits. In the event that matters warrant, we will consider contacting you in the future in a more open way.

We are or were employed at Ogden individually for a number of years each, in both Corporate and plant-based positions, and gained some visibility into the how Ogden was operating these facilities. During our last year or so, we became suspicious that Ogden had compiled a history of under-reporting the results of testing and that Ogden was under-feeding reagents used to control emissions (emissions both measured by CEM equipment and those emissions which can not be monitored on a continuous basis-such as HCL, mercury and dioxins). Some of us choose to leave as the result of not approving of the direction the Company was heading, while others of us choose to stay to try and correct things.

For the remainder of this letter we will confine our comments to items that we feel will provide you greater insight into the Ogden culture.

1. **The under feeding of reagents-** this situation is pervasive at many Ogden plants. We became aware of stack test failures dating back to 1989 Marion County, Oregon (HCL) through failures at Onondaga County, New York in 1996 (HCL) to Haverhill, Massachusetts in 1997 (HCL) to Pasco County, Florida in 1996-7 (mercury) to Lake County in 1996-7 (HCL) to now Lake County (mercury). In each of these failures we suspect there was an underfeeding of the reagent controlling the emissions. Your review of the 1996-7 Pasco and the Lake failures, we believe, were hampered by mis-information provided you, Mr. Collins, Mr. Clare Fancy and others at that time of your investigation. Carbon is a nearly perfect reagent. The sole cause of a stack test failure for mercury is the underfeeding of reagent (Pasco). You were at that time of your review of the Pasco stack test failures in 1996-7 fed a line about vapor pressures affecting mercury capture, etc., etc. That was all made up. The same is true of lime as a reagent for acid gas control. It is a highly efficient reagent. Failures (Lake-HCL) are the result of underfeeding reagent. They may try to blur the issue by saying something about SO2 being a surrogate for HCL. They have known for years that the relationship between these acid gases is poor and one is a poor indicator of measure for the other. Ogden learned that from failed stack tests in Marion, Oregon in 1989.

Page 2

Our request of you would be to ask Ogden about its history of stack test failures at the above-cited plants and any other stack test failures that Ogden may have reported over the last ten years. We would also tell you that the Company keeps several set of records regarding reagent feed rates. You may wish to also review purchasing records and annual hours of operation figures to assess what the annual reagent feed rates were. The Company has been known to "jack-up" rates during tests. We are certain that a pattern of under-feeding reagents will emerge once you have had the opportunity to perform your review.

2. **The under reporting of testing data-** you are right on target with respect to the under reporting of stack test results. Rumor existed that the head of stack testing group would immediately retest a stack after a failure. The "good" results of the second series of test were what was reported and prominently shown in the summary section of reports. The results from failed test would be buried in appendices of reports (after all of the raw data) so that they would easily overlooked. State employees typically only have limited time to look at the reports and focus on the earlier sections of the report and miss the failed stack test data. A review of the numbers assigned to each stack test "run" may prove valuable. Results which are out of order usually means that data is buried or test run results have been scraped (see below). Ogden claims this deceptive reporting was "legit".

You may wish question Ogden about this practice, as we are lead to believe that it takes place not just in Florida but everywhere.

3. **Aborted tests** - Ogden will instruct its stack testing contractors (usually Clean Air Engineering and Entropy) to analyze stack test data one run at a time. If after the first run is analyzed, and if the results are favorable, the contractor is directed to analyze another test run. If those results indicate a failure, the test will be thrown out due to "laboratory error in analyzing the samples". Since there is not the required three test runs of data, Ogden is not required to report the test other than as bad data. A measure of this is the number of times Ogden will re-mobilize the testing organization, or will "hold over" a test crew to do additional test runs.

You may also wish to question Ogden about the number of incidences of tampering with data or samples that they have had to report to state or Federal agencies. Another issue is the disposal of used bags from the baghouse. Ogden throws them in the pit. These bags are covered with flyash which will fail any TCLP test. We are told that some agencies consider these bags to be hazardous waste.

We apologize for not being able to provide you more hard data than this, but we are lay people and do not understand what constitutes a breach in good business practice and what is actually a violation of the law. When some of us questioned these practices, we were told by senior management that these were not violations of law.

We hope this information will help you.

Your Friends

# INTEROFFICE MEMORANDUM

**Date:** 29-Sep-1999 03:07pm

**From:** David Crowe  
envedu@gate.net

**Dept:**

**Tel No:**

**To:** HALPIN\_M ( HALPIN\_M@dep.state.fl.us )  
**CC:** envedu ( envedu@gate.net )  
**CC:** davidcrowe77 ( davidcrowe77@hotmail.com )

**Subject:** Status of Ogden Martin Permit Modification/Title V Permit

The last correspondence in our files indicates that Ogden Martin had requested an extension to respond to the Department's RAI until October 1, 1999. Has the Department received a reply or has Ogden submitted a request for an extension to submit? Kindly copy our office on any correspondence from either Ogden or the Department.

Please forward copies to the attention of:

David Crowe, Senior Contracts Administrator  
Lake County Department of Solid Waste Management  
13130 Astatula Landfill Road  
Tavares FL 32778  
phone: 352-343-3776  
fax: 352-343-9257  
e-mail: davidcrowe77@hotmail.com or envedu@gate.net

Thank you for your cooperation and assistance.

**RUDEN**  
**MCCLOSKEY**  
**SMITH**  
**SCHUSTER &**  
**RUSSELL, P.A.**  
**ATTORNEYS AT LAW**

**RECEIVED**

SEP 16 1999

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301  
TELEPHONE: (850) 681-9027  
FAX: (850) 224-2032  
E-MAIL: MFS@RUDEN.COM

**BUREAU OF AIR REGULATION**

September 16, 1999

*Via Hand Delivery*

Clair Fancy  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blairstone Road, MS 5505  
Tallahassee, FL 32399-2400

Re: Ogden Martin Systems of Lake, Inc.  
DEP File No. 0690046-002-AC  
Extension of Time to Respond to Request for Additional Information

Dear Clair:

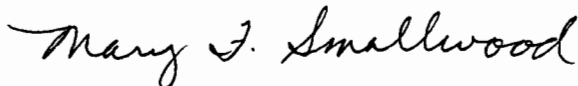
Thank you for taking the time to speak with me today regarding the Department's request for additional information in DEP File No. 0690046-002-AC, Ogden Martin Systems of Lake, Inc. As I indicated, the compliance issues related to the warning letter issued by the Central District of the Department have not yet been resolved. While we have met with District staff, they are still reviewing information submitted in response to the warning letter.

Because of the interconnection of certain issues affecting both the pending permit application and the enforcement action, we believe it would be appropriate to resolve the enforcement action prior to proceeding with the permit process.

As you suggested, we are requesting until November 30, 1999, to respond to the request for additional information. Thank you for your consideration in this matter.

Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.



Mary F. Smallwood

MFS/lk

cc: Gary Crane  
Nancy Tammi  
Brian Bahor  
Cecil Boatwright  
Jason Gorrie



Florida  
Department of  
Environmental Protection

Jeb Bush  
Governor

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

David Struhs  
Secretary

F A X T R A N S M I T T A L S H E E T

DATE: 10/4  
TO: RICHARD STONE  
PHONE: 681-0311 FAX: 224-5595

FROM: MIKE HAW PHONE: 921-9530

Division of Air Resources Management FAX: 850.922.6979

RE: \_\_\_\_\_

CC: \_\_\_\_\_

Total number of pages including cover sheet: 2

Message

As you requested.

If there are any problems with this fax transmittal, please call the above phone number.

"Protect, Conserve, and Manage Florida's Environmental and Natural Resources"

Printed on recycled paper



# INTEROFFICE MEMORANDUM

**Date:** 29-Nov-1999 01:50pm  
**From:** Crowe, David  
DCrowe@co.lake.fl.us  
**Dept:**  
**Tel No:**

**To:** halpin\_m ( halpin\_m@dep.state.fl.us )

**Subject:** Status of Permit Modification Application - Ogden Martin-Okahumpk a WTE Facility

The last correspondance in our files indicates that Ogden Martin had requested an extension to respond to the Depratment's RAI until November 30th.

Has the Department received another extension request or a submittal?

Please forward copies of correspondance to and/or from the Department to:

David Crowe, Director, Special Programs Division  
Lake County Dept of Sloid Waste  
phone: 352-343-3776  
Fax: 352-343-9257  
e-mail: davidcrowe77@hotmail.com or envedu@gat.net

Thank you for your cooperation and assistance.

To David Crowe —  
Attached fax  
as you requested  
Mike Halpin  
DEP

① Mike *AK*  
② Kim-file

GARY K. CRANE, Ph.D.  
Executive Vice President, Environmental

40 Lane Road  
Fairfield, NJ 07004  
973 882 7248  
Fax 973 882 4167  
E-mail: Gary\_Crane@Ogden-Energy.com

November 22, 1999

**RECEIVED**

NOV 23 1999

BUREAU OF AIR REGULATION

Howard Rhodes  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blairstone Road, MS 5505  
Tallahassee, FL 32399-2400

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DEP File No. 0690046-002-AC  
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As I indicated, the compliance issues related to the warning letter issued by the Central District of the Department have not yet been resolved. Because of the interconnection of certain issues affecting both the pending permit application and the enforcement action, we believe it would be appropriate to resolve the enforcement action prior to proceeding with the permit process.

I will keep you advised of our progress. We appreciate your cooperation in this regard.

Sincerely,

*Duan E. For Gary Crane*

Gary K. Crane  
Executive Vice President

Cc: Nancy Tammi  
Jason Gorrie  
Cecil Boatwright  
Derek Porter  
Joe Treshler  
Clair Fancy (Florida DEP)

RUDEN  
MCCLOSKEY  
SMITH  
SCHUSTER &  
RUSSELL, P.A.  
ATTORNEYS AT LAW

*Mike/Kim?*  
*to Ogden File*  
**RECEIVED**

215 SOUTH MONROE STREET  
SUITE 815  
TALLAHASSEE, FLORIDA 32301

TELEPHONE: (850) 681-9027  
FAX: (850) 224-2032

SEP 16 1999

E-MAIL: MFS@RUDEN.COM

BUREAU OF AIR REGULATION

September 16, 1999

Via Hand Delivery

Clair Fancy  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blairstone Road, MS 5505  
Tallahassee, FL 32399-2400

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Sincerely,

RUDEN, McCLOSKEY, SMITH,  
SCHUSTER & RUSSELL, P.A.

*Mary F. Smallwood*

Mary F. Smallwood

MFS/lk  
cc: Gary Crane  
Nancy Tammi  
Brian Bahor  
Cecil Boatwright  
Jason Gorrie

① Mike H  
② Kim-file

GARY K. CRANE, Ph.D.  
Executive Vice President, Environmental

40 Lane Road  
Fairfield, NJ 07004  
973 882 7248  
Fax 973 882 4167  
E-mail: Gary\_Crane@Ogden-Energy.com

November 22, 1999

**RECEIVED**

NOV 23 1999

BUREAU OF AIR REGULATION

Howard Rhodes  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blairstone Road, MS 5505  
Tallahassee, FL 32399-2400

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Sincerely,

*Guan Eder for Gary Crane*

Gary K. Crane  
Executive Vice President

Cc: Nancy Tammi  
Jason Gorrie  
Cecil Boatwright  
Derek Porter  
Joe Treshler  
Clair Fancy (Florida DEP)



GARY K. CRANE Ph.D.  
Executive Vice President, Environmental

40 Lane Road  
Fairfield NJ 07004  
973 882 7248  
Fax 973 882 4167  
E-mail: Gary\_Crane@Ogden-Energy.com

ORIGINAL: CLAIR  
xc: HLR  
12/6

**RECEIVED**

DEC 06 1999

November 29, 1999

DIVISION OF AIR  
RESOURCES MANAGEMENT

Howard Rhodes  
Bureau of Air Regulations  
Department of Environmental Protection  
Mail Station 5505  
2600 Blairstone Road  
Tallahassee, Florida 32399-2400

Re: Ogden Martin System of Lake, Inc.  
DEP File No. 0690046-002-AC  
Extension of Time to Respond to Request for Additional Information

Dear Mr. Rhodes:

This letter will serve to document our conversation today on the extension of time to March 1, 2000 as the new response date of the above referenced application.

I appreciate the Department's cooperation on this matter and will keep you advised on our progress.

Sincerely,



Gary K. Crane  
Executive Vice President

Cc: Jason Gorrie  
Henry Tami  
Joe Treshler  
Cecil Boatwright  
Derek Porter  
Brian Bahor

Mike,  
plz put in  
file if not  
there - Thanks  
11/29/99 JCR  
224-5595