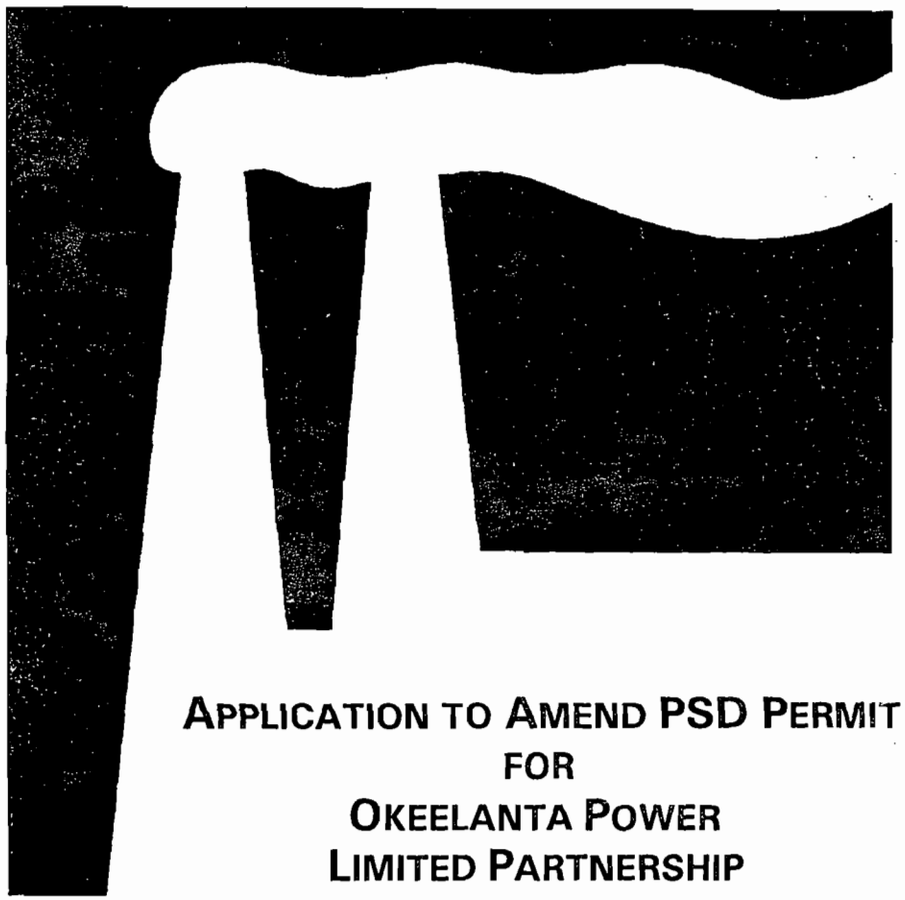

APPLICATION TO AMEND PSD PERMIT FOR OKEELANTA POWER LIMITED PARTNERSHIP

PREPARED BY:
KBN ENGINEERING AND APPLIED SCIENCES, INC.
6241 NW 23RD STREET
GAINESVILLE, FL 32653-1500

MAY 1996
9651013Y/F1

FLORIDA DEPARTMENT OF HEALTH & REHABILITATIVE SERVICES

Working in partnership with local communities to help people be self-sufficient, experience good health and live in stable families and communities.

October 28, 1996
(Faxed)

Willard Hanks, Air Permit Engineer
New Source Review Section
Bureau of Air Regulation
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(904) 922-6979

Re: Comments on Proposed Trial Burn
Cogeneration Power Plants - Tire Derived Fuel (TDF)
Okeelanta Power Ltd. and Osceola Power Ltd.

Dear Mr. Hanks:

The Department is considering a proposal to test burn tire derived fuels (TDF) at these facilities. The Health Department believes this is reasonable and would provide information needed to make a final determination on these applications. We request the following conditions be considered in the Department's approval for a trial burn:

(1) Trial Burn Window: The trial burn is approved for a period of (60) consecutive calendar days from the initial burning of TDF.

(2) Notification: The facility shall notify the Health Department at least (1) day prior to the initial burning of TDF. The facility shall notify the Health Department at least (15) days prior to conducting any requested stack testing.

(3) Continuous Monitoring Requirements: During the entire trial burn period, the facility shall continuously monitor and record the SO_2, NOx, and CO concentrations, the opacity, and the heat input rates from each operating boiler with the certified monitors required by permit. In addition, the facilities shall continuously monitor and record the TDF, biomass, bagasse, and fuel oil feed rates during the entire test burn period.

(4) Requested Stack Testing:

(a) *Hydrochloric Acid Emissions*: At least one boiler at each facility shall stack test for HCl emissions during the test burn period.
- Test Method shall be EPA Method 26 or 26A.
- Test shall consist of a minimum of (3), one-hour runs while burning at least 90% of the requested maximum TDF feed rate.
- Emissions shall be reported in pounds of HCl per hour.

(b) *Dioxin/Furan Emissions*: At least one boiler at each facility shall stack test for dioxin/furan emissions during the test burn period.
- Test Method shall be EPA Method 23.
- Test shall consist of a minimum of (3), four-hour runs while burning at least 90% of the requested maximum TDF feed rate.

DISTRICT IX
PALM BEACH COUNTY PUBLIC HEALTH UNIT - P.O. BOX 29 - WEST PALM BEACH, FL 33402
LAWTON CHILES, GOVERNOR

- Emissions shall be reported in ng/dscm for total mass dioxins/furans AND ng/dscm for the 2,3,7,8-tetrachlorinated dibenzo-p-dioxin toxic equivalents based on the 1989 international toxic equivalency factors.
- The activated carbon feed rate (in pounds per hour) shall be monitored and recorded at least at (15) minute intervals during each test run.

(5) Test Burn Reports: Within (60) days of completion of the test burn period, the facilities shall provide the DEP and the Health Department with a report, including:

- A summary of the over all project including a description of the equipment used to handle, transfer, and burn TDF.
- Any changes in boiler operations required to accommodate TDF.
- Any problems identified during the trial burn period.
- A summary of the emissions of SO_2, NOx, CO, the opacity, the heat input rates, and the fuel feed rates as determined from the continuous monitoring records.
- A summary of the emissions of HCl and dioxins/furans, including a comparison of the measured results with the predicted emissions.
- A comparison of the measured dioxin/furan results with the new emission guidelines for municipal waste combustors.
- A summary of the compliance status with regard to the current permit limits.

If you have any questions on these comments, please contact me at the numbers below.

Sincerely,

For the Division Director
Environmental Health and Engineering

Jeffery F. Koerner

Jeffery F. Koerner, Air Permit Engineer
Air Pollution Control Section
Phone: (407) 355-4549 *Suncom: 273-4549*
FAX: (407) 355-2442

Filename: COGEN_3.CMT

CC: D. Knowles, SD
K. Anderson, DEP
EPA
NPS
J. Arif, BAR
W. Hanks, BAR

APPLICATION TO AMEND PSD PERMIT FOR OKEELANTA POWER LIMITED PARTNERSHIP

RECEIVED
MAY 14 1996
BUREAU OF
AIR REGULATION

Prepared For:

Okeelanta Power Limited Partnership
P.O. Box 8
South Bay, Florida 33493

Prepared By:

KBN Engineering and Applied Sciences, Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

May 1996
9651013Y/F1

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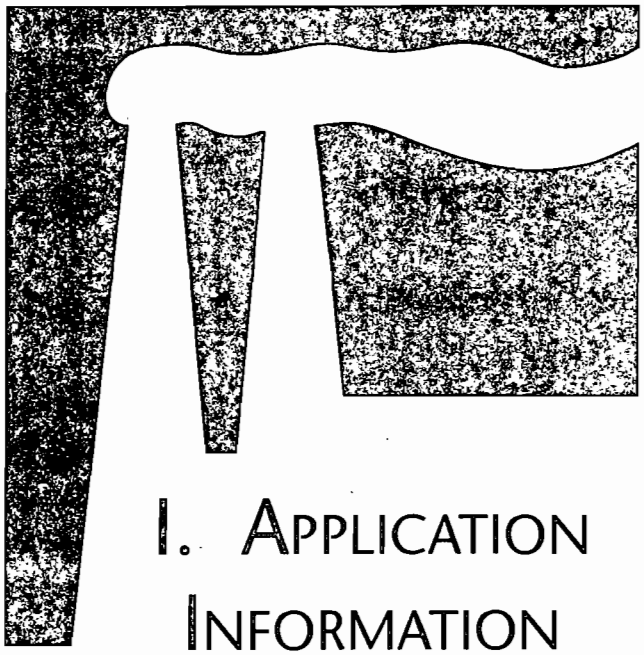
PART A

PERMIT APPLICATION FORMS



1. Application Information

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

See Instructions for Form No. 62-210.900(1)

I. APPLICATION INFORMATION

This section of the Application for Air Permit form identifies the facility and provides general information on the scope and purpose of this application. This section also includes information on the owner or authorized representative of the facility (or the responsible official in the case of a Title V source) and the necessary statements for the applicant and professional engineer, where required, to sign and date for formal submittal of the Application for Air Permit to the Department. If the application form is submitted to the Department using ELSA, this section of the Application for Air Permit must also be submitted in hard-copy.

Identification of Facility Addressed in This Application

Enter the name of the corporation, business, governmental entity, or individual that has ownership or control of the facility; the facility site name, if any; and the facility's physical location. If known, also enter the facility identification number.

1. Facility Owner/Company Name:	Okeelanta Power Limited Partnership
2. Site Name:	Okeelanta Power L.P.
3. Facility Identification Number:	[x] Unknown
4. Facility Location Information: Street Address or Other Locator: Six Miles South of South Bay City: South Bay County: Palm Beach Zip Code: 33493	
5. Relocatable Facility? [ ] Yes [x] No	6. Existing Permitted Facility? [x] Yes [ ] No

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	MAY 14, 1996
2. Permit Number:	0990332-003-AC
3. PSD Number (if applicable):	PSD-FL-196A
4. Siting Number (if applicable):	

Owner/Authorized Representative or Responsible Official

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

   Dennis Space, General Manager

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

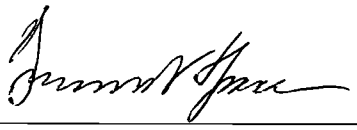
Organization/Firm: **Okeelanta Power Limited Partnership**
Street Address: **P.O. Box 8**
City: **South Bay** State: **FL** Zip Code: **33493**

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

Telephone: **(407) 993-1000** Fax: **(407) 996-6596**

4. Owner/Authorized Representative or Responsible Official Statement:

I, the undersigned, am the owner or authorized representative* of the non-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 unit.



Signature

5/7/96

Date

* Attach letter of authorization if not currently on file.

Scope of Application

This Application for Air Permit addresses the following emissions unit(s) at the facility. An Emissions Unit Information Section (a Section III of the form) must be included for each emissions unit listed.

Emissions Unit ID		Description of Emissions Unit	Permit Type
Unit #	Unit ID		
1R		Boiler No.1 fired by Biomass/No.2 oil/coal/TDF	ACM2
2R		Boiler No.2 fired by Biomass/No.2 oil/coal/TDF	ACM2
3R		Boiler No.3 fired by Biomass/No.2 oil/coal/TDF	ACM2
4		No.2 Fuel Oil Storage Tank	ACM2
5		Materials Handling	ACM2

See individual Emissions Unit (EU) sections for more detailed descriptions.
Multiple EU IDs indicated with an asterisk (*). Regulated EU indicated with an "R".

Purpose of Application and Category

Check one (except as otherwise indicated):

Category I: All Air Operation Permit Applications Subject to Processing Under Chapter 62-213, F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for an existing facility which is classified as a Title V source.

[ ] Initial air operation permit under Chapter 62-213, F.A.C., for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

[ ] Air operation permit renewal under Chapter 62-213, F.A.C., for a Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a Title V source to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit to be renewed: _____

[ ] Air operation permit revision or administrative correction for a Title V source to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. Also check Category III.

Operation permit to be revised/corrected: _____

_____

[ ] Air operation permit revision for a Title V source for reasons other than construction or modification of an emissions unit. Give reason for the revision e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit to be revised: _____

Reason for revision: _____

_____

Category II: All Air Construction Permit Applications Subject to Processing Under Rule 62-210.300(2)(b),F.A.C.

This Application for Air Permit is submitted to obtain:

[ ] Initial air operation permit under Rule 62-210.300(2)(b), F.A.C., for an existing facility seeking classification as a synthetic non-Title V source.

Current operation/construction permit number(s): _____

_____

[ ] Renewal air operation permit under Rule 62-210.300(2)(b), F.A.C., for a synthetic non-Title V source.

Operation permit to be renewed: _____

[ ] Air operation permit revision for a synthetic non-Title V source. Give reason for revision; e.g.; to address one or more newly constructed or modified emissions units.

Operation permit to be revised: _____

Reason for revision: _____

2 _____

Category III: All Air Construction Permit Applications for All Facilities and Emissions Units.

This Application for Air Permit is submitted to obtain:

[X] Air construction permit to construct or modify one or more emissions units within a facility (including any facility classified as a Title V source).

Current operation permit number(s), if any: _____

AC50-219413

[ ] Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.

Current operation permit number(s): _____

_____

[ ] Air construction permit for one or more existing, but unpermitted, emissions units.

Application Processing Fee

Check one:

[X] Attached - Amount: $ **$ 250.00** [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

This application proposes revisions to the current construction permit for the 74.9 MW Biomass fired cogeneration facility. This application incorporates the use of Tire-Derived Fuel (TDF) as supplemental fuel.

2. Projected or Actual Date of Commencement of Construction :

1 Jun 1996

3. Projected Date of Completion of Construction :

31 Dec 1997

Professional Engineer Certification

1. Professional Engineer Name: **David A. Buff**
   Registration Number: **19011**

2. Professional Engineer Mailing Address:
   Organization/Firm: **KBN Eng and Applied Sciences**
   Street Address: **6241 NW 23rd Street, Suite 500**
   City: **Gainesville** State: **FL** Zip Code: **32653-1500**

3. Professional Engineer Telephone Numbers:
   Telephone: **(352) 336-5600** Fax: **(352) 336-6603**

4. Professional Engineer's 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 pollution 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 [X] 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 unit 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.

David A. Buff — 5/3/96

Signature — Date

(seal)

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact:

   James Meriwether, Env., Health & Safety Rep.

2. Application Contact Mailing Address:

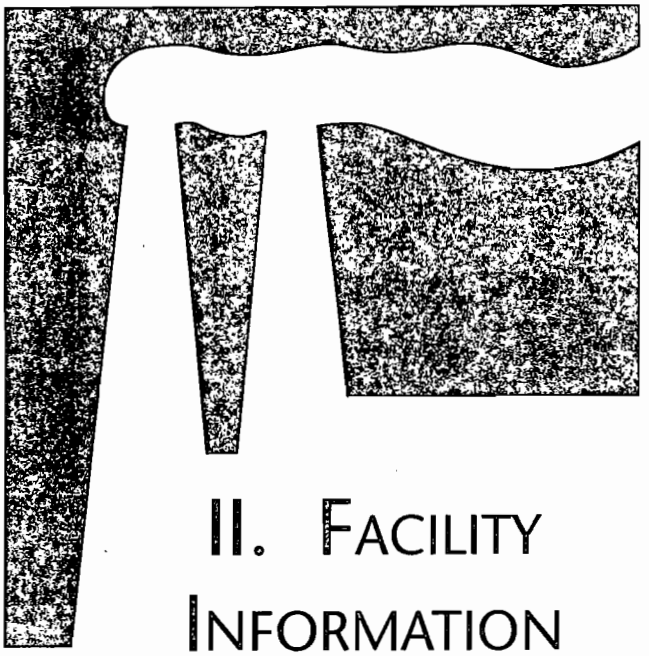
   Organization/Firm: **Okeelanta Power Limited Partnership**
   Street Address: **P.O. Box 8**
   City: **South Bay** State: **FL** Zip Code: **33493**

3. Application Contact Telephone Numbers:

   Telephone: **(407) 993-1003** Fax: **(407) 996-6596**

Application Comment

Organization/Firm Official Mailing Address: P.O. Box 8; 6 Miles South of South Bay, Highway 27



II. Facility Information

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates:
   Zone: **17** East (km): **524.9** North (km): **2940.1**

2. Facility Latitude/Longitude:
   Latitude (DD/MM/SS): **26 / 35 / 0** Longitude: (DD/MM/SS): **80 / 45 / 0**

3. Governmental Facility Code:	4. Facility Status Code:	5. Facility Major Group SIC Code:	6. Facility SIC(s):
0	**C**	**49**	**4911**

7. Facility Comment (limit to 500 characters):

Facility Street Address: Six Miles South of South Bay on Highway 27. Facility consists of 74.9 MW Electricity generating Cogen firing biomass, oil, coal or tire-derived fuel.

Facility Contact

1. Name and Title of Facility Contact:
   James M. Meriwether, Env., Health & Safety Rep.

2. Facility Contact Mailing Address:
   Organization/Firm: **Okeelanta Power Limited Partnership**
   Street Address: **P.O. Box 8**
   City: **South Bay** State: **FL** Zip Code: **33493**

3. Facility Contact Telephone Numbers:
   Telephone: **(407) 993-1003** Fax: **(407) 996-6596**

Facility Regulatory Classifications

1. Small Business Stationary Source? [ ] Yes [x] No [ ] Unknown
2. Title V Source? [x] Yes [ ] No
3. Synthetic Non-Title V Source? [ ] Yes, [x] No
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)? [x] Yes [ ] No
5. Synthetic Minor Source of Pollutants Other than HAPs? [ ] Yes [x] No
6. Major Source of Hazardous Air Pollutants (HAPs)? [x] Yes [ ] No
7. Synthetic Minor Source of HAPs? [ ] Yes [x] No
8. One or More Emissions Units Subject to NSPS? [x] Yes [ ] No
9. One or More Emissions Units Subject to NESHAP? [ ] Yes [x] No
10. Title V Source by EPA Designation? [ ] Yes [x] No
11. Facility Regulatory Classifications Comment (limit to 200 characters):

B. FACILITY REGULATIONS

Rule Applicability Analysis (Required for Category II applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

62-210.300
62-212.300

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted		2. Pollutant Classification
PM	Particulate Matter - Total	A
PM10	Particulate Matter - PM10	A
SO2	Sulfur Dioxide	A
NOx	Nitrogen Oxides	A
CO	Carbon Monoxide	A
VOC	Volatile Organic Compounds	A
PB	Lead - Total	B
H114	Mercury Compounds	B
H021	Beryllium Compounds	B
FL	Fluorides - Total	B
SAM	Sulfuric Acid Mist	B
HAPS	Total Hazardous Air Pollutants	A
T006	Ammonia (anhydrous)	A
H106	Hydrochloric acid	A
H107	Hydrogen fluoride [Hydrofluoric aci	A

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Detail Information: Pollutant _____ of _____

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

Facility Pollutant Detail Information: Pollutant _____ of _____

1. Pollutant Emitted:		
2. Requested Emissions Cap:	(lb/hr)	(tons/yr)
3. Basis for Emissions Cap Code:		
4. Facility Pollutant Comment (limit to 400 characters):		

E. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location:
   [X] Attached, Document ID: PART B
   [ ] Not Applicable [ ] Waiver Requested

2. Facility Plot Plan:
   [X] Attached, Document ID: PART B
   [ ] Not Applicable [ ] Waiver Requested

3. Process Flow Diagram(s):
   [X] Attached, Document ID(s): PART B
   [ ] Not Applicable [ ] Waiver Requested

4. Precautions to Prevent Emissions of Unconfined Particulate Matter:
   [X] Attached, Document ID: PART B
   [ ] Not Applicable [ ] Waiver Requested

5. Fugitive Emissions Identification:
   [X] Attached, Document ID: PART B
   [ ] Not Applicable [ ] Waiver Requested

6. Supplemental Information for Construction Permit Application:
   [X] Attached, Document ID: PART B
   [ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities:
   [ ] Attached, Document ID: _____
   [X] Not Applicable

8. List of Equipment/Activities Regulated under Title VI:
   [ ] Attached, Document ID: _____
   [ ] Equipment/Activities On site but Not Required to be Individually Listed
   [X] Not Applicable

9. Alternative Methods of Operation:
   [ ] Attached, Document ID: _____
   [X] Not Applicable

10. Alternative Modes of Operation (Emissions Trading):
    [ ] Attached, Document ID: _____
    [X] Not Applicable

11. Identification of Additional Applicable Requirements:
[ ] Attached, Document ID: _____
[x] Not Applicable

12. Compliance Assurance Monitoring Plan:
[ ] Attached, Document ID: _____
[x] Not Applicable

13. Risk Management Plan Verification:

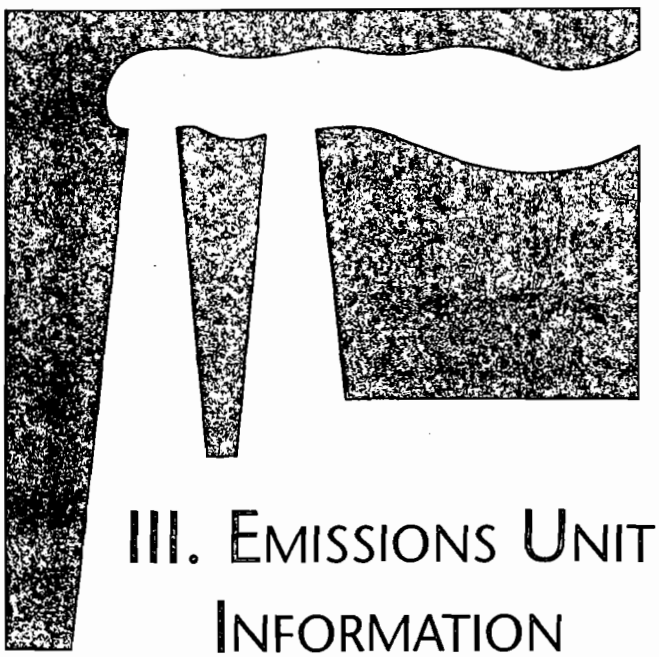
[ ] Plan Submitted to Implementing Agency - Verification Attached
Document ID: _____

[ ] Plan to be Submitted to Implementing Agency by Required Date

[x] Not Applicable

14. Compliance Report and Plan
[ ] Attached, Document ID: _____
[x] Not Applicable

15. Compliance Statement (Hard-copy Required)
[ ] Attached, Document ID: _____
[x] Not Applicable



III. Emissions Unit Information

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[X] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION (Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Boiler No.1 fired by Biomass/No.2 oil/coal/TDF**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): **74.9 MW gross generating capacity for entire facility.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

ESP - Electrostatic Precipitator

2. Control Device or Method Code: **10**

B.

1. Description (limit to 200 characters):

Selective Non-Catalytic reduction for NOx

2. Control Device or Method Code: **107**

C.

1. Description (limit to 200 characters):

Activated Carbon injection system.

2. Control Device or Method Code: **48**

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	75 MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		715	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input rates: Biomass - 715 MMBtu/hr; No.2 Fuel Oil - 490 MMBtu/hr; Coal - 490 MMBtu/hr; Tire-derived fuel - 340 MMBtu/hr**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	24 hours/day		7 days/week
	52 weeks/yr		8,760 hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40 CFR 60, Subpart Da
40 CFR 60, Subpart Ea and Cb (record keeping only)

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: BLR 1
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: 225 feet
7. Exit Diameter: 8 feet
8. Exit Temperature: 295 °F

9. Actual Volumetric Flow Rate:	**246,000** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Stack parameters based on biomass firing.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility boiler - bagasse**	
2. Source Classification Code (SCC): **1-01-011-01**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **84.118**	5. Maximum Annual Rate: **736,874**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Maximum percent Sulfur: 0.025. Maximum Percent Ash: 0.83. Million Btu per SCC Unit: 8.5. Total biomass all three boilers = 1,352,941 TPY.**	

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility Boiler - Wood Fired Boiler**	
2. Source Classification Code (SCC): **1-01-009-03**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **65**	5. Maximum Annual Rate: **569,400**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash: **3.2**
9. Million Btu per SCC Unit: **11**	
10. Segment Comment (limit to 200 characters): **Maximum Percent Sulfur: 0.025. Total biomass all three boilers = 1,352,941 TPY.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

Electric Utility Boiler - Distillate Oil - Grades 1 and 2 oil

2. Source Classification Code (SCC):

1-01-005-01

3. SCC Units:

Thousand Gallons Burned

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
3.551	**7,745**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
0.05	

9. Million Btu per SCC Unit:

138

10. Segment Comment (limit to 200 characters):

Maximum Annual Rate: 7,745,000. This represents 24.9% oil firing on a heat input basis. Total No.2 Fuel Oil all three boilers = 19,533,086 gal/yr.

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):
   Electric Utility boiler - Butiminous Coal - Spreader Stoker

2. Source Classification Code (SCC): **1-01-002-04**

3. SCC Units: **Tons Burned**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
20.417	**70,167**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
0.7	**3.7**

9. Million Btu per SCC Unit: **24**

10. Segment Comment (limit to 200 characters):
    Total coal all three boilers = 70,167 TPY (16% coal burning on a heat input basis). The combined heat input for coal and oil <25% on a calendar quarter basis.

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

   Electric Utility Boiler - Solid Waste - Tire Derived Fuel

2. Source Classification Code (SCC):

   1-01-012-01

3. SCC Units:

   Tons Burned

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
11	**81,613**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
1.2	**5**

9. Million Btu per SCC Unit:

   31

10. Segment Comment (limit to 200 characters):

    Maximum hourly rate based on 340 MMBtu/hr TDF. Total TDF all three boilers = 81,613 TPY. This represents 9.1% TDF burning on a weight basis.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	010		EL
PM10	010		EL
SO2			EL
NOx	107		EL
CO			EL
VOC			EL
PB	010		EL
SAM			EL
FL			EL
H114	048		EL
H021			EL
HAPS			NS
H106			NS
H107			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 1 of 14

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **21.5** lb/hour **94.17** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.03 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**X**] 5
8. Calculation of Emissions (limit to 600 characters): **0.03 lb/MMBtu x 715 MMBtu/hr = 21.5 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **172.5 TPY total for all boilers**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**21.5** lb/hour **94.17** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 5**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Maximum lb/hr based on biomass firing.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 2 of 14

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **21.5** lb/hour **94.17** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.03 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**X**] 5
8. Calculation of Emissions (limit to 600 characters): **0.03 lb/MMBtu x 715 MMBtu/hr = 21.5 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **172.5 TPY total for all boilers**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**21.5** lb/hour **94.17** tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Maximum lb/hr based on biomass firing.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **588** lb/hour **1,154.3** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **1.2 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **1.2 lb/MMBtu x 490 MMBtu/hr = 588.0 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **1,154.3 TPY total for all three boilers.**

Emissions Unit Information Section 1 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.1 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**71.5** lb/hour **62.6** tons/year
5. Method of Compliance (limit to 60 characters): **Continuous SO2 monitor**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions: 0.1 lb/MMBtu 24-hr avg; Annual- 0.02 lb/MMBtu for bagasse, 0.05 lb/MMBtu for wood. Based on biomass firing. Annual TPY: 715 MMBtu/hr x 0.02 x 8,760 hr/yr = 62.6 TPY**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **1.2 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**408** lb/hour **1,012** tons/year
5. Method of Compliance (limit to 60 characters): **Continuous SO2 monitor.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions: 1.2 lb/MMBtu, 24-hr avg.; 0.8 lb/MMBtu, annual avg. Based on tire-derived fuel firing. Annual TPY: 81,613 TPY TDF x 15,500 Btu/lb x 0.8lb/MMBtu = 1,012.0 TPY**	

Emissions Unit Information Section 1 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **1.2 lb/MMBtu**	
4. Equivalent Allowable Emissions: **588** lb/hour	**641.3** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Based on coal firing.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.05 lb/MMBtu**	
4. Equivalent Allowable Emissions: **22.5** lb/hour	**24.5** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing and BACT.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 4 of 14

1. Pollutant Emitted: **NOx**
2. Total Percent Efficiency of Control: **40** %
3. Potential Emissions: **107.3** lb/hour **470** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.15 lb/MMBtu** Reference: **NOx control system**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.15 lb/MMBtu x 715 MMBtu/hr = 107.3 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **862.5 TPY total for all boilers**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCPSD**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**107.3** lb/hour **470** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 7 or 7E**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**	

B.

1. Basis for Allowable Emissions Code: **ESCPSD**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**67.5** lb/hour **73.6** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**	

Emissions Unit Information Section 1 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCPSD**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.17 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**83.3** lb/hour **90.8** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**	

B.

1. Basis for Allowable Emissions Code: **ESCPSD**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**51** lb/hour **223.4** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 7 or 7E.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. Limit TDF firing to 25% on a weight basis.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 5 of 14

1. Pollutant Emitted: CO
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 250.3 lb/hour 1,096.3 tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.35 lb/MMBtu Reference: Boiler Design
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): 0.35 lb/MMBtu x 715 MMBtu/hr = 250.3 lb/hr
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 2,012.5 TPY total for all boilers

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.2** **lb/MMBtu**
4. Equivalent Allowable Emissions: **98** lb/hour **106.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing. Limit coal burning to 24.9% each boiler.**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.35** **lb/MMBtu**
4. Equivalent Allowable Emissions: **63** lb/hour **275.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. TDF firing limited to 25% for each boiler.**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.35 lb/MMBtu**
4. Equivalent Allowable Emissions: **250.3** lb/hour **1,096.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.2 lb/MMBtu**
4. Equivalent Allowable Emissions: **90** lb/hour **98.2** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 6 of 14

1. Pollutant Emitted: **VOC**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **42.9** lb/hour **187.9** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.06 lb/MMBtu** Reference: **Boiler Design**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.06 lb/MMBtu x 715 MMBtu/hr = 42.9 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Based on biomass firing. Total for all three boilers = 345.0 TPY**

Emissions Unit Information Section 1 **of** 5

Volatile Organic Compounds

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: ESCNAA	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.03 lb/MMBtu	
4. Equivalent Allowable Emissions:	14.7 lb/hour 16 tons/year
5. Method of Compliance (limit to 60 characters): Limit coal burning to 24.9% for any single boiler	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on coal firing	

B.

1. Basis for Allowable Emissions Code: ESCNAA	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.06 lb/MMBtu	
4. Equivalent Allowable Emissions:	10.8 lb/hour 47.3 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 25 or 25A annually	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on tire-derived fuel firing. TDF firing limited to 25% for any single boiler(weight basis).	

Emissions Unit Information Section 1 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCNAA**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.06 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**42.9** lb/hour **187.9** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 25 or 25A**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing.**	

B.

1. Basis for Allowable Emissions Code: **ESCNAA**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**13.5** lb/hour **14.7** tons/year
5. Method of Compliance (limit to 60 characters): **See Comment**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing. Limit No.2 fuel oil burning to 24.9% for any single boiler.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 7 of 14

1. Pollutant Emitted: **PB**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **0.031** lb/hour **0.173** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **6.4 E-05 lb/MMBtu** Reference: **See Part B**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **6.4 E-05 lb/MMBtu x 490 MMBtu/hr = 0.031 lb/hr.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Max emissions due to coal firing. Facility emissions are 0.173 TPY total all boilers.**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **2.5 E-05 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**0.018** lb/hour **0.079** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Biomass Firing**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **8.9 E-07 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**0.0004** lb/hour **0.0019** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **No.2 fuel oil firing**	

Emissions Unit Information Section 1 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.4 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.031** lb/hour **0.136** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Coal Firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **4.2 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0143** lb/hour **0.063** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **TDF firing**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 8 of 14

1. Pollutant Emitted: **SAM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **17.6** lb/hour **34.6** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.036 lb/MMBtu** Reference: **See Part B**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [**x**] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.036 lb/MMBtu x 490 MMBtu/hr = 17.6 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Based on coal firing, 34.6 TPY total for all boilers.**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.01 lb/MMBtu	
4. Equivalent Allowable Emissions:	17.6 lb/hour 19.2 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 8 once every 5 years.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on coal firing	

B.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.01 lb/MMBtu	
4. Equivalent Allowable Emissions:	3.4 lb/hour 14.9 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 8 once every 5 years.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on tire-derived fuel firing.	

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.003 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**2.2** lb/hour **9.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 8 once every 5 years.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.0015 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**0.74** lb/hour **3.2** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 8 once every 5 years.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 9 of 14

1. Pollutant Emitted: **FL**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **11.8** lb/hour **21.23** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.024 lb/MMBtu** Reference: **See Part B**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.024 lb/MMBtu x 490 MMBtu/hr = 11.8 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Based on coal firing. Total emissions from all three boilers limited to 21.23 TPY.**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.3 E-06 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0031** lb/hour **0.0034** tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing.**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.024 lb/MMBtu**
4. Equivalent Allowable Emissions: **11.8** lb/hour **21.23** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 13A or 13B once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

Emissions Unit Information Section 1 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.5 E-04 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.22** lb/hour **0.96** tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on TDF firing.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 10 of 14

1. Pollutant Emitted: **H114**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **0.0046** lb/hour **0.03** tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **See Part B** Reference: **See Part B**
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Annual TPY limited by permit condition.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Total emissions all three boilers cannot exceed 0.030 TPY.**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 TPY**
4. Equivalent Allowable Emissions: **0.0046** lb/hour **0.03** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 101a**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Fuel management plan to be submitted after stack testing and determination of actual mercury emission factors.**

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 11 of 14

1. Pollutant Emitted: **H021**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **0.0029** lb/hour **0.0052** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: Reference: **See Part B**
7. Emissions Method Code: [**X**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **490 MMBtu/hr x 5.9 E-06 lb/MMBtu = 0.0029 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Max lb/hr based on coal firing. Total emissions all three boilers limited to 0.0052 TPY.**

Emissions Unit Information Section 1 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **5.9 E-06 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0029** lb/hour **0.0052** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 104**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3.5 E-07 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0002** lb/hour **0.0002** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 104**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing.**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation ____ of ____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 5

1. Parameter Code: VE	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Durag Model Number: D-R281AV Serial Number: 31019	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor 2 of 5

1. Parameter Code: NOx	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Instruments Model Number: 42D Serial Number: 42D-52618-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 3 of 5

1. Parameter Code: SO2	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [X] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Instruments Model Number: 43B Serial Number: 43B-51400-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor 4 of 5

1. Parameter Code: CO	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [X] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Insturments Model Number: 48 Serial Number: 48-45334-273	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters):	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 5 of 5

1. Parameter Code: O2	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Yokogawa Model Number: ZA8C Serial Number: JJ113MA345	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
4. Installation Date:	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [x] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[X] C	[ ] E	[ ] Unknown
	SO_2	[X] C	[ ] E	[ ] Unknown
	NO_2	[X] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	0 lb/hour	0 tons/year	
	SO_2	0 lb/hour	0 tons/year	
	NO_2		0 tons/year	
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: PART B	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[X] Attached, Document ID: PART B	[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [X] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [X] Not Applicable
12.	Identification of Additional Applicable Requirements [ ] Attached, Document ID: _____ [X] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: _____ [X] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[X] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Boiler No.2 fired by Biomass/No.2 oil/coal/TDF**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): **74.9 MW gross generating capacity for entire facility.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

ESP - Electrostatic Precipitator

2. Control Device or Method Code: 10

B.

1. Description (limit to 200 characters):

Selective Non-Catalytic Reduction for NOx

2. Control Device or Method Code: 107

C.

1. Description (limit to 200 characters):

Activated Carbon injection system.

2. Control Device or Method Code: 48

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	75 MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	°F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		715	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			

5. Operating Capacity Comment (limit to 200 characters):

Maximum heat input rates: Biomass - 715 MMBtu/hr; No.2 Fuel Oil - 490 MMBtu/hr; Coal - 490 MMBtu/hr; Tire-derived fuel - 340 MMBtu/hr

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:

24	hours/day	7	days/week
52	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40 CFR 60, Subpart Da
40 CFR 60, Subpart Ea and Cb (record keeping only)

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: BLR 2
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: 225 feet
7. Exit Diameter: 8 feet
8. Exit Temperature: 295 °F

9. Actual Volumetric Flow Rate:	246,000 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Stack parameters based on biomass firing.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility boiler - bagasse**	
2. Source Classification Code (SCC): **1-01-011-01**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **84.118**	5. Maximum Annual Rate: **736,874**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Maximum percent Sulfur: 0.025. Maximum Percent Ash: 0.83. Million Btu per SCC Unit: 8.5. Total biomass all three boilers = 1,352,941 TPY.**	

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility Boiler - Wood Fired Boiler**
2. Source Classification Code (SCC): **1-01-009-03**
3. SCC Units: **Tons Burned**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
65	**569,400**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash: **3.2**
9. Million Btu per SCC Unit: **11**	

10. Segment Comment (limit to 200 characters): **Maximum Percent Sulfur: 0.025. Total biomass all three boilers = 1,352,941 TPY.**

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

   Electric Utility Boiler - Distillate Oil - Grades 1 and 2 oil

2. Source Classification Code (SCC):

   1-01-005-01

3. SCC Units:

   Thousand Gallons Burned

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
3.551	**7,745**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
0.05	

9. Million Btu per SCC Unit:

   138

10. Segment Comment (limit to 200 characters):

    Maximum Annual Rate: 7,745,000. This represents 24.9% oil firing on a heat input basis. Total No.2 Fuel Oil all three boilers = 19,533,086 gal/yr.

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility boiler - Butiminous Coal - Spreader Stoker**
2. Source Classification Code (SCC): **1-01-002-04**
3. SCC Units: **Tons Burned**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
20.417	**70,167**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
0.7	**3.7**

9. Million Btu per SCC Unit: **24**
10. Segment Comment (limit to 200 characters): **Total coal all three boilers = 70,167 TPY (16% coal burning on a heat input basis). The combined heat input for coal and oil <25% on a calendar quarter basis.**

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

   Electric Utility Boiler - Solid Waste - Tire Derived Fuel

2. Source Classification Code (SCC):

   1-01-012-01

3. SCC Units:

   Tons Burned

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
11	**81,613**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
1.2	**5**

9. Million Btu per SCC Unit:

   31

10. Segment Comment (limit to 200 characters):

    Maximum hourly rate based on 340 MMBtu/hr TDF. Total TDF all three boilers = 81,613 TPY. This represents 9.1% TDF burning on a weight basis.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	010		EL
PM10	010		EL
SO2			EL
NOx	107		EL
CO			EL
VOC			EL
PB	010		EL
SAM			EL
FL			EL
H114	48		EL
H021			EL
HAPS			NS
H106			NS
H107			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 1 of 14

1. Pollutant Emitted: **PM**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **21.5** lb/hour **94.17** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.03 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **0.03 lb/MMBtu x 715 MMBtu/hr = 21.5 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **172.5 TPY total for all boilers**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03** **lb/MMBtu**
4. Equivalent Allowable Emissions: **21.5** lb/hour **94.17** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 5**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Maximum lb/hr based on biomass firing.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 2 of 14

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **21.5** lb/hour **94.17** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.03 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **0.03 lb/MMBtu x 715 MMBtu/hr = 21.5 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **172.5 TPY total for all boilers**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**21.5** lb/hour **94.17** tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Maximum lb/hr based on biomass firing.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 3 of 14

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **588** lb/hour **1,154.3** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **1.2 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **1.2 lb/MMBtu x 490 MMBtu/hr = 588.0 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **1,154.3 TPY total for all three boilers.**

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.1 lb/MMBtu**	
4. Equivalent Allowable Emissions: **71.5** lb/hour	**62.6** tons/year
5. Method of Compliance (limit to 60 characters): **Continuous SO2 monitor**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions: 0.1 lb/MMBtu 24-hr avg; Annual- 0.02 lb/MMBtu for bagasse, 0.05 lb/MMBtu for wood. Based on biomass firing. Annual TPY: 715 MMBtu/hr x 0.02 x 8,760 hr/yr = 62.6 TPY**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **1.2 lb/MMBtu**	
4. Equivalent Allowable Emissions: **408** lb/hour	**1,012** tons/year
5. Method of Compliance (limit to 60 characters): **Continuous SO2 monitor.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions: 1.2 lb/MMBtu, 24-hr avg.; 0.8 lb/MMBtu, annual avg. Based on tire-derived fuel firing. Annual TPY: 81,613 TPY TDF x 15,500 Btu/lb x 0.8 lb/MMBtu = 1,012.0 TPY**	

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **1.2 lb/MMBtu**	
4. Equivalent Allowable Emissions: **588** lb/hour	**641.3** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Based on coal firing.**	

B.

1. Basis for Allowable Emissions Code: **RULE**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.05 lb/MMBtu**	
4. Equivalent Allowable Emissions: **22.5** lb/hour	**24.5** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing and BACT.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 4 of 14

1. Pollutant Emitted: **NOx**
2. Total Percent Efficiency of Control: **40** %
3. Potential Emissions: **107.3** lb/hour **470** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.15 lb/MMBtu** Reference: **NOx control system**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.15 lb/MMBtu x 715 MMBtu/hr = 107.3 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **862.5 TPY total for all boilers**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCPSD**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**107.3** lb/hour **470** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 7 or 7E**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**	

B.

1. Basis for Allowable Emissions Code: **ESCPSD**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**67.5** lb/hour **73.6** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**	

Emissions Unit Information Section 2 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCPSD**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.17 lb/MMBtu**
4. Equivalent Allowable Emissions: **83.3** lb/hour **90.8** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **ESCPSD**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**
4. Equivalent Allowable Emissions: **51** lb/hour **223.4** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 7 or 7E.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. Limit TDF firing to 25% on a weight basis.**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 5 of 14

1. Pollutant Emitted: CO
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 250.3 lb/hour 1,096.3 tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.35 lb/MMBtu Reference: Boiler Design
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): 0.35 lb/MMBtu x 715 MMBtu/hr = 250.3 lb/hr
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 2,012.5 TPY total for all boilers

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.2** **lb/MMBtu**	
4. Equivalent Allowable Emissions:	**98** lb/hour **106.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing. Limit coal burning to 24.9% each boiler.**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.35** **lb/MMBtu**	
4. Equivalent Allowable Emissions:	**63** lb/hour **275.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. TDF firing limited to 25% for each boiler.**	

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.35** **lb/MMBtu**
4. Equivalent Allowable Emissions: **250.3** lb/hour **1,096.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.2** **lb/MMBtu**
4. Equivalent Allowable Emissions: **90** lb/hour **98.2** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 6 of 14

1. Pollutant Emitted: VOC
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 42.9 lb/hour 187.9 tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.06 lb/MMBtu Reference: Boiler Design
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): 0.06 lb/MMBtu x 715 MMBtu/hr = 42.9 lb/hr
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Based on biomass firing. Total for all three boilers = 345.0 TPY

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCNAA**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**
4. Equivalent Allowable Emissions: **14.7** lb/hour **16** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **ESCNAA**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.06 lb/MMBtu**
4. Equivalent Allowable Emissions: **10.8** lb/hour **47.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 25 or 25A annually**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. TDF firing limited to 25% for any single boiler(weight basis).**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCNAA**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.06 lb/MMBtu**
4. Equivalent Allowable Emissions: **42.9** lb/hour **187.9** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 25 or 25A**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing.**

B.

1. Basis for Allowable Emissions Code: **ESCNAA**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**
4. Equivalent Allowable Emissions: **13.5** lb/hour **14.7** tons/year
5. Method of Compliance (limit to 60 characters): **See Comment**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing. Limit No.2 fuel oil burning to 24.9% entire facility and for any single boiler.**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 7 of 14

1. Pollutant Emitted: **PB**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **0.031** lb/hour **0.173** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **6.4 E-05 lb/MMBtu** Reference: **See Part B**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **6.4 E-05 lb/MMBtu x 490 MMBtu/hr = 0.031 lb/hr.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Max emissions due to coal firing. Facility emissions are 0.173 TPY total all boilers.**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **2.5 E-05 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**0.018** lb/hour **0.079** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Biomass Firing**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **8.9 E-07 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**0.0004** lb/hour **0.0019** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **No.2 fuel oil firing**	

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.4 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.031** lb/hour **0.136** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Coal Firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **4.2 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0143** lb/hour **0.063** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **TDF firing**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 8 of 14

1. Pollutant Emitted: **SAM**

2. Total Percent Efficiency of Control: %

3. Potential Emissions: **17.6** lb/hour **34.6** tons/year

4. Synthetically Limited? [x] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

[ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: **0.036 lb/MMBtu**

Reference: **See Part B**

7. Emissions Method Code:

[ ] 0 [ ] 1 [ ] 2 [x] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

0.036 lb/MMBtu x 490 MMBtu/hr = 17.6 lb/hr

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Based on coal firing, 34.6 TPY total for all boilers.

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.01 lb/MMBtu	
4. Equivalent Allowable Emissions:	17.6 lb/hour 19.2 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 8 once every 5 years.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on coal firing	

B.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.01 lb/MMBtu	
4. Equivalent Allowable Emissions:	3.4 lb/hour 14.9 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 8 once every 5 years.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on tire-derived fuel firing.	

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.003** **lb/MMBtu**
4. Equivalent Allowable Emissions: **2.2** lb/hour **9.6** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 8 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.0015** **lb/MMBtu**
4. Equivalent Allowable Emissions: **0.74** lb/hour **3.2** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 8 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing.**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 9 of 14

1. Pollutant Emitted: FL
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 11.8 lb/hour 21.23 tons/year
4. Synthetically Limited? [X] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.024 lb/MMBtu Reference: See Part B
7. Emissions Method Code: [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.024 lb/MMBtu x 490 MMBtu/hr = 11.8 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Based on coal firing. Total emissions from all three boilers limited to 21.23 TPY.**

Emissions Unit Information Section 2 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.3 E-06 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0031** lb/hour **0.0034** tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.024 lb/MMBtu**
4. Equivalent Allowable Emissions: **11.8** lb/hour **21.23** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 13A or 13B once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.5 E-04 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.22** lb/hour **0.96** tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on TDF firing.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 10 of 14

1. Pollutant Emitted: **H114**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **0.0046** lb/hour **0.03** tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **See Part B** Reference: **See Part B**
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Annual TPY limited by permit condition.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Total emissions all three boilers cannot exceed 0.030 TPY.**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 TPY**
4. Equivalent Allowable Emissions: **0.0046** lb/hour **0.03** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 101a**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Fuel management plan to be submitted after stack testing and determination of actual mercury emission factors.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 11 of 14

1. Pollutant Emitted: **H021**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **0.0029** lb/hour **0.0052** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: Reference: **See Part B**
7. Emissions Method Code: [**x**] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **490 MMBtu/hr x 5.9 E-06 lb/MMBtu = 0.0029 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Max lb/hr based on coal firing. Total emissions all three boilers limited to 0.0052 TPY.**

Emissions Unit Information Section 2 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **5.9 E-06 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0029** lb/hour **0.0052** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 104**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3.5 E-07 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0002** lb/hour **0.0002** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 104**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing.**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation ____ of ____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 5

1. Parameter Code: VE	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Durag Model Number: D-R281AV Serial Number: 31015	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor 2 of 5

1. Parameter Code: NOx	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Instruments Model Number: 42D Serial Number: 42D-51082-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 3 of 5

1. Parameter Code: SO2	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [X] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Instruments Model Number: 43B Serial Number: 43B-49519-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor 4 of 5

1. Parameter Code: CO	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [X] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Insturments Model Number: 48 Serial Number: 48-45334-273	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters):	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 5 of 5

1. Parameter Code: O2	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Yokogawa Model Number: ZA8C Serial Number: JJ113PA133	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor ____ of ____

1. Parameter Code:	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
4. Installation Date:	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[X] C	[ ] E	[ ] Unknown
	SO_2	[X] C	[ ] E	[ ] Unknown
	NO_2	[X] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	0 lb/hour	0 tons/year	
	SO_2	0 lb/hour	0 tons/year	
	NO_2		0 tons/year	
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: PART B	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[X] Attached, Document ID: PART B	[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: _____ [x] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: _____ [x] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: _____ [x] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: _____ [x] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[x] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[X] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[X] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Boiler No.3 fired by Biomass/No.2 oil/coal/TDF**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): **74.9 MW gross generating capacity for entire facility.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

ESP - Electrostatic Precipitator

2. Control Device or Method Code: **10**

B.

1. Description (limit to 200 characters):

Selective Non-Catalytic Reduction for NOx

2. Control Device or Method Code: **107**

C.

1. Description (limit to 200 characters):

Activated Carbon injection system.

2. Control Device or Method Code: **48**

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		715	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): **Maximum heat input rates: Biomass - 715 MMBtu/hr; No.2 Fuel Oil - 490 MMBtu/hr; Coal - 490 MMBtu/hr; Tire-derived fuel - 340 MMBtu/hr**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	24 hours/day		**7** days/week
	52 weeks/yr		**8,760** hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

40 CFR 60, Subpart Da
40 CFR 60, Subpart Ea and Cd (record keeping only)

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: BLR 3
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):
4.. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: 225 feet
7. Exit Diameter: 8 feet
8. Exit Temperature: 295 °F

9. Actual Volumetric Flow Rate:	**246,000** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Stack parameters based on biomass firing.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility boiler - bagasse**	
2. Source Classification Code (SCC): **1-01-011-01**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **84.118**	5. Maximum Annual Rate: **736,874**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Maximum percent Sulfur: 0.025. Maximum Percent Ash: 0.83. Million Btu per SCC Unit: 8.5. Total biomass all three boilers = 1,352,941 TPY.**	

Segment Description and Rate: Segment 2 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility Boiler - Wood Fired Boiler**	
2. Source Classification Code (SCC): **1-01-009-03**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **65**	5. Maximum Annual Rate: **569,400**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash: **3.2**
9. Million Btu per SCC Unit: **11**	
10. Segment Comment (limit to 200 characters): **Maximum Percent Sulfur: 0.025. Total biomass all three boilers = 1,352,941 TPY.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

Electric Utility Boiler - Distillate Oil - Grades 1 and 2 oil

2. Source Classification Code (SCC):

1-01-005-01

3. SCC Units:

Thousand Gallons Burned

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
3.551	**7,745**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
0.05	

9. Million Btu per SCC Unit:

138

10. Segment Comment (limit to 200 characters):

Maximum Annual Rate: 7,745,000. This represents 24.9% oil firing on a heat input basis. Total No.2 Fuel Oil all three boilers = 19,533,086 gal/yr.

Segment Description and Rate: Segment 4 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Electric Utility boiler - Butiminous Coal - Spreader Stoker**	
2. Source Classification Code (SCC): **1-01-002-04**	
3. SCC Units: **Tons Burned**	
4. Maximum Hourly Rate: **20.417**	5. Maximum Annual Rate: **70,167**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.7**	8. Maximum Percent Ash: **3.7**
9. Million Btu per SCC Unit: **24**	
10. Segment Comment (limit to 200 characters): **Total coal all three boilers = 70,167 TPY (16% coal burning on a heat input basis). The combined heat input for coal and oil <25% on a calendar quarter basis.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 5

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):

Electric Utility Boiler - Solid Waste - Tire Derived Fuel

2. Source Classification Code (SCC):

1-01-012-01

3. SCC Units:

Tons Burned

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
11	**81,613**

6. Estimated Annual Activity Factor:

7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
1.2	**5**

9. Million Btu per SCC Unit:

31

10. Segment Comment (limit to 200 characters):

Maximum hourly rate based on 340 MMBtu/hr TDF. total TDF all three boilers = 81,613 TPY. This represents 9.1% TDF burning on a weight basis.

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	010		EL
PM10	010		EL
SO2			EL
NOx	107		EL
CO			EL
VOC			EL
PB	010		EL
SAM			EL
FL			EL
H114	048		EL
H021			EL
HAPS			NS
H106			NS
H107			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 1 of 14

1. Pollutant Emitted: PM
2. Total Percent Efficiency of Control: 99 %
3. Potential Emissions: 21.5 lb/hour 94.17 tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.03 lb/MMBtu Reference: 40 CFR 60 Subpart Da
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [x] 5
8. Calculation of Emissions (limit to 600 characters): 0.03 lb/MMBtu x 715 MMBtu/hr = 21.5 lb/hr
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): 172.5 TPY total for all boilers

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**
4. Equivalent Allowable Emissions: **21.5** lb/hour **94.17** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 5**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Maximum lb/hr based on biomass firing.**

B.

1. Basis for Allowable Emissions Code:
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:
4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 2 of 14

1. Pollutant Emitted: **PM10**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **21.5** lb/hour **94.17** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.03 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**X**] 5
8. Calculation of Emissions (limit to 600 characters): **0.03 lb/MMBtu x 715 MMBtu/hr = 21.5 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **172.5 TPY total for all boilers**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**21.5** lb/hour **94.17** tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Basis for Allowable Emissions Code: NSPS. Maximum lb/hr based on biomass firing.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 3 of 14

1. Pollutant Emitted: **SO2**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **588** lb/hour **1,154.3** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **1.2 lb/MMBtu** Reference: **40 CFR 60 Subpart Da**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [**x**] 5
8. Calculation of Emissions (limit to 600 characters): **1.2 lb/MMBtu x 490 MMBtu/hr = 588.0 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **1,154.3 TPY total for all three boilers.**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.1 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**71.5** lb/hour **62.6** tons/year
5. Method of Compliance (limit to 60 characters): **Continuous SO2 monitor**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions: 0.1 lb/MMBtu 24-hr avg; Annual- 0.02 lb/MMBtu for bagasse, 0.05 lb/MMBtu for wood. Based on biomass firing. Annual TPY: 715 MMBtu/hr x 0.02 x 8,760 hr/yr = 62.6 TPY**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **1.2 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**408** lb/hour **1,191.4** tons/year
5. Method of Compliance (limit to 60 characters): **Continuous SO2 monitor.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Requested Allowable Emissions: 1.2 lb/MMBtu, 24-hr avg.; 0.8 lb/MMBtu, annual avg. Based on tire-derived fuel firing. Annual TPY: 81,613 TPY TDF x 15,500 Btu/lb x 0.8 lb/MMBtu = 1,012.0 TPY**	

Emissions Unit Information Section 3 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 1.2 lb/MMBtu	
4. Equivalent Allowable Emissions:	588 lb/hour 641.3 tons/year
5. Method of Compliance (limit to 60 characters): Limit coal burning to 24.9% for any single boiler.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Basis for Allowable Emissions Code: NSPS. Based on coal firing.	

B.

1. Basis for Allowable Emissions Code: RULE	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 0.05 lb/MMBtu	
4. Equivalent Allowable Emissions:	22.5 lb/hour 24.5 tons/year
5. Method of Compliance (limit to 60 characters): Limit fuel oil burning to 24.9% for any single boiler.	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on No.2 fuel oil firing and BACT.	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 4 of 14

1. Pollutant Emitted: **NOx**
2. Total Percent Efficiency of Control: **40** %
3. Potential Emissions: **107.3** lb/hour **470** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.15 lb/MMBtu** Reference: **NOx control system**
7. Emissions Method Code: [ ] 0 [ ] 1 [**x**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.15 lb/MMBtu x 715 MMBtu/hr = 107.3 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **862.5 TPY total for all boilers**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCPSD**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.15** **lb/MMBtu**
4. Equivalent Allowable Emissions: **107.3** lb/hour **470** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 7 or 7E**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**

B.

1. Basis for Allowable Emissions Code: **ESCPSD**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.15** **lb/MMBtu**
4. Equivalent Allowable Emissions: **67.5** lb/hour **73.6** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCPSD**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.17 lb/MMBtu**
4. Equivalent Allowable Emissions: **83.3** lb/hour **90.8** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **ESCPSD**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.15 lb/MMBtu**
4. Equivalent Allowable Emissions: **51** lb/hour **223.4** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 7 or 7E.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. Limit TDF firing to 25% on a weight basis.**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 5 of 14

1. Pollutant Emitted: CO
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **250.3** lb/hour **1,096.3** tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.35 lb/MMBtu** Reference: **Boiler Design**
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.35 lb/MMBtu x 715 MMBtu/hr = 250.3 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **2,012.5 TPY total for all boilers**

Emissions Unit Information Section 3 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.2 lb/MMBtu**
4. Equivalent Allowable Emissions: **98** lb/hour **106.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing. Limit coal burning to 24.9% each boiler.**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.35 lb/MMBtu**
4. Equivalent Allowable Emissions: **63** lb/hour **275.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. TDF firing limited to 25% for each boiler.**

Emissions Unit Information Section 3 of 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.35 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**250.3** lb/hour **1,096.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 10 annually**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing**	

B.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.2 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**90** lb/hour **98.2** tons/year
5. Method of Compliance (limit to 60 characters): **Limit fuel oil burning to 24.9% for any single boiler.**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 6 of 14

1. Pollutant Emitted: VOC
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 42.9 lb/hour 187.9 tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.06 lb/MMBtu Reference: Boiler Design
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): 0.06 lb/MMBtu x 715 MMBtu/hr = 42.9 lb/hr
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): Based on biomass firing. Total for all three boilers = 345.0 TPY

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCNAA**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions: **14.7** lb/hour	**16** tons/year
5. Method of Compliance (limit to 60 characters): **Limit coal burning to 24.9% for any single boiler**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**	

B.

1. Basis for Allowable Emissions Code: **ESCNAA**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.06 lb/MMBtu**	
4. Equivalent Allowable Emissions: **10.8** lb/hour	**47.3** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 25 or 25A annually**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing. TDF firing limited to 25% for any single boiler(weight basis).**	

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **ESCNAA**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.06 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**42.9** lb/hour **187.9** tons/year
5. Method of Compliance (limit to 60 characters): **Annual stack test using EPA Method 25 or 25A**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on biomass firing.**	

B.

1. Basis for Allowable Emissions Code: **ESCNAA**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**13.5** lb/hour **14.7** tons/year
5. Method of Compliance (limit to 60 characters): **See Comment**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing. Limit No.2 fuel oil burning to 24.9% entire facility and for any single boiler.**	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 7 of 14

1. Pollutant Emitted: PB
2. Total Percent Efficiency of Control: 99 %
3. Potential Emissions: 0.031 lb/hour 0.173 tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 6.4 E-05 lb/MMBtu Reference: See Part B
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [x] 5
8. Calculation of Emissions (limit to 600 characters): **6.4 E-05 lb/MMBtu x 490 MMBtu/hr = 0.031 lb/hr.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Max emissions due to coal firing. Facility emissions are 0.173 TPY total all boilers.**

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **2.5 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.018** lb/hour **0.079** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Biomass Firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **8.9 E-07 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0004** lb/hour **0.0019** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **No.2 fuel oil firing**

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.4 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.031** lb/hour **0.136** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Coal Firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **4.2 E-05 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0143** lb/hour **0.063** tons/year
5. Method of Compliance (limit to 60 characters): **Stack test using EPA Method 12 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **TDF firing**

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 8 of 14

1. Pollutant Emitted: **SAM**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **17.6** lb/hour **34.6** tons/year
4. Synthetically Limited? [**x**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.036 lb/MMBtu** Reference: **See Part B**
7. Emissions Method Code: [ ] 0 [ ] 1 [ ] 2 [**x**] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.036 lb/MMBtu x 490 MMBtu/hr = 17.6 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Based on coal firing, 34.6 TPY total for all boilers.**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.01** **lb/MMBtu**
4. Equivalent Allowable Emissions: **17.6** lb/hour **19.2** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 8 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.01** **lb/MMBtu**
4. Equivalent Allowable Emissions: **3.4** lb/hour **14.9** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 8 once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on tire-derived fuel firing.**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.003 lb/MMBtu
4. Equivalent Allowable Emissions: 2.2 lb/hour 9.6 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 8 once every 5 years.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on biomass firing

B.

1. Basis for Allowable Emissions Code: OTHER
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 0.0015 lb/MMBtu
4. Equivalent Allowable Emissions: 0.74 lb/hour 3.2 tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): Based on No.2 fuel oil firing.

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 9 of 14

1. Pollutant Emitted: **FL**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **11.8** lb/hour **21.23** tons/year
4. Synthetically Limited? [**X**] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **0.024 lb/MMBtu** Reference: **See Part B**
7. Emissions Method Code: [ ] 0 [ ] 1 [**X**] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **0.024 lb/MMBtu x 490 MMBtu/hr = 11.8 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Based on coal firing. Total emissions from all three boilers limited to 21.23 TPY.**

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **6.3 E-06 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0031** lb/hour **0.0034** tons/year
5. Method of Compliance (limit to 60 characters):
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **0.024 lb/MMBtu**
4. Equivalent Allowable Emissions: **11.8** lb/hour **21.23** tons/year
5. Method of Compliance (limit to 60 characters): **EPA Method 13A or 13B once every 5 years.**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **6.5 E-04 lb/MMBtu**	
4. Equivalent Allowable Emissions:	**0.22** lb/hour **0.96** tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on TDF firing.**	

B.

1. Basis for Allowable Emissions Code:	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units:	
4. Equivalent Allowable Emissions:	lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):	

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 10 of 14

1. Pollutant Emitted: **H114**
2. Total Percent Efficiency of Control: %
3. Potential Emissions: **0.0046** lb/hour **0.03** tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: **See Part B** Reference: **See Part B**
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Annual TPY limited by permit condition.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Total emissions all three boilers cannot exceed 0.030 TPY.**

Emissions Unit Information Section 3 **of** 5

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**	
2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: **0.03 TPY**	
4. Equivalent Allowable Emissions: **0.0046** lb/hour	**0.03** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 101a**	
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Fuel management plan to be submitted after stack testing and determination of actual mercury emission factors.**	

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information: Pollutant 11 of 14

1. Pollutant Emitted: **H021**
2. Total Percent Efficiency of Control: **99** %
3. Potential Emissions: **0.0029** lb/hour **0.0052** tons/year
4. Synthetically Limited? [x] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: Reference: **See Part B**
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **490 MMBtu/hr x 5.9 E-06 lb/MMBtu = 0.0029 lb/hr**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **Max lb/hr based on coal firing. Total emissions all three boilers limited to 0.0052 TPY.**

Emissions Unit Information Section 3 of 5
Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **5.9 E-06 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0029** lb/hour **0.0052** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 104**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on coal firing**

B.

1. Basis for Allowable Emissions Code: **OTHER**
2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: **3.5 E-07 lb/MMBtu**
4. Equivalent Allowable Emissions: **0.0002** lb/hour **0.0002** tons/year
5. Method of Compliance (limit to 60 characters): **Stack testing using EPA Method 104**
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Based on No.2 fuel oil firing.**

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: 27 % Maximum Period of Excess Opacity Allowed: 6 min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 1 of 5

1. Parameter Code: VE	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Durag Model Number: D-R281AV Serial Number: 31018	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor 2 of 5

1. Parameter Code: NOx	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Instruments Model Number: 42D Serial Number: 42D-51031-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 3 of 5

1. Parameter Code: SO2	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [X] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Instruments Model Number: 43B Serial Number: 43B-48524-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor 4 of 5

1. Parameter Code: CO	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [X] Other	
3. Monitor Information: Monitor Manufacturer: Thermo Environmental Insturments Model Number: 48 Serial Number: 48-52605-292	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters):	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor 5 of 5

1. Parameter Code: O2	2. Pollutant(s):
2. CMS Requirement: [X] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Yokogawa Model Number: ZA8C Serial Number: JJ113PA135	
4. Installation Date: 01 Oct 1995	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters): 40 CFR 60, Subpart Da	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
2. CMS Requirement: [ ] Rule [ ] Other	
3. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
4. Installation Date:	
5. Performance Specification Test Date:	
6. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[X] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[X] C	[ ] E	[ ] Unknown
	SO_2	[X] C	[ ] E	[ ] Unknown
	NO_2	[X] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	0 lb/hour	0	tons/year
	SO_2	0 lb/hour	0	tons/year
	NO_2		0	tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment	
	[X] Attached, Document ID: PART B	
	[ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities	
	[ ] Attached, Document ID: _____	
	[X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report	
	[ ] Attached, Document ID: _____	[X] Not Applicable
	[ ] Previously Submitted, Date: _____	
6.	Procedures for Startup and Shutdown	
	[ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan	
	[ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application	
	[X] Attached, Document ID: PART B	[ ] Not Applicable
9.	Other Information Required by Rule or Statute	
	[X] Attached, Document ID: PART B	[ ] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operation

[ ] Attached, Document ID: _____ [X] Not Applicable

11. Alternative Modes of Operation (Emissions Trading)

[ ] Attached, Document ID: _____ [X] Not Applicable

12. Identification of Additional Applicable Requirements

[ ] Attached, Document ID: _____ [X] Not Applicable

13. Compliance Assurance Monitoring Plan

[ ] Attached, Document ID: _____ [X] Not Applicable

14. Acid Rain Permit Application (Hard Copy Required)

[ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
Attached, Document ID: _____

[ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
Attached, Document ID: _____

[ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.)
Attached, Document ID: _____

[ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
Attached, Document ID: _____

[X] Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[x] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **No.2 Fuel Oil Storage Tank**		
2. Emissions Unit Identification Number: [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **No.2 Fuel Oil: Breathing Loss**
2. Source Classification Code (SCC): **4-03-010-19**
3. SCC Units: **1,000 Gallons Storage Capacity**

4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor: **50**	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:

9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): **50,000 gallon tank**

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **No.2 Fuel Oil: Working Loss**	
2. Source Classification Code (SCC): **4-03-010-21**	
3. SCC Units: **1,000 Gallons Throughput**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **19,533,086**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[X] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[X] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Materials Handling**		
2. Emissions Unit Identification Number: [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code: C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):

Baghouse

2. Control Device or Method Code: 18

B.

1. Description (limit to 200 characters):

Enclosures

2. Control Device or Method Code: 54

C.

1. Description (limit to 200 characters):

2. Control Device or Method Code:

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Bulk materials open stockpiles: Biomass**
2. Source Classification Code (SCC): **3-02-103-99**
3. SCC Units: **Tons**

4. Maximum Hourly Rate:	5. Maximum Annual Rate: **1,352,941**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			WP
PM10			WP

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [X] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[X] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			

PART B

SUPPLEMENTAL INFORMATION FOR PERMIT APPLICATION

OKEELANTA POWER LIMITED PARTNERSHIP

1.0 INTRODUCTION

Okeelanta Power Limited Partnership (Okeelanta Power) was issued a prevention of significant deterioration (PSD) permit in 1993 for construction of a 74.9 megawatt electric (MWe) cogeneration facility. The cogeneration facility, which is now in the startup period, will use primarily biomass (bagasse and wood waste materials) to generate steam and electricity. The cogeneration facility is located at the site of the existing Okeelanta Corporation sugar mill, south of South Bay, Florida. The existing sugar mill boilers will be replaced with the cogeneration system consisting of three new combustion units and a steam turbine electric generator. After the cogeneration facility begins commercial operation, the existing sugar mill boilers will only operate when one or more of the cogeneration units are shutdown. The existing boilers will be permanently shutdown and rendered incapable of operation no later than January 1, 1999.

The cogeneration facility will provide enough steam energy for the needs of the Okeelanta sugar mill and will generate electricity which will be sold to Florida Power & Light Company (FPL). Further, the proposed facility will reduce overall air emissions and water consumption compared to the existing facility while generating approximately 18 times more electric energy than the existing facility.

The state construction permit (AC50-219413) and federal PSD permit (PSD-FL-196) were issued to Okeelanta Power on September 27, 1993. Since that time, final engineering and construction has been completed and the facility is now in the startup period. As a result, certain design and operating parameters can now be updated. Based on the current design of the plant, Okeelanta Power is requesting certain changes to the current PSD construction permit. The primary changes are for the use of tire-derived fuel (TDF) as a supplemental fuel.

TDF will be utilized primarily in the off-season when bagasse fuel is not available but may also be used during the crop season to extend the bagasse supply. During the off-season, the primary fuel for the facility will be wood waste. However, wood waste is not a commodity fuel, and as such, supplies and availability may vary depending on various factors. The use of TDF as supplemental fuel will help insure an adequate fuel supply is available to operate the facility year-round and meet the demands of the sugar mill.

The requested use of TDF as a supplemental fuel will not increase emissions to the atmosphere of any PSD regulated pollutants. Therefore, the changes do not require PSD or nonattainment new source review. Other requested changes to the current permit are minor in nature, and do not represent a significant change from the current permit.

This report presents a description of the proposed changes, including updated design information for the facility and emission rates for TDF firing. This supplemental information report contains three additional sections. A complete description of the project, including air emission rates and stack parameters, is presented in Section 2.0. The air quality review requirements for the project and new source review applicability are discussed in Section 3.0. An updated air modeling analysis for air toxics is presented in Section 4.0. Supportive information is contained in the appendices.

2.0 PROJECT DESCRIPTION

2.1 GENERAL

Okeelanta Power was issued a state construction permit (AC50-219413) and federal PSD permit (PSD-FL-196) on September 27, 1993, for the construction of a 74.9 MWe (gross) capacity biomass/coal-fired cogeneration facility. Each boiler was expected to produce up to an average of 455,418 lbs/hr steam. During the sugar processing season, the cogeneration facility is to provide steam to the existing Okeelanta sugar mill by burning primarily bagasse, which is the residual cellulose fiber resulting from the sugar cane grinding process, while also generating electricity. During the off-season, the cogeneration facility will burn primarily wood waste to generate electricity.

The construction permit limited the maximum heat input to each of the three boilers to 715 million British thermal units per hour (MMBtu/hr) when firing biomass, and 490 MMBtu/hr when firing fossil fuels (No. 2 fuel oil or low sulfur coal). Maximum annual heat input to the entire facility was limited to 11.5×10^{12} Btu/yr, and maximum coal burning was limited to 73,714 tons per year (TPY), which is approximately 16 percent of the total annual heat input. Except for the annual limitation on coal burning, all of these maximum rates are being retained. The annual coal burning limitation is being reduced to 15.2 percent of the annual heat input, or a maximum of 70,167 TPY, as described in Section 2.4.1.

In addition to the currently permitted fuels, it is desired to permit TDF as a supplemental fuel to be used primarily in the off-season when bagasse is not available. TDF may also be burned during the crop season in order to extend the bagasse supply. TDF will be fired in combination with biomass, with TDF input not exceeding 25 percent on a weight basis (22,000 lb/hr or 11.0 TPH, maximum) on a short-term basis, and not exceeding 9.1 percent (weight basis) on a facility-wide annual average basis (81,600 TPY total TDF).

The three new boilers are subject to the federal new source performance standards (NSPS) for electric utility boilers (40 CFR 60, Subpart Da). The boilers are also subject to a reporting and recordkeeping requirement under the NSPS for municipal waste combustors (MWCs) (40 CFR 60, Subparts Ea and Cb). The boilers are subject to these requirements because they will potentially burn woodwaste and TDF originating from residential, commercial and/or

institutional sources. Such fuels are defined as municipal solid waste (MSW) under the NSPS. However, because Okeelanta Power will accept a limit restricting the amount of MSW burned in each boiler to less than 30 percent (by weight) on a calendar quarter basis, the boilers will be exempt from the Subpart Ea and Cb standards, and only subject to recordkeeping and reporting requirements.

Air pollution control equipment serving each boiler consists of an electrostatic precipitator (ESP) to control particulate matter (PM) and heavy metal emissions, a selective non-catalytic reduction (SNCR) system for the control of NO_x emissions, and a mercury control system.

A regional map showing the location of the site is presented in Figure 2-1. A location map showing the existing sugar mill, cogeneration site, and plant property boundaries is presented in Figure 2-2.

2.2 COGENERATION FACILITY DESIGN INFORMATION

This section presents updated operating information concerning the cogeneration facility. Information presented in the original PSD application is provided, even if such information has not changed since the original submittal, in order to provide complete information.

2.2.1 STEAM TURBINE AND BOILERS

The maximum 74.9 MWe (gross) cogeneration system will provide steam to the Okeelanta sugar mill, and additionally will deliver a substantial amount of electricity to FPL to supply its customers in south Florida. This capacity is the same as originally permitted.

The facility will operate with three steam boilers burning biomass (primarily bagasse and wood waste materials). In the original application, information was presented for Zurn International boilers. However, Okeelanta Power has installed ABB boilers. The boilers are ABB Combustion Engineering Systems Model VU-40 units. Design features of the boilers include the following:

- ABB Model VU-40 steam generator
- Two-drum, field erected, open pass, balanced draft steam generators
- Water cooled furnace with electrical resistance welded steel boiler tubes
- Superheater section
- Economizer section

- Primary and overfire air systems
- Primary air preheater
- Overfire air preheater
- Plenum hoppers, boiler hoppers and air heater hoppers for collection of fly ash
- Forced draft and induced draft fans
- Primary and overfire air systems
- Peabody Model DFL-870, No. 2 fuel oil burners (3); steam atomizing; 160 MMBtu/hr maximum heat input each burner
- Spreader stoker, with continuous front ash discharge, vibrating grate, water cooling, grate area of 624 ft^2

Design data for each boiler, which are revised from the original application, are as follows:

Furnace volume = 40,700 ft^3

Steam temperature = 955°F

Steam pressure = 1,755 psig (design); 1,540 psig (operating)

Maximum average steam output = 455,418 lb/hr

Maximum heat input = 715 x 10^6 Btu/hr (biomass)
= 490 MMBtu/hr (No.2 fuel oil)
= 490 x 10^6 Btu/hr (coal)
= 340 x 10^6 Btu/hr (tire-derived fuel)

The boilers are balanced draft boilers and will operate under a slight negative pressure (about 0.1 inch H_2O). A balanced draft furnace prevents leakage of flue gas out of the unit. Any air movement through the boiler walls will be in the form of air in-leakage.

The boilers are designed for a pressure of 1,755 psig. The actual operating pressure will be approximately 1,540 psig with a steam temperature of approximately 955°F. Maximum average steam production for each boiler will be 455,418 lb/hr, the same as presented in the original application. A general arrangement view of the boilers is provided in Appendix B.

The cogeneration facility will be designed to provide the Okeelanta sugar mill and refinery with approximately 350,000 lb/hr of steam at 350 psig and 650°F, and approximately 442,000 lb/hr of steam at 20 psig and 280°F during the crop season. These steaming rates may vary as a function

of operational conditions; equipment and process efficiencies; characteristics of the biomass fuel, which is an agricultural product and somewhat variable; and overall sugar mill production rate. The process steam conditions will normally be controlled within a ±10 percent range. During normal operating conditions, the process steam flow can be expected to fluctuate within a ±25 percent range. During startup, shutdown, upset, or transient conditions, steam flow could diminish to zero.

The facility will produce up to 74.9 MWe (gross) of electricity year-round. A simplified flow diagram of the process is provided in Figure 2-3.

The cogeneration facility is currently in the startup period. First firing in the boilers occurred in October 1995. Commercial operation is expected to occur in May 1996.

2.2.2 FUELS

Okeelanta Power is planning on burning 100 percent biomass fuels. It is planned that the bagasse from the sugar grinding operation will provide approximately two-thirds of the annual fuel requirements of the facility. The remaining fuel requirements will be provided by wood waste materials, which could include clean construction and demolition wood debris, yard trimmings, land clearing debris, and other clean cellulose and vegetative matter. However, because wood waste materials are not commodity fuels and the supply of wood waste may fluctuate, it is necessary to have the ability to burn limited amounts of fossil fuel and TDF in the event that the supply of biomass fuel is not adequate. Therefore, each combustion unit will have the capability to burn biomass, biomass/TDF, very low sulfur fuel oil, and coal.

The cogeneration facility will use very low sulfur No. 2 fuel oil only to assist in startup or when the biomass fuel supply is not adequate. The No. 2 distillate fuel oil will have a maximum sulfur content of 0.05 percent and an equivalent maximum SO_2 emission rate of 0.05 lb/MMBtu.

Coal will be utilized only when the biomass fuel supply is not adequate. Coal fired in the facility will be low sulfur coal of approximately 0.7 percent sulfur content, with an equivalent maximum SO_2 emission rate of 1.2 lb/MMBtu.

TDF fuel is produced by chipping whole tires and removing the wire bead. The TDF will be generated at offsite locations and trucked to the Okeelanta Power facility.

Biomass, coal, and TDF will be burned on a vibrating grate located within each boiler. In this design, fuel combusts in suspension above the grate or on the grate surface. Both underfire and overfire air are supplied to enhance combustion efficiency. Ash is removed from the grate by periodically vibrating the grate. The boilers will be equipped with fuel oil burners designed to provide maximum combustion efficiency. An associated fuel storage tank and piping is also installed.

Fuel specifications for each fuel that may be utilized by the cogeneration facility are presented in Table 2-1. Based on these fuel specifications, maximum hourly firing rates are shown in Table 2-2 for each fuel when fired alone. The maximum heat input to each boiler due to biomass fuels will be 715 MMBtu/hr. Due to limitations of the fuel oil firing system, maximum heat input of No. 2 fuel oil will be limited to 490 MMBtu/hr. Maximum heat input due to coal will be 490 MMBtu/hr. Biomass and fossil fuels may also be burned in combination, not to exceed a total heat input of 715 MMBtu/hr per boiler. These maximum heat input rates are the same as the current permitted rates.

TDF will always be burned in combination with biomass. Maximum TDF input for each boiler will not exceed 25 percent on a weight basis (approximately 48 percent on a heat input basis), up to a maximum of 22,000 lb/hr (11.0 TPH and 340 MMBtu/hr). Biomass and TDF, burned in combination, will not exceed a total heat input of 715 MMBtu/hr.

On an annual basis, the total heat input to all three boilers will not exceed 11.50×10^{12} Btu/yr. Burning of No. 2 fuel oil will be limited to a total of 24.9 percent of the total annual heat input. Coal burning will be limited to 15.2 percent annually on a heat input basis, or to 70,167 TPY. Total fossil fuel burning will also be limited to 24.9 percent on a calendar quarter basis. TDF burning will be limited to 22 percent annually on a facility-wide basis (heat input basis), or to 81,613 TPY.

Four cases are shown in Table 2-2 to document the anticipated scenario of firing 100 percent biomass fuel and the potential cases of firing the maximum amount of fuel oil, coal, or TDF, with

the remaining heat input due to biomass. When only biomass is fired, the annual heat input requirement is 11.5 x 10^{12} Btu/yr for the entire facility (total all three boilers). Under the worst-case fuel oil burning case of firing No. 2 fuel oil at 24.9 percent of the total annual heat input, the annual heat input requirement for the entire facility becomes 10.83 x 10^{12} Btu/yr, due to the different heat transfer efficiency for No. 2 fuel oil versus biomass. Similarly, under the worst-case coal firing scenario of firing coal at 15.2 percent of the total annual heat input, the annual heat input requirement for the entire facility becomes 11.08 x 10^{12} Btu/yr. Under the worst-case TDF firing scenario of 22 percent of the total annual heat input (9.1 percent on a weight basis), the annual heat input requirement for the entire facility is 11.50 x 10^{12} Btu/yr.

2.2.3 FUEL HANDLING SYSTEM

The fuel handling system is currently designed to handle biomass only. The fuel systems are designed to feed reduced rates to the boilers to match boiler demand/use rates. Biomass fuel can be delivered to the facility and boilers in several ways. A flow diagram of the biomass fuel handling system is presented in Figure 2-4.

Under normal conditions during the grinding season, bagasse from the sugar mill is delivered directly to the boilers by a belt conveyor system. Overfeed from the system is conveyed to the biomass storage pile. Wood waste can be mixed with the bagasse in the biomass storage pile and be utilized during the grinding season as needed. The biomass is conveyed from the biomass storage pile to the boilers through the biomass handling system. These conveyor belts are enclosed, and the conveyor transfer points are partially or totally enclosed.

During the non-grinding season and at other times as necessary, wood waste will be delivered to the facility by truck. The trucks will discharge the material into a dump hopper. The truck dump hopper is open, but all subsequent conveyor belts are covered and transfer points will be partially enclosed. From the dump hoppers, the wood waste will be placed on a conveyor belt, pass through a screen and hogger, and then placed on another conveyor to the boiler building or to the biomass storage pile. If directed to the boilers, the material will be transferred from the conveyor belt to the fuel distribution conveyor and then to the boiler feeder bins.

If directed to the biomass storage pile, the biomass is transferred to the radial stacker, and then discharged onto the storage pile. From the storage pile, the biomass will be moved by mobile

equipment to the underpile reclaimer devices. Biomass from the reclaim system will be deposited on a conveyor and delivered to the boilers via the previously described system.

A baghouse dust collector is located at the boiler building in order to control particulate emissions potentially generated from the distribution conveyors and the transfer hoppers in the boiler house. A schematic of this system is shown in Figure 2-4 and Appendix B. The baghouse is a Sly model STJ-1916-10 designed for 30,000 acfm with an air-to-cloth ratio of 6.6:1. The baghouse is located outside of the boiler building at ground level.

In order to accommodate TDF firing, a feed hopper and conveyor will be constructed to feed TDF material onto the boiler feed conveyor (see Figure 2-4). The TDF will mix with biomass either on the boiler feed conveyor or in the boiler feed hopper. TDF will be stored in an existing bermed storage area at the site (see Figure 2-5). The TDF will be moved by frontend loader from the storage area to the feed hopper. A separate waste tire permit application is being prepared for the storage area, and will be submitted to FDEP.

Coal handling facilities will be constructed as needed prior to coal-firing. The coal handling system will consist of unloading, transfer, storage, reclaiming, and crushing operations. The railcar unloading system will utilize a bottom dumping type facility or equivalent. Coal will be delivered to the site via trains consisting of up to 75 railcars or by truck. Each railcar may hold up to 100 tons and each truck up to 25 tons.

2.2.4 ASH HANDLING SYSTEM

Ash generated from the combustion process will consist of bottom ash, siftings ash, and fly ash. Bottom ash is ash which falls off the front of the grate onto a submerged conveyor. Siftings ash is ash which drops down through the grate to the bottom of the boiler. Fly ash is ash captured downstream of the boiler in the boiler bank hoppers, air preheater hoppers, and the ESP.

Bottom ash generated in the boilers will be handled wet via a submerged drag-chain conveyor. This ash will be discharged to an enclosed storage pile and then removed by frontend loader. The frontend loader will be used to the load the ash into trucks for offsite disposal. Bottom ash will be handled in a wet state and therefore particulate emissions will be minimal.

The siftings ash collected at the bottom of the boiler will be periodically removed from the boiler by manual means on an as needed basis. This ash will be loaded into trucks by frontend loader for subsequent offsite disposal.

The fly ash collected downstream of the boiler will be conveyed via enclosed drag-chain or screw type conveyors to an ash silo (one silo for the facility). The ash will be conditioned with water prior to loading into trucks for offsite disposal. The silo will have a silo bin vent filter to control particulate matter emissions. A schematic of this system is presented in Appendix B. The design flow rate for the filter is 2,500 acfm, with an air-to-cloth ratio of 4:1.

2.2.5 FACILITY PLOT PLAN

A revised plot plan of the Okeelanta Power cogeneration facility is presented in Figure 2-5. The major structure at the site is the boiler building. This building has a height of approximately 121 feet above ground.

2.2.6 CONTROL EQUIPMENT INFORMATION

The cogeneration facility will utilize several emission control techniques to reduce emissions. A selective non-catalytic reduction (SNCR) system will be used to reduce NO_x emissions. SNCR is a system which injects urea into the boiler to reduce NO_x emissions. Further, the cogeneration boilers will minimize CO and VOC through proper furnace design and good combustion practices, including: control of combustion air and combustion temperature; distribution of fuel on the combustion grate; and better controls over the furnace loads and transient conditions. Particulate emissions will be controlled by an ESP. Mercury emissions will be controlled through a carbon injection system and the ESP system.

Electrostatic Precipitator

Design data for ESPs manufactured by Research-Cottrell were presented in the original application. However, the ESPs for the Okeelanta Power facility are manufactured by Flakt, Inc. The ESPs are equivalent to those described in the original application. A drawing of each ESP is provided in Appendix B. Design specifications for the ESP (one per boiler) are provided below:

Chambers = 1

Collecting Plate = 12.30 ft L x 39.37 ft H

Fields/Chamber = 3

Specific Collection Area = 200 ft^2/1,000 acfm (minimum)

Gas Velocity = <4 ft/s

Pressure Drop = less than 2.8 inches H_2O

Operating Temperature = 350°F

Ash Handling = Trough hopper with screw conveyor

Particulate removal efficiency: >99.2%

NO_x Control System

Generic information regarding the NO_x control system was presented in the original application. The final design employs a urea injection system manufactured by Nalco-Fueltech for NO_x control. The technology is a selective non-catalytic reduction process, which reduces NO_x emissions through chemical reaction with urea. In the process, urea is injected into the flue gas stream and reacts with nitrogen oxides to form nitrogen and water vapor.

The NO_x control system includes the following major components:

- Carrier air compressors.
- Urea tank.
- Urea/air flow controls.
- Control panel.
- Injection manifolds and injectors.
- Valves and instrumentation.

A single urea storage tank system is installed to supply urea to all three boilers. Urea for injection into the boilers is drawn from the tank. Two injection zones are used to provide injection at full and part load conditions. Each zone has six injectors. A schematic of the injector configuration is presented in Appendix B. Zone switching valves will direct the urea/carrier mixture to the appropriate injection zone.

Specifications for the urea injection system to meet the proposed NO_x emission rate of 0.15 lb/MMBtu when firing biomass, No. 2 fuel oil or TDF, and 0.17 lb/MMBtu when firing coal, are provided below (on a per boiler basis):

Urea injection rate - 65 gal/hr (max)

Ammonia Slip - Biomass, No. 2 fuel oil - 25 ppm (max)

- Coal, TDF - 65 ppm (max)

Mercury Control System

The mercury control system is supplied by ABB Environmental Systems and Chemco, Inc. A volumetric feeder with integral supply hopper meters activated carbon for injection at a point in the ductwork between the ESP and the ID fan. This promotes turbulent mixing and provide adequate residence time. A blower system transports the carbon to the injection point. The ESP will effectively capture the activated carbon particles along with the boiler fly ash (which also contains some carbon). The system is designed to inject up to 13 lb/hr of carbon into the flue gases of each boiler. A schematic of the carbon injection configuration is shown in Appendix B.

An elevation view of the carbon storage silo is presented in Appendix B. Carbon will be delivered to the facility by truck and pneumatically conveyed to the silo. The silo is divided into two compartments, one for each boiler. A dust collector sits atop the silo for control of dust emissions.

2.2.7 STACK PARAMETERS

Stack parameters for the cogeneration facility are presented in Table 2-3. Each of the three new boilers will be served by a separate stack. The top of each stack is 225 feet (ft) above ground. Each stack is 8.0 ft in diameter. The locations of the three stacks are shown in Figure 2-5.

2.2.8 DISTILLATE OIL FUEL TANK

A fuel oil tank is used to store the distillate fuel oil used for startup, shutdown and at other times as needed. The fuel oil tank has a capacity of 50,000 gallons, and is approximately 24 feet high with a 20 foot diameter. The tank is of fixed roof design.

2.2.9 SIMULTANEOUS OPERATION OF THE COGENERATION AND SUGAR MILL BOILERS

During the period from initial firing until commercial operation, the Okeelanta sugar mill boilers may operate simultaneously with the cogeneration boilers. Only biomass or No. 2 fuel oil will be fired in the cogeneration boilers during this period. In addition, if the cogeneration boilers

generate more than 910,836 lb/hr steam during this period, steam in excess of 910,836 lb/hr will be sent to the Okeelanta sugar mill, and the existing Okeelanta sugar mill boilers will reduce steam production by an equivalent amount. This period of simultaneous operation was not exceed a total duration of 12 months, and simultaneous operation during this 12-month period was not occur on more than 90 calendar days. However, Okeelanta Power has requested that this period of simultaneous operation be extended. This request was submitted in a letter from Okeelanta Power to FDEP dated April 17, 1996.

2.3 APPLICABILITY OF FEDERAL NEW SOURCE PERFORMANCE STANDARDS

2.3.1 NSPS FOR ELECTRIC UTILITY STEAM GENERATING UNITS

Based on the maximum heat input to the cogeneration facility boilers and the type of fuel burned, the boilers will be subject to the federal NSPS for electric utility steam generating units (40 CFR 60, Subpart Da). The Subpart Da standards are summarized in Table 2-4. For PM, the NSPS limits emissions to 0.03 lb/MMBtu when burning solid or liquid fuels. An opacity limit also applies, which limits opacity to 20 percent (6-minute average), except up to 27 percent opacity is allowed for one 6-minute period per hour.

The cogeneration units are classified as "resource recovery units", since combustion of non-fossil fuels will be more than 75 percent on a quarterly (calendar) heat input basis. For such units, the NSPS limits SO_2 emissions to 1.2 lb/MMBtu based on a 30-day rolling average. The proposed facility will comply with the NSPS for SO_2 by burning biomass, TDF in combination with biomass, low sulfur coal with a maximum sulfur content of approximately 0.7 percent, and very low sulfur distillate fuel oil with a maximum sulfur content of 0.05 percent. Equivalent maximum SO_2 emission rates are 1.2 lb/MMBtu for coal and TDF, and 0.05 lb/MMBtu for No. 2 fuel oil.

Biomass has an inherently low sulfur content (i.e., average of about 0.009 percent by weight). The maximum SO_2 emissions for biomass are 0.10 lb/MMBtu (24-hour average) and 0.02 lb/MMBtu, annual average.

TDF contains up to 1.2 percent sulfur, with potential SO_2 emissions of up to 1.6 lb/MMBtu. However, TDF will always be fired in combination with biomass, up to 25 percent on a weight basis. Under such conditions, published studies indicate significant SO_2 capture can be achieved,

due to the alkaline nature of wood fly ash, resulting in SO_2 emissions less than 1.2 lb/MMBtu. Supportive information for this conclusion is provided in Attachment E. Source testing while firing TDF/biomass will be used to demonstrate compliance with this limit.

The NSPS for NO_x is 0.30 lb/MMBtu heat input for fuel oil firing and 0.60 lb/MMBtu for solid fuels, including bagasse, wood, coal, and TDF. The proposed maximum NO_x emission rate for the facility for each fuel is lower than the NSPS. Compliance with the NO_x emissions limitation under Subpart Da is based on a 30-day rolling average.

Further requirements under 40 CFR 60 Subpart Da include emission monitoring. Continuous monitoring is required for opacity, NO_x, and carbon dioxide or oxygen.

2.3.2 NSPS FOR VOLATILE ORGANIC LIQUID STORAGE TANKS

The distillate fuel oil storage tank is subject to the requirements of federal NSPS for Volatile Organic Liquid (VOL) storage vessels. The NSPS applies to all tanks of greater than 15,000 gallon capacity which will store any VOL and which was constructed after July 23, 1984. The NSPS requirements for such a tank, contained in 40 CFR 60.116b, states that the owner/operator of the storage tank must maintain information relating to the dimensions and capacity of the storage tank. This information must be readily accessible and be kept for the life of the source. Okeelanta Power will comply with this requirement by maintaining tank specification information on file at the plant site.

2.3.3 NSPS FOR MUNICIPAL WASTE COMBUSTORS

EPA has recently promulgated revised NSPS for municipal waste combustors (MWCs). Three NSPS are potentially applicable to the Okeelanta cogeneration facility: Subpart Ea, Subpart Eb, and Subpart Cb. Subpart Ea applies to MWCs which commenced construction between December 21, 1989 and September 20, 1994; Subpart Eb applies to MWCs which commenced construction after September 20, 1994; and Subpart Cb applies to MWCs which commenced construction prior to September 20, 1994. Construction was commenced on the Okeelanta cogeneration facility between December 2, 1989 and September 20, 1994. Therefore, Subparts Ea and Cb are potentially applicable to the facility.

Although Okeelanta cogeneration intends to burn clean wood waste and TDF, the MWC regulations define municipal solid waste (MSW) to include yard waste and tires if obtained from household, commercial/retail and/or institutional sources. This broad definition would encompass materials potentially burned by Okeelanta. However, both Subparts Ea and Cb contain exemptions from the regulations for "co-fired combustors". A co-fired combustor is a unit which combusts MSW with non-MSW fuel and which is subject to a federally enforceable permit limiting the unit to less than 30 percent MSW (weight basis) as measured on a calendar quarter basis.

Okeelanta Power has previously requested that a permit condition be imposed on each unit at the facility that limits the amount of MSW combusted to less than 30 percent by weight on a calendar quarter basis (letter to FDEP dated November 9, 1995). Such a condition will insure that Okeelanta Power does not become subject to the NSPS for MWCs. This request was approved by FDEP on February 20, 1996, by means of an amendment to the construction and PSD permits.

2.4 EMISSIONS OF REGULATED POLLUTANTS FROM BOILERS

2.4.1 CRITERIA/DESIGNATED POLLUTANTS

The emission limits for all criteria/designated pollutants emitted by the Okeelanta Power boilers are presented in Table 2-5. The emission limits in terms of lb/MMBtu are the same as currently permitted, except in the case of SO_2 emissions due to wood waste firing. Initial data from Okeelanta Power's continuous SO_2 monitors indicates that SO_2 emissions due to wood waste firing are in the range of 0.02 to 0.04 lb/MMBtu. Based on analysis of the wood waste it is receiving, the sulfur content of the wood waste is higher than anticipated. Although significant SO2 capture in the alkaline fly ash is indicated, the current annual average SO_2 emission limit of 0.02 lb/MMBtu may not be achievable for wood waste. As a result, an annual average SO_2 emission limit of 0.05 lb/MMBtu is proposed for wood waste. The current 0.02 lb/MMBtu limit for bagasse is being retained. These limits, however, may be subject to revision based upon further testing.

Emission limits for tire-derived fuel (TDF) have been developed based on available TDF analysis and considering air pollution control equipment installed on the Okeelanta Power boilers. The TDF analysis and uncontrolled and controlled emission factors are presented in Table 2-6. The

proposed SO_2 emission limits for TDF are based on the sulfur content of TDF and expected sulfur capture in the alkaline fly ash when burning TDF in combination with biomass. If source testing indicates that the proposed limits cannot be met, the amount of TDF will be adjusted to comply with the overall annual SO_2 emission limit for the facility.

Maximum hourly emissions from each of the Okeelanta Power boilers for each fuel are presented in Table 2-7. Since TDF will always be burned in combination with biomass, with up to 25 percent TDF on a weight basis, emission rates are also presented for 25 percent TDF/75 percent biomass firing (weight basis) in Table 2-7. Emission factors and specific references are provided in Appendix A, Table A-1. As shown, the maximum hourly emissions occur when burning either biomass, biomass/TDF, or coal. The maximum hourly emissions are the same as currently permitted emissions.

The total annual emissions from all three boilers for each fuel scenario, including the proposed TDF firing, are presented in Table 2-8. These are based upon the same emission factors as presented in Table 2-5. The total maximum annual emission rate for each pollutant is based upon the worst-case fuel operating scenario and is identified in the far right column of Table 2-8. The maximum annual emissions for all of the criteria/designated pollutants are the same as currently permitted. Although maximum annual emissions of SO_2, beryllium, fluorides, and sulfuric acid mist are all lower than permitted due to the reduction in coal firing to 15.2 percent coal burning in any one year, it is requested that the current permit limits be retained to allow flexibility in fuel mix in the future.

In the case of mercury emissions, in order to meet the proposed mercury emission limit (in TPY) under certain fuel firing scenarios, the annual firing of bagasse, TDF, and/or coal may need to be limited due to the higher emission factors for bagasse, TDF, and coal compared to wood waste firing. The limits on firing of different fuels will depend upon the mix of fuels, actual emission factors, and the total heat input in any given year. Once operation of the facility commences, a test program will be undertaken by Okeelanta Power to establish actual mercury emission factors for each fuel. Based on the established emission factors, a fuel management plan will be implemented to insure the 0.0300 TPY mercury emission limit is not exceeded. The fuel management plan will be submitted to FDEP's West Palm Beach office and to the Palm Beach County Health Unit for review.

2.4.2 EMISSIONS OF HAZARDOUS/TOXIC AIR POLLUTANTS

Emission factors for hazardous air pollutants (HAPs) and other toxic air pollutants were obtained from various sources, as shown in Appendix A, Tables A-2 and A-3. These factors are generally the same as presented in the application for revision of Osceola Power's PSD permit in 1995. Many factors were available for wood waste firing as obtained from AP-42, NCASI technical bulletins, and other sources. Emission factors for bagasse were assumed to be the same as for wood waste firing. The HAP/toxic air pollutant emission factors are shown in Table 2-9, along with the maximum hourly emissions. Maximum annual HAP/toxic emissions are presented in Table 2-10.

The estimated HAP emissions also account for the possibility that up to 3.0 percent treated wood may be present in the wood-waste stream. Okeelanta Power will not knowingly accept treated wood. Nonetheless, the estimated emissions for arsenic, chromium, hexavalent chromium (Cr^{+6}) and copper are based on 3.0 percent treated wood in the wood-waste stream. Calculations and emission factors are presented in Tables 2-11 and 2-12. These emission factors are utilized in Tables 2-9 and 2-10.

Residual ammonia emissions are associated with use of a selective non-catalytic reduction (SNCR) system for NO_x emission control. For the Okeelanta Power boilers, a maximum of 25 ppm NH_3 slip is indicated by the SNCR vendor when burning biomass and No. 2 fuel oil, and 65 ppm for coal and TDF. The emission factors reflect these levels of ammonia slip.

2.4.3 TREATED WOOD BURNING

Although Okeelanta Power will not knowingly accept any treated wood for fuel at the facility, it is recognized that some small amount of treated wood may be present in the wood waste stream.

To minimize the potential for treated wood to be present in the wood waste stream, Okeelanta Power will not use any delivered wood fuel that contains an amount of treated or painted wood which would cause the wood waste to contain more than 70.7 ppm arsenic, 83.3 ppm chromium, or 62.8 ppm copper based upon a composite sample of the fuel. These concentrations are based upon a treated wood content of 3.0 percent. The derivation of these concentrations is based upon the concentrations of these substances present in both clean wood waste and treated wood (refer to Table 2-11).

The emission factors for arsenic, chromium and copper based upon 3.0 percent treated wood burning are presented in Tables 2-9 and 2-10. To estimate maximum short-term emissions, it is assumed that 100 percent wood waste is being fired, with 3.0 percent treated wood. To estimate maximum annual emission factors, it is expected that 33 percent of the biomass fuel will be wood waste, and 67 percent will be bagasse.

2.5 FUGITIVE EMISSIONS OF PARTICULATE MATTER

Sources of fugitive particulate emissions are identified based on the descriptions of the biomass, coal and ash handling and storage processes as presented in previous sections. Fugitive dust emissions from TDF handling are not expected, other than emissions from frontend loader movement in the TDF storage area. Emissions of fugitive dust can occur from four types of material handling operations: batch or continuous drop, crushing, wind erosion, and vehicular traffic. An updated emission inventory, identifying activities, uncontrolled emission factors, controls, activity factors, and annual fugitive dust emissions is presented in Table 2-13. These are in general the same factors and controls presented in the original application for the Okeelanta Power facility. Supportive information concerning wind erosion and vehicular traffic are presented in Appendix C.

For the biomass handling system the worst case flow of fuel was assumed, i.e., all of the biomass burned at the facility being delivered by truck. In reality, during the sugar processing season, the biomass fuel will be primarily bagasse from the sugar mill. The bagasse will be delivered directly to the boilers, bypassing the handling system (except for a small overfeed amount). Although many of the transfer points will be enclosed, in general no credit was taken for such control.

Also included in Table 2-13 are the dust collector baghouse at the boiler house, the ash silo bin vent filter, and the carbon silo bin vent filter. These sources will emit particulate matter.

2.6 DISTILLATE FUEL STORAGE TANK EMISSIONS

Annual throughput amounts for the storage tank were developed based on the maximum annual No. 2 fuel oil usage for the boilers of 19.5 million gal/yr (refer to Table 2-2). Physical tank parameters, maximum throughput amounts, and estimated storage tank emissions are presented in Appendix D. VOC emissions were estimated using the TANKS (Version 2.0) computer program.

This program was developed by the American Petroleum Institute (API) and uses equations from EPA's Compilation of Air Pollutant Emission Factors (AP-42), Section 12, to estimate breathing and working losses from fixed cone roof storage tanks. Printed output from the TANKS program is provided in Attachment D. As presented, estimated VOC emissions are 0.11 TPY from the storage tank.

2.7 COMPLIANCE DEMONSTRATION

Okeelanta Power will demonstrate compliance with the maximum heat input limits for the facility by monitoring fuel input rates and fuel characteristics on a periodic basis. In addition, steam production parameters (i.e., steam quantity, pressure, and temperature) and feedwater parameters will be continuously monitored to allow calculation of heat input by use of an assumed heat transfer efficiency for each fuel.

Continuous stack gas monitoring for opacity, NO_x, SO_2, CO, and CO_2 are installed on each boiler's flue gas stream. An oxygen monitor is used to continuously maintain the air/fuel ratio at an optimum.

In addition, per the zoning conditions recommended by Palm Beach County and agreed to by Okeelanta Power, stack testing will be performed for PM, NO_x, CO, SO_2, lead, mercury, and VOC every 6 months during the first 2 years of operation. If these tests show compliance with the permitted emission limits, the stack testing frequency will be reduced to that typically required by FDEP (i.e., once every year or once every 5 years, depending upon pollutant).

The heat input to the boilers will be measured by the continuous measurement of the fuel input to each boiler. Conveyor belts supplying fuel to the boilers will be fitted with belt scales which will measure the weight of biomass, coal, and TDF and provide an integrated daily total. Separate metering devices will be provided for biomass, coal, and TDF so that the weight of these fuels can be determined even when burning a combination of fuels. Utilizing fuel quality data (i.e., heating value), the heat input to each boiler will be calculated.

Okeelanta Power has determined that the most accurate, cost-effective method to determine SO_2 emissions from the facility is to install a continuous SO_2 emission monitor (that meets EPA reference method specifications). This will allow the direct determination of hourly SO_2

emissions on a continuous basis for determining compliance with the 24-hour average and annual average emission limits for the facility.

Okeelanta Power has designed and implemented a management and testing program for the wood waste and other biomass materials delivered to the facility for fuel. The program is designed to keep painted and chemically treated wood, household garbage, toxic or hazardous non-biomass and non-combustible waste material from being burned at the plant. This program has been submitted to the FDEP's Bureau of Air Regulation for review and approval. The program provides for the routine inspection and/or testing of the fuel at the originating wood yard sites as well as at the cogeneration site, to ensure that the quantities of painted or chemically treated wood in the fuel are minimized. Okeelanta Power will perform a daily visual inspection of any wood waste or similar vegetative matter that has been delivered to the facility for use as fuel. Any shipment observed to contain prohibited materials will not be accepted unless such materials can be readily segregated and removed from the wood waste and vegetative matter. Okeelanta Power will not use any delivered fuel that contains an amount of treated or painted wood which would cause the wood waste to contain more than 70.7 parts per million (ppm) arsenic, 83.3 ppm chromium, or 62.8 ppm copper based on analysis of a composite sample of the fuel.

Table 2-1. Design Fuel Specifications[a] for the Okeelanta Power Cogeneration Facility

Parameter	Biomass		No. 2 Fuel Oil	Bituminous Coal	Tire-Derived Fuel
	Bagasse	Wood Waste			
Specific Gravity	—	—	0.865	—	—
Heating Value (Btu/lb)	4,250	5,500	19,175	12,000	15,500
Heating Value (Btu/gal)	—	—	138,000	—	—
Ultimate Analysis (dry basis percentage):					
Carbon	48.93	49.58	87.01	82.96	84.4
Hydrogen	6.14	5.87	12.47	5.41	7.1
Nitrogen	0.25	0.40	0.02	1.58	0.24
Oxygen	43.84	40.90	0.00	5.72	2.18
Sulfur	0.009	0.009	0.50	0.67	1.23
Ash/Inorganic	0.83	3.24	0.00	3.66	4.9
Moisture	52	37	—	4.5	0.6

[a] Represents average fuel characteristics.

Sources: Okeelanta Corp., 1992.
Combustion Engineering, 1981.
Waste Recovery, Inc., 1986.

Table 2-2. Maximum Fuel Usage and Heat Input Rates, Okeelanta Power Limited Partnership

Fuel	Heat Input	Heat Transfer Efficiency (%)	Heat Output	Fuel Firing Rate
		Maximum Short-Term (per boiler)		
Biomass: Bagasse	715 MMBtu/hr	68	486 MMBtu/hr	168,235 lb/hr^a
Wood Waste	715 MMBtu/hr	68	486 MMBtu/hr	130,000 lb/hr^b
No. 2 Oil	490 MMBtu/hr	85	417 MMBtu/hr	3,551 gal/hr
Coal	490 MMBtu/hr	85	417 MMBtu/hr	40,833 lb/hr
Tire-Derived Fuel	340 MMBtu/hr	68	231 MMBtu/hr	21,935 lb/hr
		Annual Average (total all three boilers)		
NORMAL OPERATIONS				
Biomass	1.150E+13 Btu/yr	68	7.820E+12 Btu/yr	1,352,941 TPY^a
No. 2 Oil	0 Btu/yr	85	0 Btu/yr	0 gal/yr
Coal	0 Btu/yr	85	0 Btu/yr	0 TPY
Tire-Derived Fuel	0 Btu/yr	68	0 Btu/yr	0 TPY
TOTAL	1.150E+13 Btu/yr		7.820E+12 Btu/yr	
24.9% OIL FIRING				
Biomass	8.130E+12 Btu/yr	68	5.528E+12 Btu/yr	956,471 TPY
No. 2 Oil	2.696E+12 Btu/yr	85	2.291E+12 Btu/yr	19,533,086 gal/yr
Coal	0 Btu/yr	85	0 Btu/yr	0 TPY
Tire-Derived Fuel	0 Btu/yr	68	0 Btu/yr	0 TPY
TOTAL	1.083E+13 Btu/yr		7.820E+12 Btu/yr	
15.2% COAL FIRING				
Biomass	9.395E+12 Btu/yr	68	6.389E+12 Btu/yr	1,105,294 TPY
No. 2 Oil	0 Btu/yr	85	0 Btu/yr	0 gal/yr
Coal	1.684E+12 Btu/yr	85	1.431E+12 Btu/yr	70,167 TPY
Tire-Derived Fuel	0 Btu/yr	68	0 Btu/yr	0 TPY
TOTAL	1.108E+13 Btu/yr		7.820E+12 Btu/yr	
22% TIRE-DERIVED FUEL FIRING (9.1% TDF, weight basis)				
Biomass	8.970E+12 Btu/yr	68	6.100E+12 Btu/yr	815,455 TPY^b
No. 2 Oil	0 Btu/yr	85	0 Btu/yr	0 gal/yr
Coal	0 Btu/yr	85	0 Btu/yr	0 TPY
Tire-Derived Fuel	2.530E+12 Btu/yr	68	1.720E+12 Btu/yr	81,613 TPY
TOTAL	1.150E+13 Btu/yr		7.820E+12 Btu/yr	

Note: Total heat output required = 486 MMBtu/hr each boiler, and
7.820E+12 Btu/yr total all boilers.
Fuels may be burned in combination, not to exceed indicated total heat outputs.

^a Based on heating value for bagasse of 4,250 Btu/lb, wet basis.
^b Based on heating value for wood waste of 5,500 Btu/lb.

Table 2-3. Stack Parameters for Okeelanta Power Cogeneration Facility

	Boilers (each)				Boiler House Baghouse	Fly Ash Silo Filter	Carbon Silo Filter
	Biomass	Oil	Coal	TDF/Biomass			
Heat Input Rate (MMBtu/hr)	715	490	490	715	—	—	—
Stack Height (ft)	225	225	225	225	10	110	24
Stack Diam. (ft)	8.0	8.0	8.0	8.0	4.0 x 4.0	2.0 x 2.0	2.0 x 2.0
Gas Flowrate (acfm)	246,000 - 326,000	140,000 - 150,000	211,000 - 227,000	246,000 - 326,000	30,000	1,000	1,000
Gas Velocity (ft/s)	81.6 -108.1	46.4 - 49.7	70.0 - 75.3	81.6 - 108.1	31.3	4.2	4.2
Gas Temperature (°F)	295 - 340	295 - 350	295 - 350	295 - 350	80	100	80

Note: acfm = actual cubic feet per minute.
°F = degrees Fahrenheit.
ft = feet.
ft/s = feet per second.

Table 2-4. Federal NSPS for Electric Utility Steam-Generating Units Applicable to the Okeelanta Power Cogeneration Facility

Pollutant	Emission Limitation
Particulate Matter	Liquid fuel--0.03 lb/10^6 Btu Solid fuel--0.03 lb/10^6 Btu
Visible Emissions	20% opacity (6-minute average), except up to 27% opacity is allowed for one 6-minute period per hour
Sulfur Dioxide[a]	Resource Recovery Units--1.20 lb/10^6 Btu
Nitrogen Oxides[a]	Fuel Oil--0.30 lb/10^6 Btu Solid fuels: Bituminous coal--0.60 lb/10^6 Btu All other fuels--0.60 lb/10^6 Btu

Note: Emission limits for PM, NO_x, and SO_2 do not apply during periods of startup, shutdown, or malfunction.

[a] Compliance determined on a 30-day, rolling average basis.

Source: 40 CFR 60, Subpart Da.

Table 2-5. Current and Proposed Emission Limits for the Okeelanta Power Facility

Pollutant	Emission Limit[d] (per boiler)								Total All Three Boilers[e] (TPY)
	Biomass		No. 2 Oil		Bit. Coal		Tire-Derived Fuel		
	(lb/MMBtu)	(lb/hr)	(lb/MMBtu)	(lb/hr)	(lb/MMBtu)	(lb/hr)	(lb/MMBtu)	(lb/hr)	
Particulate (TSP)	0.03	21.5	0.03	14.7	0.03	14.7	0.03	10.2	172.5
Particulate (PM10)	0.03	21.5	0.03	14.7	0.03	14.7	0.03	10.2	172.5
Sulfur Dioxide									
3-Hour Average	—	—	—	—	1.2	588.0	—	—	—
24-Hour Average	0.10	71.5	0.05	24.5	1.2	588.0	1.2	408.0	—
Annual Average									
Bagasse	0.02[a,b]	—	—	—	1.2[a]	—	0.8[a]	—	1,154.3[f]
Woodwaste	0.05[c]								
Nitrogen Oxides									
Annual Average	0.15[a]	107.3[a]	0.15[a]	73.5[a]	0.17[a]	83.3[a]	0.15[a]	51.0[a]	862.5
Carbon Monoxide									
8-Hour Average	0.35	250.3	0.2	98.0	0.2	98.0	0.35	119.0	2,012.5
Volatile Organic Compounds	0.06	42.9	0.03	14.7	0.03	14.7	0.06	20.4	345.0
Lead	2.5×10^{-5}	0.0179	8.9×10^{-7}	0.00044	6.4×10^{-5}	0.031	4.2×10^{-5}	0.0143	0.17
Mercury									
Bagasse	6.3×10^{-6} [b]	0.0045[b]	2.4×10^{-6}	0.00118	8.4×10^{-6}	0.0041	6.5×10^{-6}	0.0022	0.0300
Wood Waste	0.29×10^{-6} [c]	0.00021[c]							
Beryllium	—	—	3.5×10^{-7}	0.00017	5.9×10^{-6}	0.0029	4.5×10^{-7}	1.5×10^{-4}	0.0052
Fluorides	—	—	6.3×10^{-6}	0.0031	0.024	11.8	6.5×10^{-4}	0.22	21.2
Sulfuric Acid Mist	0.003	2.15	0.0015	0.74	0.036	17.6	0.010	3.40	34.6

[a] Compliance based on 30-day rolling average, per 40 CFR 60, Subpart Da.
[b] Emission limit for bagasse. Subject to revision after testing pursuant to Specific Conditions Nos. 24 and 25.
[c] Emission limit for wood waste. subject to revision after testing pursuant to Specific Conditions Nos. 24 and 25.
[d] The emission limit shall be prorated when more than one type of fuel is burned in a boiler.
[e] Limit heat input from No. 2 fuel to less than 25 percent of total heat input on a calendar quarter basis, coal to 70,167 tons and TDF to 81,613 TPY during any 12-month period, and the combination of oil and coal to less than 25 percent of the total heat input on a calendar quarter basis.
[f] Compliance based on a 12-month rolling average.

Table 2-6 . Summary of Tire Derived Fuel Analysis and Potential Emissions

Parameter	Reference 1 Analysis	Reference 1 lb/MMBtu	Reference 2 Analysis	Reference 2 lb/MMBtu	Highest Uncontrolled Emission Rate (lb/MMBtu)	ESP Control Eff. (%)	Highest Controlled Emission Rate (lb/MMBtu)	
	(% by wt.)		(% by wt.)					
Carbon	83.87	--	--	--	--	--	--	
Hydrogen	7.09	--	--	--	--	--	--	
Oxygen	2.17	--	--	--	--	--	--	
Nitrogen	0.24	--	--	--	--	--	--	
Sulfur	1.23	0.79	--	--	1.59 (SO2)	--	1.2	24-hr^b
						--	0.80	Annual ^b
Ash	4.78	--	--	--	--	--	--	
Moisture	0.62	--	--	--	--	--	--	
Heating Value (Btu/lb)	15,500	--	15,500	--	--	--	--	
	(ppm)		(ppm)					
Aluminum			900	5.81E-02	5.81E-02	99	5.81E-04	
Antimony	--	--	0.01	6.45E-07	6.45E-07	99	6.45E-09	
Arsenic	--	--	7	4.52E-04	4.52E-04	99	4.52E-06	
Barium	--	--	12	7.74E-04	7.74E-04	99	7.74E-06	
Beryllium	--	--	0.7	4.52E-05	4.52E-05	99	4.52E-07	
Cadmium	6	3.87E-04	6	3.87E-04	3.87E-04	99	3.87E-06	
Chromium	97	6.26E-03	100	6.45E-03	6.45E-03	99	6.45E-05	
Chlorine	1,490	9.61E-02	--	--	9.61E-02	0	9.61E-02	a
Cobalt	--	--	500	3.23E-02	3.23E-02	99	3.23E-04	
Copper	--	--	950	6.13E-02	6.13E-02	99	6.13E-04	
Fluoride	10	6.45E-04	--	--	6.45E-04	0	6.45E-04	
Lead	65	4.19E-03	--	--	4.19E-03	99	4.19E-05	
Manganese	--	--	1,000	6.45E-02	6.45E-02	99	6.45E-04	
Mercury	--	--	0.1	6.45E-06	6.45E-06	0	6.45E-06	
Molybdenum	--	--	70	4.52E-03	4.52E-03	99	4.52E-05	
Nickel	--	--	60	3.87E-03	3.87E-03	99	3.87E-05	
Selenium	--	--	105	6.77E-03	6.77E-03	99	6.77E-05	
Tin	--	--	0.01	6.45E-07	6.45E-07	99	6.45E-09	
Uranium	--	--	0.04	2.58E-06	2.58E-06	99	2.58E-08	
Vanadium (ppm)	--	--	1	6.45E-05	6.45E-05	99	6.45E-07	
Zinc (ppm)	15,200	9.81E-01	13,000	8.39E-01	9.81E-01	99	9.81E-03	

a Assumed to be emitted as hydrogen chloride (HCl).
b Based on suflur capture achievable due to alkaline fly ash.
References:

1. Waste Recovery, Inc. Bulletin 20.20.1C Dec. 1986.
2. Burning Tires for Fuel and Tire Pyrolysis: Air Implications. EPA-450/3-91-024.

Table 2-7. Maximum Hourly Emissions for Okeelanta Power Cogeneration Facility (per boiler)

Regulated Pollutant	Biomass			No. 2 Fuel Oil			Coal			Tire-Derived Fuel			25%TDF/ 75% Biomass^d	Maximum Emissions for any fuel
	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Maximum Emissions (lb/hr)	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Maximum Emissions (lb/hr)	(lb/hr)	(lb/hr)
Particulate (TSP)	0.03	715	21.5	0.03	490	14.7	0.03	490	14.7	0.03	340	10.2	21.5	21.5
Particulate (PM10)	0.03	715	21.5	0.03	490	14.7	0.03	490	14.7	0.03	340	10.2	21.5	21.5
Sulfur dioxide^c	0.10	715	71.5	0.05	490	24.5	1.2	490	588.0	1.2	340	408.0	445.5	588.0
Nitrogen oxides^a	0.15	715	107.3	0.15	490	73.5	0.17	490	83.3	0.15	340	51.0	107.3	107.3
Carbon monoxide^b	0.35	715	250.3	0.2	490	98.0	0.2	490	98.0	0.35	340	119.0	250.3	250.3
Volatile organic compds.	0.06	715	42.9	0.03	490	14.7	0.03	490	14.7	0.06	340	20.4	42.9	42.9
Lead	2.5E-05	715	0.0179	8.9E-07	490	0.00044	6.4E-05	490	0.031	4.2E-05	340	0.0143	0.0237	0.0314
Mercury - Bagasse	6.3E-06	715	0.0045	2.4E-06	490	0.00118	8.4E-06	490	0.0041	6.5E-06	340	0.0022	0.0046	0.0046
- Wood Waste	2.9E-07	715	2.07E-04											
Beryllium	–	715	–	3.5E-07	490	0.00017	5.9E-06	490	0.0029	4.5E-07	340	1.5E-04	0.00015	0.0029
Fluorides	–	715	–	6.3E-06	490	0.0031	0.024	490	11.8	6.5E-04	340	0.22	0.22	11.8
Sulfuric acid mist^c	0.003	715	2.15	0.0015	490	0.74	0.036	490	17.64	0.010	340	3.40	4.53	17.64
Total reduced sulfur	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Asbestos	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Vinyl Chloride	–	–	–	–	–	–	–	–	–	–	–	–	–	–

^a 30-day rolling average.
^b 8-hour average.
^c 24-hour average.
^d Weight basis: 340 MMBtu/hr TDF and 375 MMBtu/hr biomass.

Table 2-8. Maximum Annual Emissions for Okeelanta Power Cogeneration Facility (total all boilers)

Regulated Pollutant	Biomass Emission Factor (lb/MMBtu)	Biomass Activity Factor (E12 Btu/yr)	Biomass Annual Emissions (TPY)	Alternate Fuel Emission Factor (lb/MMBtu)	Alternate Fuel Activity Factor (E12 Btu/yr)	Alternate Fuel Annual Emissions (TPY)	Total Annual Emissions (TPY)
			100% Biomass				
Particulate (TSP)	0.03	11.500	172.50	--	--	--	172.50 a
Particulate (PM10)	0.03	11.500	172.50	--	--	--	172.50 a
Sulfur dioxide - Bagasse	0.02	7.705 b	77.05	--	--	--	171.93
- Wood Waste	0.05	3.795 c	94.88				
Nitrogen oxides	0.15	11.500	862.50	--	--	--	862.50 a
Carbon monoxide	0.35	11.500	2,012.50	--	--	--	2,012.50 a
VOC	0.06	11.500	345.00	--	--	--	345.00 a
Lead	2.5E-05	11.500	0.144	--	--	--	0.144
Mercury - Bagasse	6.30E-06	7.705 b	0.0243	--	--	--	0.0248
- Wood Waste	2.90E-07	3.795 c	0.00055				
Beryllium	--	--	--	--	--	--	--
Fluorides	--	--	--	--	--	--	--
Sulfuric acid mist	0.0006	11.500	3.45	--	--	--	3.45
			75.1% Biomass / 24.9% Fuel Oil				
Particulate (TSP)	0.03	8.130	121.95	0.03	2.696	40.44	162.39
Particulate (PM10)	0.03	8.130	121.95	0.03	2.696	40.44	162.39
Sulfur dioxide - Bagasse	0.02	5.447 b	54.47	0.05	2.696	67.40	188.94
- Wood Waste	0.05	2.683 c	67.07				
Nitrogen oxides	0.15	8.130	609.75	0.15	2.696	202.20	811.95
Carbon monoxide	0.35	8.130	1,422.75	0.2	2.696	269.60	1,692.35
VOC	0.06	8.130	243.90	0.03	2.696	40.44	284.34
Lead	2.5E-05	8.130	0.102	8.9E-07	2.696	0.0012	0.103
Mercury - Bagasse	6.30E-06	5.447 b	0.0172	2.4E-06	2.696	0.0032	0.021
- Wood Waste	2.90E-07	2.683 c	0.00039				
Beryllium	--	--	--	3.5E-07	2.696	0.00047	0.00047
Fluorides	--	--	--	6.27E-06	2.696	0.0085	0.0085
Sulfuric acid mist	0.0006	8.130	2.44	0.0015	2.696	2.02	4.46
			84.8% Biomass / 15.2% Coal				
Particulate (TSP)	0.03	9.395	140.93	0.03	1.684	25.26	166.19
Particulate (PM10)	0.03	9.395	140.93	0.03	1.684	25.26	166.19
Sulfur dioxide - Bagasse	0.02	6.295 b	62.95	1.2	1.684	1,010.40	1,150.86 a
- Wood Waste	0.05	3.100 c	77.51				
Nitrogen oxides	0.15	9.395	704.63	0.17	1.684	143.14	847.77
Carbon monoxide	0.35	9.395	1,644.13	0.2	1.684	168.40	1,812.53
VOC	0.06	9.395	281.85	0.03	1.684	25.26	307.11
Lead	2.5E-05	9.395	0.117	6.4E-05	1.684	0.0539	0.1713 a
Mercury - Bagasse	6.30E-06	6.295 b	0.0198	8.4E-06	1.684	0.0071	0.0274
- Wood Waste	2.90E-07	3.100 c	0.00045				
Beryllium	--	--	--	5.9E-06	1.684	0.0050	0.0050 a
Fluorides	--	--	--	0.024	1.684	20.21	20.21 a
Sulfuric acid mist	0.0006	9.395	2.82	0.036	1.684	30.31	33.13 a
			78% Biomass / 22% Tire-Derived Fuel (9.1% TDF, weight basis)				
Particulate (TSP)	0.03	8.970	134.55	0.03	2.530	37.95	172.50 a
Particulate (PM10)	0.03	8.970	134.55	0.03	2.530	37.95	172.50 a
Sulfur dioxide - Bagasse	0.02	6.010 b	60.10	0.8	2.530	1,012.00	1,146.10
- Wood Waste	0.05	2.960 c	74.00				
Nitrogen oxides	0.15	8.970	672.75	0.15	2.530	189.75	862.50
Carbon monoxide	0.35	8.970	1,569.75	0.35	2.530	442.75	2,012.50 a
VOC	0.06	8.970	269.10	0.06	2.530	75.90	345.00 a
Lead	2.5E-05	8.970	0.112	4.2E-05	2.530	0.0531	0.1653
Mercury - Bagasse	6.30E-06	6.010 b	0.0189	6.5E-06	2.530	0.0082	0.0300 a,d
- Wood Waste	2.90E-07	2.960 c	0.00043				
Beryllium	--	--	--	4.5E-07	2.530	0.00057	0.00057
Fluorides	--	--	--	6.5E-04	2.530	0.82	0.8223
Sulfuric acid mist	0.0006	8.970	2.69	0.0069	2.530	8.73	11.42

a Denotes maximum annual emissions for any fuel scenario.
b Represents 67% of total heat input.
c Represents 33% of total heat input.
d Maximum annual mercury emissions will be limited to 0.0300 TPY. Refer to text for details.

Note: No emissions of total reduced sulfur, asbestos, or vinyl chloride are expected.

Table 2-9. Maximum Hourly Emissions of Hazardous/ Toxic Air Pollutants for Okeelanta Power Cogeneration Facility (per boiler).

Hazardous Air Pollutant	Biomass			No. 2 Fuel Oil			Coal			Tire-Derived Fuel			25%TDF/ 75% Biomass (a)	Max. Hourly Emissions For Any Fuel per Boiler	Max. Hourly Total All Three Boilers
	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Hourly Emissions (lb/hr)	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Hourly Emissions (lb/hr)	Emission Factor (lb/MMBtu)	Activity Factor (MMBtu/hr)	Hourly Emissions (lb/hr)	Emission Factor (lb/MMBtu)	Activity Factor (MMBTU/HR)	Hourly Emissions (lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
Hazardous Air Pollutants															
Acetaldehyde	7.8E-04	715	0.56	–	490	–	–	490	–	–	340	–	0.29	0.558	1.673
Acetophenone	3.7E-06	715	0.00	–	490	–	–	490	–	–	340	–	0.00139	0.00265	0.00794
Acrolein	6.5E-05	715	0.0465	–	490	–	–	490	–	–	340	–	0.024	0.0465	0.139
Antimony	UD	715	–	2.4E-07	490	1.2E-04	3.49E-05	490	0.017	6.45E-09	340	2.2E-06	2.19E-06	0.0171	0.051
Arsenic	1.66E-04	715	0.1187	4.2E-08	490	2.1E-05	5.4E-06	490	0.0026	4.52E-06	340	1.5E-03	0.064	0.119	0.356
Benzene	1.3E-03	715	0.9	–	490	–	–	490	–	–	340	–	0.49	0.930	2.789
Beryllium	–	–	–	3.5E-07	490	1.7E-04	5.9E-06	490	2.9E-03	4.50E-07	340	1.5E-04	0.00015	0.00289	0.00867
Cadmium	8.4E-07	715	6.01E-04	1.1E-07	490	5.4E-05	4.3E-07	490	2.1E-04	3.87E-06	340	1.3E-03	0.00163	0.00163	0.00489
Carbon Disulfide	1.3E-04	715	0.0930	–	490	–	–	490	–	–	340	–	0.049	0.093	0.279
Carbon Tetrachloride	6.0E-06	715	4.3E-03	–	490	–	–	490	–	–	340	–	0.0023	0.0043	0.0129
Chlorine	9.2E-04	715	6.6E-01	–	490	–	–	490	–	–	340		0.35	0.658	1.973
Chloroform	4.7E-05	715	0.034	–	490	–	–	490	–	–	340	–	0.018	0.034	0.101
Chromium	1.57E-04	715	0.112	6.7E-07	490	3.3E-04	1.66E-05	490	0.0081	6.45E-06	340	0.0022	0.061	0.112	0.337
Chromium +6	3.14E-05	715	0.022	1.3E-07	490	6.4E-05	3.1E-06	490	0.0015	–	340	–	0.012	0.0225	0.0674
Cobalt	1.5E-07	715	1.07E-04	1.2E-05	490	0.0059	7.2E-05	490	0.035	3.23E-04	340	0.110	0.11	0.1099	0.3296
Cumene	1.8E-05	715	0.0129	–	490	–	–	490	–	–	340	–	0.007	0.0129	0.0386
Di - n - butyl Phthalate	5.8E-05	715	0.041	–	490	–	–	490	–	–	340	–	0.022	0.0415	0.124
Ethyl Benzene	3.9E-06	715	0.0028	–	490	–	–	490	–	–	340	–	0.0015	0.0028	0.00837
Formaldehyde	1.3E-03	715	0.93	4.05E-04	490	0.20	2.2E-04	490	0.11	4.05E-04	340	0.138	0.83	0.93	2.79
n Hexane	5.5E-04	715	0.393	–	490	–	–	490	–	–	340	–	0.21	0.39	1.18
Hydrogen Chloride	5.8E-04	715	0.40	6.37E-04	490	0.31	7.9E-02	490	38.71	9.81E-02	340	32.67	32.88	38.71	116.13
Lead	2.5E-05	715	0.0179	8.9E-07	490	0.0004	5.1E-06	490	0.0025	4.19E-05	340	0.0142	0.024	0.0236	0.071
Manganese	9.5E-05	715	0.068	1.4E-07	490	6.9E-05	3.1E-07	490	1.5E-04	6.45E-04	340	0.22	0.25	0.25	0.765
Mercury - Bagasse	6.3E-06	715	0.0045	2.4E-06	490	0.0012	8.4E-06	490	0.0041	6.45E-06	340	0.0022	0.0046	0.0048	0.0137
-Wood Waste	2.9E-07	715	2.07E-04												
Methanol	1.5E-03	715	1.0725	–	490	–	–	490	–	–	340	–	0.56	1.07	3.22
Methyl Ethyl Ketone	1.2E-05	715	0.0086	–	490	–	–	490	–	–	340	–	0.0045	0.0086	0.026
Methyl Isobutyl Ketone	8.6E-04	715	0.61	–	490	–	–	490	–	–	340	–	0.32	0.61	1.845
Methylene Chloride	1.5E-03	715	1.07	–	490	–	–	490	–	–	340	–	0.56	1.07	3.218
Napthalene	5.9E-04	715	0.42	–	490	–	–	490	–	–	340	–	0.22	0.42	1.266
Nickel	6.3E-06	715	0.005	1.70E-06	490	8.3E-04	1.0E-05	490	0.0049	3.87E-05	340	0.0132	0.016	0.0155	0.0466
Phenols	4.1E-05	715	0.0293	–	490	–	–	490	–	–	340	–	0.015	0.029	0.088
Phosphorus	1.6E-06	715	0.0011	5.81E-05	490	0.028	8.6E-04	490	0.42	–	340	–	0.0006	0.42	1.264
POM (Polycyclic Org. Matte	2.2E-07	715	1.57E-04	8.4E-06	490	0.0041	–	490	–	–	340	–	0.0001	0.0041	0.0123
Selenium	3.8E-06	715	0.0027	3.8E-07	490	1.9E-04	5.34E-05	490	0.026	6.77E-05	340	0.023	0.024	0.026	0.0785
Styrene	1.5E-05	715	0.0107	–	490	–	–	490	–	–	340	–	0.0056	0.011	0.0322
2, 3, 7, 8 -TCDD (dioxin)	6.0E-12	715	4.29E-09	–	490	–	–	490	–	–	340	–	2.25E-09	4.3E-09	1.29E-08
Toluene	9.0E-05	715	0.064	–	490	–	–	490	–	–	340	–	0.034	0.064	0.193
1, 1, 1 Trichloroethane	1.7E-04	715	0.12	–	490	–	–	490	–	–	340	–	0.064	0.122	0.365
Trichloroethylene	7.8E-06	715	0.005	–	490	–	–	490	–	–	340	–	0.0029	0.0054	0.0163
m&p Xylene	7.8E-06	715	0.0056	–	490	–	–	490	–	–	340	–	0.0029	0.0056	0.0167
o Xylene	2.6E-06	715	0.0019	–	490	–	–	490	–	–	340	–	0.0010	0.00186	0.00558
Total HAPs =			7.89			0.55			39.34			33.20	37.34		
112 (r) (non-HAPs)															
Ammonia	1.48E-02	715	10.58	1.48E-02	490	7.25	4.8E-02	490	23.52	4.80E-02	340	16.32	21.87	23.52	70.56
Bromine	4.59E-05	715	0.033	6.97E-07	490	3.4E-04	7.9E-04	490	0.39	–	340	–	0.017	0.39	1.16
Fluorine (as fluorides)	–	–	–	6.27E-06	490	0.0031	0.024	490	11.76	6.45E-04	340	0.22	0.22	11.78	35.28
Sulfuric acid	0.003	715	2.15	1.50E-03	490	0.74	0.036	490	17.64	0.01	340	3.40	4.53	17.64	52.92
Other Air Toxics															
Acetone	3.80E-04	715	0.2717	–	490	–	–	490	–	–	340	–	0.14	0.272	0.815
Barium	5.20E-06	715	0.0037	6.69E-07	490	3.3E-04	7.44E-05	490	0.036	7.74E-06	340	0.0026	0.005	0.036	0.109
Benzo(a)anthracene	7.53E-07	715	5.38E-04	–	490	–	–	490	–	–	340	–	0.00028	0.00054	0.0016
Benzo(a)pyrene	3.53E-08	715	2.52E-05	–	490	–	–	490	–	–	340	–	1.32E-05	2.52E-05	7.57E-05
Chrysene	3.53E-05	715	0.025	–	490	–	–	490	–	–	340	–	0.013	0.025	0.078
Copper	1.48E-04	715	0.11	4.20E-05	490	0.021	–	490	–	6.13E-04	340	0.21	0.26	0.26	0.792
Indium	1.27E-04	715	0.091	–	490	–	–	490	–	–	340	–	0.046	0.091	0.272
Iodine	2.12E-06	715	0.0015	–	490	–	–	490	–	–	340	–	0.0008	0.0015	0.005
Isopropanol	9.20E-03	715	6.58	–	490	–	–	490	–	–	340	–	3.45	6.58	19.73
Molybdenum	2.24E-07	715	1.60E-04	4.88E-07	490	2.4E-04	8.83E-06	490	0.0043	4.52E-05	340	0.0154	0.015	0.0155	0.046
PAH	5.90E-10	715	4.22E-07	–	490	–	–	490	–	–	340	–	2.21E-07	4.22E-07	1.27E-06
Silver	1.40E-06	715	0.0010	–	490	–	–	490	–	–	340	–	0.0005	0.0010	0.0030
Thallium	UD	715	–	–	490	–	–	490	–	–	340	–	–	–	–
Tin	3.65E-08	715	2.61E-05	3.30E-06	490	0.0016	8.83E-06	490	0.0043	6.45E-09	340	2.2E-06	1.59E-05	0.0043	0.013
Tungsten	1.29E-08	715	9.22E-06	–	490	–	–	490	–	–	340	–	4.84E-06	9.2E-06	2.77E-05
Uranium	–	715	–	–	490	–	–	490	–	2.56E-06	340	6.6E-06	6.77E-06	6.6E-06	2.63E-05
Vanadium	1.41E-07	715	1.01E-04	–	490	–	–	490	–	6.45E-07	340	2.2E-04	2.72E-04	2.7E-04	8.17E-04
Yttrium	6.59E-08	715	4.71E-05	–	490	–	–	490	–	–	340	–	2.47E-05	4.7E-05	1.41E-04
Zinc	4.24E-04	715	0.30	6.69E-06	490	0.0033	3.49E-04	490	0.17	9.81E-03	340	3.34	3.49	3.49	10.48
Zirconium	4.12E-07	715	2.95E-04	–	490	–	–	490	–	–	340	–	0.0002	2.9E-04	8.84E-04

Note: UD = undetectable levels in gas stream.
(a) Weight basis; 47.8% TDF on a heat input basis (340 MMBtu/hr).

Table 2-10. Maximum Annual Emissions of Harzardous/Toxic Air Pollutants for Okeelanta Power (total all boilers)

Pollutant	Biomass Emission Factor (lb/MMBtu)	Biomass Activity Factor (E12 Btu/yr)	Biomass Annual Emissions (TPY)	Alternate Fuel Emission Factor (lb/MMBtu)	Alternate Fuel Activity Factor (E12 Btu/yr)	Alternate Fuel Annual Emissions (TPY)	Annual Emissions (TPY)
			100% Biomass				
Hazardous Air Pollutants							
Acetaldehyde	7.80E-04	11.500	4.49	--	--	--	4.49 a
Acetophenone	3.70E-06	11.500	0.021	--	--	--	0.021 a
Acrolein	6.50E-05	11.500	0.37	--	--	--	0.37 a
Antimony	UD	11.500	--	--	--	--	--
Arsenic	5.65E-05	11.500	0.32	--	--	--	0.32 a
Benzene	1.30E-03	11.500	7.48	--	--	--	7.48 a
Beryllium	--	11.500	--	--	--	--	--
Cadmium	8.40E-07	11.500	0.0048	--	--	--	0.0048
Carbon Disulfide	1.30E-04	11.500	0.75	--	--	--	0.75 a
Carbon Tetrachloride	6.00E-06	11.500	0.035	--	--	--	0.035 a
Chlorine	9.20E-04	11.500	5.29	--	--	--	5.29 a
Chloroform	4.70E-05	11.500	0.27	--	--	--	0.27 a
Chromium	5.55E-05	11.500	0.32	--	--	--	0.32 a
Chromium +6	1.11E-05	11.500	0.064	--	--	--	0.064 a
Cobalt	1.50E-07	11.500	8.6E-04	--	--	--	8.6E-04
Cumene	1.80E-05	11.500	0.10	--	--	--	0.10 a
Di - n - butyl Phthalate	5.80E-05	11.500	0.33	--	--	--	0.33 a
Ethyl Benzene	3.90E-06	11.500	0.022	--	--	--	0.022 a
Formaldehyde	1.30E-03	11.500	7.48	--	--	--	7.48 a
n Hexane	5.50E-04	11.500	3.16	--	--	--	3.16 a
Hydrogen Chloride	5.60E-04	11.500	3.22	--	--	--	3.22
Lead	2.50E-05	11.500	0.144	--	--	--	0.144
Manganese	9.50E-05	11.500	0.55	--	--	--	0.55
Mercury - Bagasse	6.30E-06	11.500	0.036	--	--	--	0.036
-Wood Waste	2.90E-07	11.500	0.0017	--	--	--	0.0017 a
Methanol	1.50E-03	11.500	8.63	--	--	--	8.63 a
Methyl Ethyl Ketone	1.20E-05	11.500	0.069	--	--	--	0.069 a
Methyl Isobutyl Ketone	8.60E-04	11.500	4.95	--	--	--	4.95 a
Methylene Chloride	1.50E-03	11.500	8.63	--	--	--	8.63 a
Napthalene	5.90E-04	11.500	3.39	--	--	--	3.39 a
Nickel	6.30E-06	11.500	0.036	--	--	--	0.036
Phenols	4.10E-05	11.500	0.24	--	--	--	0.24 a
Phosphorus	1.60E-06	11.500	0.0092	--	--	--	0.0092
POM (Polycyclic Org. Matter)	2.20E-07	11.500	0.0013	--	--	--	0.0013
Selenium	3.80E-06	11.500	0.022	--	--	--	0.022
Styrene	1.50E-05	11.500	0.086	--	--	--	0.086 a
2, 3, 7, 8 -TCDD (dioxin)	6.00E-12	11.500	3.5E-08	--	--	--	3.5E-08 a
Toluene	9.00E-05	11.500	0.52	--	--	--	0.52 a
1, 1, 1 Trichloroethane	1.70E-04	11.500	0.98	--	--	--	0.98 a
Trichloroethylene	7.60E-06	11.500	0.044	--	--	--	0.044 a
m&p Xylene	7.80E-06	11.500	0.045	--	--	--	0.045 a
o Xylene	2.60E-06	11.500	0.015	--	--	--	0.015 a
Total HAPs							62.101
112 (r) (non-HAPs)							
Ammonia	1.48E-02	11.500	85.10	--	--	--	85.10
Bromine	4.59E-05	11.500	0.26	--	--	--	0.26
Flourine	--	11.500	--	--	--	--	--
Other Air Toxics							
Acetone	3.80E-04	11.500	2.19	--	--	--	2.19 a
Barium	5.20E-06	11.500	0.030	--	--	--	0.030
Benzo(a)anthracene	7.53E-07	11.500	0.0043	--	--	--	0.0043 a
Benzo(a)pyrene	3.53E-08	11.500	2.03E-04	--	--	--	2.03E-04 a
Chrysene	3.53E-05	11.500	0.20	--	--	--	0.20 a
Copper	7.24E-05	11.500	0.42	--	--	--	0.42
Indium	1.27E-04	11.500	0.73	--	--	--	0.73 a
Iodine	2.12E-06	11.500	0.012	--	--	--	0.012 a
Isopropanol	9.20E-03	11.500	52.90	--	--	--	52.90 a
Molybdenum	2.24E-07	11.500	0.0013	--	--	--	0.0013
PAH	5.90E-10	11.500	3.39E-06	--	--	--	3.39E-06 a
Silver	1.40E-06	11.500	0.0081	--	--	--	0.0081 a
Thallium	UD	11.500	--	--	--	--	-a
Tin	3.65E-08	11.500	2.1E-04	--	--	--	2.1E-04
Tungsten	1.29E-08	11.500	7.4E-05	--	--	--	7.4E-05 a
Uranium	--	11.500	--	--	--	--	--
Vanadium	1.41E-07	11.500	8.1E-04	--	--	--	8.1E-04
Yttrium	6.59E-08	11.500	3.8E-04	--	--	--	3.8E-04 a
Zinc	4.24E-04	11.500	2.44	--	--	--	2.44
Zirconium	4.12E-07	11.500	0.0024	--	--	--	0.0024 a

Table 2-10. Maximum Annual Emissions of Harzardous/Toxic Air Pollutants for Okeelanta Power (total all boilers)

Pollutant	Biomass Emission Factor (lb/MMBtu)	Biomass Activity Factor (E12 Btu/yr)	Biomass Annual Emissions (TPY)	Alternate Fuel Emission Factor (lb/MMBtu)	Alternate Fuel Activity Factor (E12 Btu/yr)	Alternate Fuel Annual Emissions (TPY)	Annual Emissions (TPY)
			75.1% Biomass / 24.9% Fuel Oil				
Hazardous Air Pollutants							
Acetaldehyde	7.80E-04	8.637	3.37	--	2.864	--	3.37
Acetophenone	3.70E-06	8.637	0.016	--	2.864	--	0.016
Acrolein	6.50E-05	8.637	0.28	--	2.864	--	0.28
Antimony	UD	8.637	--	2.40E-07	2.864	0.0003	0.0003
Arsenic	5.65E-05	8.637	0.24	4.20E-08	2.864	6.0E-05	0.24
Benzene	1.30E-03	8.637	5.61	--	2.864	--	5.61
Beryllium	--	8.637	--	3.50E-07	2.864	5.0E-04	0.0005
Cadmium	8.40E-07	8.637	0.0036	1.10E-07	2.864	1.6E-04	0.0038
Carbon Disulfide	1.30E-04	8.637	0.56	--	2.864	--	0.56
Carbon Tetrachloride	6.00E-06	8.637	0.026	--	2.864	--	0.026
Chlorine	9.20E-04	8.637	3.97	--	2.864	--	3.97
Chloroform	4.70E-05	8.637	0.20	--	2.864	--	0.20
Chromium	5.55E-05	8.637	0.24	6.70E-07	2.864	0.0010	0.24
Chromium +6	1.11E-05	8.637	0.048	1.30E-07	2.864	1.9E-04	0.048
Cobalt	1.50E-07	8.637	6.5E-04	1.20E-05	2.864	0.017	0.018
Cumene	1.80E-05	8.637	0.078	--	2.864	--	0.078
Di - n - butyl Phthalate	5.80E-05	8.637	0.25	--	2.864	--	0.25
Ethyl Benzene	3.90E-06	8.637	0.017	--	2.864	--	0.017
Formaldehyde	1.30E-03	8.637	5.61	4.05E-04	2.864	0.58	6.19
n Hexane	5.50E-04	8.637	2.38	--	2.864	--	2.38
Hydrogen Chloride	5.60E-04	8.637	2.42	6.37E-04	2.864	0.91	3.33
Lead	2.50E-05	8.637	0.108	8.90E-07	2.864	0.0013	0.109
Manganese	9.50E-05	8.637	0.41	1.40E-07	2.864	2.0E-04	0.41
Mercury - Bagasse	6.30E-06	8.637	0.027	2.40E-06	2.864	0.0034	0.031
-Wood Waste	2.90E-07	8.637	0.0013	--	2.864	--	0.0013
Methanol	1.50E-03	8.637	6.48	--	2.864	--	6.48
Methyl Ethyl Ketone	1.20E-05	8.637	0.052	--	2.864	--	0.052
Methyl Isobutyl Ketone	8.60E-04	8.637	3.71	--	2.864	--	3.71
Methylene Chloride	1.50E-03	8.637	6.48	--	2.864	--	6.48
Napthalene	5.90E-04	8.637	2.55	--	2.864	--	2.55
Nickel	6.30E-06	8.637	0.027	1.70E-06	2.864	0.0024	0.030
Phenols	4.10E-05	8.637	0.18	--	2.864	--	0.18
Phosphorus	1.60E-06	8.637	0.0069	5.81E-05	2.864	0.083	0.090
POM (Polycyclic Org. Matter)	2.20E-07	8.637	0.0010	8.40E-06	2.864	0.012	0.013 a
Selenium	3.80E-06	8.637	0.016	3.80E-07	2.864	5.4E-04	0.017
Styrene	1.50E-05	8.637	0.065	--	2.864	--	0.065
2, 3, 7, 8 -TCDD (dioxin)	6.00E-12	8.637	2.6E-08	--	2.864	--	2.6E-08
Toluene	9.00E-05	8.637	0.39	--	2.864	--	0.39
1, 1, 1 Trichloroethane	1.70E-04	8.637	0.73	--	2.864	--	0.73
Trichloroethylene	7.60E-06	8.637	0.033	--	2.864	--	0.033
m & p Xylene	7.80E-06	8.637	0.034	--	2.864	--	0.034
o Xylene	2.60E-06	8.637	0.011	--	2.864	--	0.011
Total HAPs							48.252
112 (r) (non-HAPs)							
Ammonia	1.48E-02	8.637	63.91	1.48E-02	2.864	21.19	85.10
Bromine	4.59E-05	8.637	0.20	6.97E-07	2.864	0.0010	0.20
Flourine	--	8.637	--	6.27E-06	2.864	0.0090	0.0090
Other Air Toxics							
Acetone	3.80E-04	8.637	1.64	--	2.864	--	1.64
Barium	5.20E-06	8.637	0.02	6.69E-07	2.864	0.0010	0.02
Benzo(a)anthracene	7.53E-07	8.637	0.0033	--	2.864	--	0.0033
Benzo(a)pyrene	3.53E-08	8.637	1.52E-04	--	2.864	--	1.52E-04
Chrysene	3.53E-05	8.637	0.15	--	2.864	--	0.15
Copper	7.24E-05	8.637	0.31	4.20E-05	2.864	0.060	0.37
Indium	1.27E-04	8.637	0.55	--	2.864	--	0.55
Iodine	2.12E-06	8.637	0.0092	--	2.864	--	0.0092
Isopropanol	9.20E-03	8.637	39.73	--	2.864	--	39.73
Molybdenum	2.24E-07	8.637	0.0010	4.88E-07	2.864	7.0E-04	0.0017
PAH	5.90E-10	8.637	2.55E-06	--	2.864	--	2.55E-06
Silver	1.40E-06	8.637	0.0060	--	2.864	--	0.0060
Thallium	UD	8.637	--	--	2.864	--	-- a
Tin	3.65E-08	8.637	1.6E-04	3.30E-06	2.864	0.0047	0.0049
Tungsten	1.29E-08	8.637	5.57E-05	--	2.864	--	5.57E-05
Uranium	--	8.637	--	--	2.864	--	--
Vanadium	1.41E-07	8.637	6.09E-04	--	2.864	--	6.09E-04
Yttrium	6.59E-08	8.637	2.85E-04	--	2.864	--	2.85E-04
Zinc	4.24E-04	8.637	1.83	6.69E-06	2.864	0.010	1.84
Zirconium	4.12E-07	8.637	0.0018	--	2.864	--	0.0018

Table 2-10. Maximum Annual Emissions of Harzardous/Toxic Air Pollutants for Okeelanta Power (total all boilers)

Pollutant	Biomass Emission Factor (lb/MMBtu)	Biomass Activity Factor (E12 Btu/yr)	Biomass Annual Emissions (TPY)	Alternate Fuel Emission Factor (lb/MMBtu)	Alternate Fuel Activity Factor (E12 Btu/yr)	Alternate Fuel Annual Emissions (TPY)	Annual Emissions (TPY)
			84.8% Biomass / 15.2% Coal				
Hazardous Air Pollutants							
Acetaldehyde	7.80E-04	9.395	3.66	--	1.684	--	3.66
Acetophenone	3.70E-06	9.395	0.017	--	1.684	--	0.017
Acrolein	6.50E-05	9.395	0.31	--	1.684	--	0.31
Antimony	UD	9.395	--	3.49E-05	1.684	0.029	0.029 a
Arsenic	5.65E-05	9.395	0.27	5.40E-06	1.684	0.0045	0.27
Benzene	1.30E-03	9.395	6.11	--	1.684	--	6.11
Beryllium	--	9.395	--	3.50E-07	1.684	2.9E-04	2.9E-04
Cadmium	8.40E-07	9.395	0.0039	4.30E-07	1.684	3.6E-04	0.0043
Carbon Disulfide	1.30E-04	9.395	0.61	--	1.684	--	0.61
Carbon Tetrachloride	6.00E-06	9.395	0.028	--	1.684	--	0.028
Chlorine	9.20E-04	9.395	4.32	--	1.684	--	4.32
Chloroform	4.70E-05	9.395	0.22	--	1.684	--	0.22
Chromium	5.55E-05	9.395	0.26	1.66E-05	1.684	0.014	0.27
Chromium +6	1.11E-05	9.395	0.052	3.10E-06	1.684	0.0026	0.055
Cobalt	1.50E-07	9.395	7.0E-04	7.20E-05	1.684	0.061	0.061
Cumene	1.80E-05	9.395	0.085	--	1.684	--	0.085
Di - n - butyl Phthalate	5.80E-05	9.395	0.27	--	1.684	--	0.27
Ethyl Benzene	3.90E-06	9.395	0.018	--	1.684	--	0.018
Formaldehyde	1.30E-03	9.395	6.11	2.20E-04	1.684	0.19	6.29
n Hexane	5.50E-04	9.395	2.58	--	1.684	--	2.58
Hydrogen Chloride	5.60E-04	9.395	2.63	7.90E-02	1.684	66.52	69.15
Lead	2.50E-05	9.395	0.117	6.40E-05	1.684	0.054	0.171 a
Manganese	9.50E-05	9.395	0.45	3.10E-07	1.684	2.6E-04	0.45
Mercury - Bagasse	6.30E-06	9.395	0.030	8.40E-06	1.684	0.0071	0.037 a
-Wood Waste	2.90E-07	9.395	0.0014	--	1.684	--	0.0014
Methanol	1.50E-03	9.395	7.05	--	1.684	--	7.05
Methyl Ethyl Ketone	1.20E-05	9.395	0.056	--	1.684	--	0.056
Methyl Isobutyl Ketone	8.60E-04	9.395	4.04	--	1.684	--	4.04
Methylene Chloride	1.50E-03	9.395	7.05	--	1.684	--	7.05
Napthalene	5.90E-04	9.395	2.77	--	1.684	--	2.77
Nickel	6.30E-06	9.395	0.030	1.00E-05	1.684	0.0084	0.038
Phenols	4.10E-05	9.395	0.19	--	1.684	--	0.19
Phosphorus	1.60E-06	9.395	0.0075	8.60E-04	1.684	0.72	0.732 a
POM (Polycyclic Org. Matter)	2.20E-07	9.395	0.0010	--	1.684	--	0.0010
Selenium	3.80E-06	9.395	0.018	5.34E-05	1.684	0.045	0.063
Styrene	1.50E-05	9.395	0.070	--	1.684	--	0.070
2, 3, 7, 8 TCDD (dioxin)	6.00E-12	9.395	2.8E-08	--	1.684	--	2.8E-08
Toluene	9.00E-05	9.395	0.42	--	1.684	--	0.42
1, 1, 1 Trichloroethane	1.70E-04	9.395	0.80	--	1.684	--	0.80
Trichloroethylene	7.60E-06	9.395	0.036	--	1.684	--	0.036
m & p Xylene	7.80E-06	9.395	0.037	--	1.684	--	0.037
o Xylene	2.60E-06	9.395	0.012	--	1.684	--	0.012
Total HAPs							118.388
112 (r) (non-HAPs)							
Ammonia	1.48E-02	9.395	69.52	4.80E-02	1.684	40.42	109.9
Bromine	4.59E-05	9.395	0.22	7.90E-04	1.684	0.67	0.88 a
Flourine	--	9.395	--	2.40E-02	1.684	20.21	20.21 a
Other Air Toxics							
Acetone	3.80E-04	9.395	1.79	--	1.684	--	1.79
Barium	5.20E-06	9.395	0.024	7.44E-05	1.684	0.063	0.09 a
Benzo(a)anthracene	7.53E-07	9.395	0.0035	--	1.684	--	0.0035
Benzo(a)pyrene	3.53E-08	9.395	1.66E-04	--	1.684	--	1.66E-04
Chrysene	3.53E-05	9.395	0.17	--	1.684	--	0.17
Copper	7.24E-05	9.395	0.34	--	1.684	--	0.34
Indium	1.27E-04	9.395	0.60	--	1.684	--	0.60
Iodine	2.12E-06	9.395	0.010	--	1.684	--	0.010
Isopropanol	9.20E-03	9.395	43.22	--	1.684	--	43.22
Molybdenum	2.24E-07	9.395	0.0011	8.83E-06	1.684	0.0074	0.0085
PAH	5.90E-10	9.395	2.77E-06	--	1.684	--	2.77E-06
Silver	1.40E-06	9.395	0.0066	--	1.684	--	0.0066
Thallium	UD	9.395	--	--	1.684	--	-- a
Tin	3.65E-08	9.395	1.7E-04	8.83E-06	1.684	0.0074	0.0076 a
Tungsten	1.29E-08	9.395	6.1E-05	--	1.684	--	6.06E-05
Uranium	--	9.395	--	--	1.684	--	--
Vanadium	1.41E-07	9.395	6.6E-04	--	1.684	--	6.62E-04
Yttrium	6.59E-08	9.395	3.1E-04	--	1.684	--	3.10E-04
Zinc	4.24E-04	9.395	1.99	3.49E-04	1.684	0.29	2.29
Zirconium	4.12E-07	9.395	0.0019	--	1.684	--	0.0019

Table 2-10. Maximum Annual Emissions of Harzardous/Toxic Air Pollutants for Okeelanta Power (total all boilers)

Pollutant	Biomass Emission Factor (lb/MMBtu)	Biomass Activity Factor (E12 Btu/yr)	Biomass Annual Emissions (TPY)	Alternate Fuel Emission Factor (lb/MMBtu)	Alternate Fuel Activity Factor (E12 Btu/yr)	Alternate Fuel Annual Emissions (TPY)	Annual Emissions (TPY)
			78% Biomass / 22% Tire-Derived Fuel (9.1% TDF, weight basis)				
Hazardous Air Pollutants							
Acetaldehyde	7.80E-04	9.200	3.59	--	2.300	--	3.59
Acetophenone	3.70E-06	9.200	0.017	--	2.300	--	0.017
Acrolein	6.50E-05	9.200	0.30	--	2.300	--	0.30
Antimony	UD	9.200	--	6.45E-09	2.300	7.4E-06	7.4E-06
Arsenic	5.65E-05	9.200	0.26	4.52E-06	2.300	0.005	0.27
Benzene	1.30E-03	9.200	5.98	--	2.300	--	5.980
Beryllium	--	9.200	--	4.52E-07	2.300	5.2E-04	5.20E-04 a
Cadmium	8.40E-07	9.200	0.0039	3.87E-06	2.300	0.0045	0.0083 a
Carbon Disulfide	1.30E-04	9.200	0.60	--	2.300	--	0.60
Carbon Tetrachloride	6.00E-06	9.200	0.028	--	2.300	--	0.028
Chlorine	9.20E-04	9.200	4.23	--	2.300		4.23
Chloroform	4.70E-05	9.200	0.22	--	2.300	--	0.22
Chromium	5.55E-05	9.200	0.26	6.45E-06	2.300	0.0074	0.26
Chromium +6	1.11E-05	9.200	0.051	--	2.300	--	0.051
Cobalt	1.50E-07	9.200	6.9E-04	3.23E-04	2.300	0.37	0.37 a
Cumene	1.80E-05	9.200	0.083	--	2.300	--	0.083
Di - n - butyl Phthalate	5.80E-05	9.200	0.27	--	2.300	--	0.27
Ethyl Benzene	3.90E-06	9.200	0.018	--	2.300	--	0.018
Formaldehyde	1.30E-03	9.200	5.98	4.05E-04	2.300	0.47	6.45
n Hexane	5.50E-04	9.200	2.53	--	2.300	--	2.53
Hydrogen Chloride	5.60E-04	9.200	2.58	9.61E-02	2.300	110.5	113.1 a
Lead	2.50E-05	9.200	0.115	4.20E-05	2.300	0.048	0.163
Manganese	9.50E-05	9.200	0.44	6.45E-04	2.300	0.74	1.18 a
Mercury - Bagasse	6.30E-06	9.200	0.029	6.50E-06	2.300	7.5E-03	0.036
-Wood Waste	2.90E-07	9.200	0.0013	--	2.300	--	0.0013
Methanol	1.50E-03	9.200	6.90	--	2.300	--	6.90
Methyl Ethyl Ketone	1.20E-05	9.200	0.055	--	2.300	--	0.055
Methyl Isobutyl Ketone	8.60E-04	9.200	3.96	--	2.300	--	3.96
Methylene Chloride	1.50E-03	9.200	6.90	--	2.300	--	6.90
Napthalene	5.90E-04	9.200	2.71	--	2.300	--	2.71
Nickel	6.30E-06	9.200	0.029	3.87E-05	2.300	0.045	0.073 a
Phenols	4.10E-05	9.200	0.19	--	2.300	--	0.19
Phosphorus	1.60E-06	9.200	0.0074	--	2.300	--	0.0074
POM (Polycyclic Org. Matter)	2.20E-07	9.200	0.0010	--	2.300	--	0.0010
Selenium	3.80E-06	9.200	0.017	6.77E-05	2.300	0.08	0.10 a
Styrene	1.50E-05	9.200	0.069	--	2.300	--	0.069
2, 3, 7, 8 TCDD (dioxin)	6.00E-12	9.200	2.8E-08	--	2.300	--	2.8E-08
Toluene	9.00E-05	9.200	0.41	--	2.300	--	0.41
1, 1, 1 Trichloroethane	1.70E-04	9.200	0.78	--	2.300	--	0.78
Trichloroethylene	7.60E-06	9.200	0.035	--	2.300	--	0.035
m & p Xylene	7.80E-06	9.200	0.036	--	2.300	--	0.036
o Xylene	2.60E-06	9.200	0.012	--	2.300	--	0.012
Total HAPs							161.971
112 (r) (non-HAPs)							
Ammonia	1.48E-02	9.200	68.08	4.80E-02	2.300	55.20	123.3 a
Bromine	4.59E-05	9.200	0.21	--	2.300	--	0.21
Flourine	--	9.200	--	6.50E-04	2.300	0.7475	0.75
Other Air Toxics							
Acetone	3.80E-04	9.200	1.75	--	2.300	--	1.75
Barium	5.20E-06	9.200	0.024	7.74E-06	2.300	0.0089	0.033
Benzo(a)anthracene	7.53E-07	9.200	0.0035	--	2.300	--	0.0035
Benzo(a)pyrene	3.53E-08	9.200	1.62E-04	--	2.300	--	1.62E-04
Chrysene	3.53E-05	9.200	0.16	--	2.300	--	0.16
Copper	7.24E-05	9.200	0.33	6.15E-04	2.300	0.71	1.04 a
Indium	1.27E-04	9.200	0.58	--	2.300	--	0.58
Iodine	2.12E-06	9.200	0.010	--	2.300	--	0.010
Isopropanol	9.20E-03	9.200	42.32	--	2.300	--	42.32
Molybdenum	2.24E-07	9.200	0.0010	4.52E-05	2.300	0.052	0.053 a
PAH	5.90E-10	9.200	2.71E-06	--	2.300	--	2.71E-06
Silver	1.40E-06	9.200	0.0064	--	2.300	--	0.0064
Thallium	UD	9.200	--	--	2.300	--	--a
Tin	3.65E-08	9.200	1.7E-04	6.45E-09	2.300	7.42E-06	1.8E-04
Tungsten	1.29E-08	9.200	5.9E-05	--	2.300	--	5.93E-05
Uranium	--	9.200	--	2.58E-08	2.300	2.97E-05	3.0E-05 a
Vanadium	1.41E-07	9.200	6.5E-04	6.45E-07	2.300	7.42E-04	0.0014 a
Yttrium	6.59E-08	9.200	3.0E-04	--	2.300	--	3.03E-04
Zinc	4.24E-04	9.200	1.95	9.81E-03	2.300	11.28	13.23 a
Zirconium	4.12E-07	9.200	0.0019	--	2.300	--	0.0019

a Denotes maximum annual emissions for any fuel scenario.

Note: UD = undetectable levels in gas stream.

Table 2-11. Maximum Concentration of Metals in Wood Waste Due To Treated Wood Burnin at Okeelanta Power Cogeneration Facility

WOOD WASTE PARAMETERS		
Total Biomass	1,352,941	tons
Total Wood waste	33%	^a
Total Wood waste	446,471	tons
CLEAN WOOD WASTE PARAMETERS		
Total Clean Wood Waste	97%	
	433,076	tons
Arsenic content (1 ppm)	0.43	tons
Chromium content (3 ppm)	1.30	tons
Copper content (15 ppm)	6.50	tons
TREATED WOOD PARAMETERS		
Percent of total wood amount	3.0%	
Total Treated Wood	13,394	tons
Treated wood density	26.3	lb/ft^3
CCA in treated wood	0.47	lb/ft^3
	0.01787	lb CCA/lb treated wood
Total CCA in treated wood	239.4	tons
Total CCA components in treated wood		
Arsenic (13%)	31.1	tons
Chromium (15%)	35.9	tons
Copper (9%)	21.5	tons
WOOD WASTE CONCENTRATIONS		
Total CCA components in wood waste		
Arsenic	31.6	tons
Chromium	37.2	tons
Copper	28.0	tons
Arsenic	70.7	ppm
Chromium	83.3	ppm
Copper	62.8	ppm

^a Expected percentage of total biomass on annual basis.

Table 2-12. Maximum Emissions Of Metals Due To Treated Wood Waste Burning at Okeelanta Power Cogeneration Facility

Parameter	Annual Average		Maximum Short-Term	
BIOMASS PARAMETERS				
Total biomass heat input	1.150E+07	MMBtu/yr	715	MMBtu/hr
Total biomass^a	1,352,941	tons/yr	168,235	lb/hr
Total bagasse percentage^b	67%		0%	
Total bagasse amount	906,471	tons/yr	0	lb/hr
Total wood waste percentage^b	33%		100%	
Total wood waste amount	446,471	tons/yr	168,235	lb/hr
BAGASSE CONCENTRATIONS^c				
Arsenic	1.0	ppm	1.0	ppm
Chromium	3.0	ppm	3.0	ppm
Copper	15.0	ppm	15.0	ppm
WOOD WASTE CONCENTRATIONS				
Total CCA components in wood waste (clean wood plus treated wood):				
Arsenic	70.7	ppm	70.7	ppm
Chromium	83.3	ppm	83.3	ppm
Copper	62.8	ppm	62.8	ppm
CCA COMPONENTS IN BIOMASS				
Arsenic: Bagasse	0.91	tons/yr	0	lb/hr
Wood Waste	31.57	tons/yr	11.89	lb/hr
Total	32.47	tons/yr	11.89	lb/hr
Chromium: Bagasse	2.72	tons/yr	0	lb/hr
Wood Waste	37.19	tons/yr	14.01	lb/hr
Total	39.91	tons/yr	14.01	lb/hr
Copper: Bagasse	13.60	tons/yr	0	lb/hr
Wood Waste	28.04	tons/yr	10.57	lb/hr
Total	41.64	tons/yr	10.57	lb/hr
EMISSIONS OF CCA^d				
Arsenic	0.325	tons/yr	0.119	lb/hr
Chromium^e	0.319	tons/yr	0.112	lb/hr
Chromium +6^e	0.080	tons/yr	0.028	lb/hr
Copper	0.416	tons/yr	0.106	lb/hr
Arsenic	5.65E-05	lb/MMBtu	1.66E-04	lb/MMBtu
Chromium^e	5.55E-05	lb/MMBtu	1.57E-04	lb/MMBtu
Chromium +6^e	1.11E-05	lb/MMBtu	3.14E-05	lb/MMBtu
Copper	7.24E-05	lb/MMBtu	1.48E-04	lb/MMBtu

^a Based on conservative heating value for wood waste of 4,250 Btu/lb.
^b Based on typical concentrations occurring in biomass.
^c Assumes all of CCA exits boiler in flue gases, and ESP has 99% removal efficiency.
^d Expected percentage on an annual basis.
^e Assumes 20% of total chromium is hexavalent.

Table 2-13. Maximum Annual Fugitive Dust Emissions for Okeelanta Power Facility

SOURCE	TYPE OF OPERATION	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	UNCONTROLLED EMISSION FACTOR (LB/TON) a	CONTROL	CONTROL EFFICIENC (%)	CONTROLLED EMISSION FACTOR (LB/TON)	ACTIVITY FACTOR	MAXIMUM ANNUAL PM(TSP) EMISSIONS (TONS/YR)	PM10 SIZE MULT	MAXIMUM ANNUAL PM10 EMISSIONS (TONS/YR)
Coal Handling											
RAILCAR UNLOADING	BATCH DROP	4.5	9.4	0.00234	ENCLOSURE	70	0.00070	73,714 TPY	0.026	0.35	0.009
CONVEYOR-TO-COAL PILE	CONTINUOUS DROP	4.5	9.4	0.00234	NONE	0	0.00234	73,714 TPY	0.086	0.35	0.030
UNDERPILE RECLAIM HOPPER	CONTINUOUS DROP	4.5	9.4	0.00234	ENCLOSURE	90	0.00023	73,714 TPY	0.009	0.35	0.003
CONVEYOR-TO-CRUSHER	CONTINUOUS DROP	4.5	9.4	0.00234	ENCLOSURE	0	0.00234	73,714 TPY	0.086	0.35	0.030
COAL CRUSHER	COAL CRUSHING	–	–	0.02 h	ENCLOSURE	70	0.00600	73,714 TPY	0.221	0.45	0.100
CRUSHER-TO-CONVEYOR	CONTINUOUS DROP	4.5	9.4	0.00234	ENCLOSURE	0	0.00234	73,714 TPY	0.086	0.35	0.030
CONVEYOR-TO-BOILER SILO	CONTINUOUS DROP	4.5	9.4	0.00234	ENCLOSURE	0	0.00234	73,714 TPY	0.086	0.35	0.030
STORAGE PILE	WIND EROSION	–	–	–	NONE	0	–	–	0.211 e	0.5	0.105 e
COAL STORAGE PILE MAINTENANCE	VEHICULAR TRAFFIC	–	–	0.96 b	WATERING	50	0.48 lb/VMT	4,800 VMT	1.157 e	0.35	0.405 e
Biomass Handling											
TRUCK DUMPS (2)	BATCH DROP	37	9.4	0.00012	NONE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
CHAIN CONVEYORS-TO-UNLOADING CONVEYOR (2)	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
UNLOADING CONVEYOR-TO-SCREEN	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
SCREEN	CONTINUOUS DROP	37	9.4	0.00012	NONE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
SCREEN-TO-HOGGER	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
HOGGER	CRUSHING	–	–	0.02	ENCLOSED	95	0.00100	1,352,941 TPY	0.676	0.35	0.237
HOGGER-TO-STORAGE CONVEYOR	BATCH DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
SCREEN-TO-STORAGE CONVEYOR	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	0 TPY	0.000	0.35	0.000
SCREEN-TO-BOILER FEED CONVEYOR	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	0 TPY	0.000	0.35	0.000
STORAGE CONVEYOR-TO-RADIAL STACKER	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
RADIAL STACKER-TO-BIOMASS STORAGE PILE	CONTINUOUS DROP	37	9.4	0.00012	NONE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
UNDERPILE RECLAIMERS (2)	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSED	90	0.00001	1,352,941 TPY	0.008	0.35	0.003
RECLAIMERS-TO-BOILER FEED CONVEYOR (2)	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
BOILER FEED CONVEYOR-TO-CHAIN DIST. CONVEYOR (2)	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
CHAIN DIST. CONVEYOR -TO-BOILER METER BINS (4)	BATCH DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	1,352,941 TPY	0.083	0.35	0.029
BAGASSE CONVEYOR-TO-CHAIN DIST CONVEYOR (2)	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	0 TPY	0.000	0.35	0.000
BAGASSE CONVEYOR-TO-RECYCLE CONVEYOR	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	0 TPY	0.000	0.35	0.000
CHAIN DIST. CONVEYORS-TO-RECYLE CONVEYOR (2)	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	135,294 TPY	0.008	0.35	0.003
RECYCLE CONVEYOR-TO-RECYCLE STACKER	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	0 TPY	0.000	0.35	0.000
RECYCLE CONVEYOR-TO-STORAGE CONVEYOR	CONTINUOUS DROP	37	9.4	0.00012	ENCLOSURE	0	0.00012	135,294 TPY	0.008	0.35	0.003
RECYCLE STACKER-TO-BIOMASS STORAGE PILE	CONTINUOUS DROP	37	9.4	0.00012	NONE	0	0.00012	0 TPY	0.000	0.35	0.000
BIOMASS STORAGE PILES (2)	WIND EROSION	–	–	–	NONE	0	–	–	0.175 e	0.5	0.087 e
BIOMASS STORAGE PILE MAINTENANCE	VEHICULAR TRAFFIC	–	–	0.96 b	WATERING	50	0.48 lb/VMT	21,900 VMT	5.278 e	0.35	1.847 e
BOILER HOUSE DUST COLLECTOR BAGHOUSE	–	–	–	–	BAGHOUS	99	0.01 gr/acf	30,000 acfm	11.263	1.0	11.263
Mercury Control System											
CARBON SILO FILTER	–	–	–	–	BAGHOUS	99	0.01 gr/acf	2,500 acfm	0.939	1.0	0.939
Fly Ash Handling											
FLY ASH SILO FILTER	–	–	–	–	BAGHOUS	99	0.01 gr/acf	2,500 acfm	0.939	1.0	0.939
FLY ASH TRANSFER-TO-TRUCK	CONTINUOUS DROP	5.0	9.4	0.00202	WETTING	50	0.00101	46,533 TPY f	0.023	0.35	0.008
Tire-Derived Fuel handling											
TDF Handling	VEHICULAR TRAFFIC	–	–	0.96 b	WATERING	50	0.48 lb/VMT	21,900 VMT	5.278 e	0.35	1.847 e
TOTAL									27.473		18.237

a Batch Drop and Continuous Drop Emission Factors are computed from AP-42 (USEPA, 1988)Section 11.2.3:
E= 0.0032 x (U/5)^1.3 / (M/2)^1.4 lb/ton
b Pound per Vehicle Mile Travel (lb/VMT), see Appendix C for derivation.
c Based on vehicle operating 8 hrs/day, 120 days/yr @ 5 mph.
d Based on vehicle operating 12 hrs/day, 365 days/yr @ 5 mph.
e Refer to Appendix C for derivation.
f Based on 1,352,941 TPY biomass @ 3.24% ash and 73,714 TPY coal @ 3.66% ash.
g Assuming 10% of biomass is overfeed and is returned to biomass storage pile..
h Emission Factor for Coal Crusher derived from AP-42 Table 8.23-1, for high moisture ore; same factor used for biomass crushing.

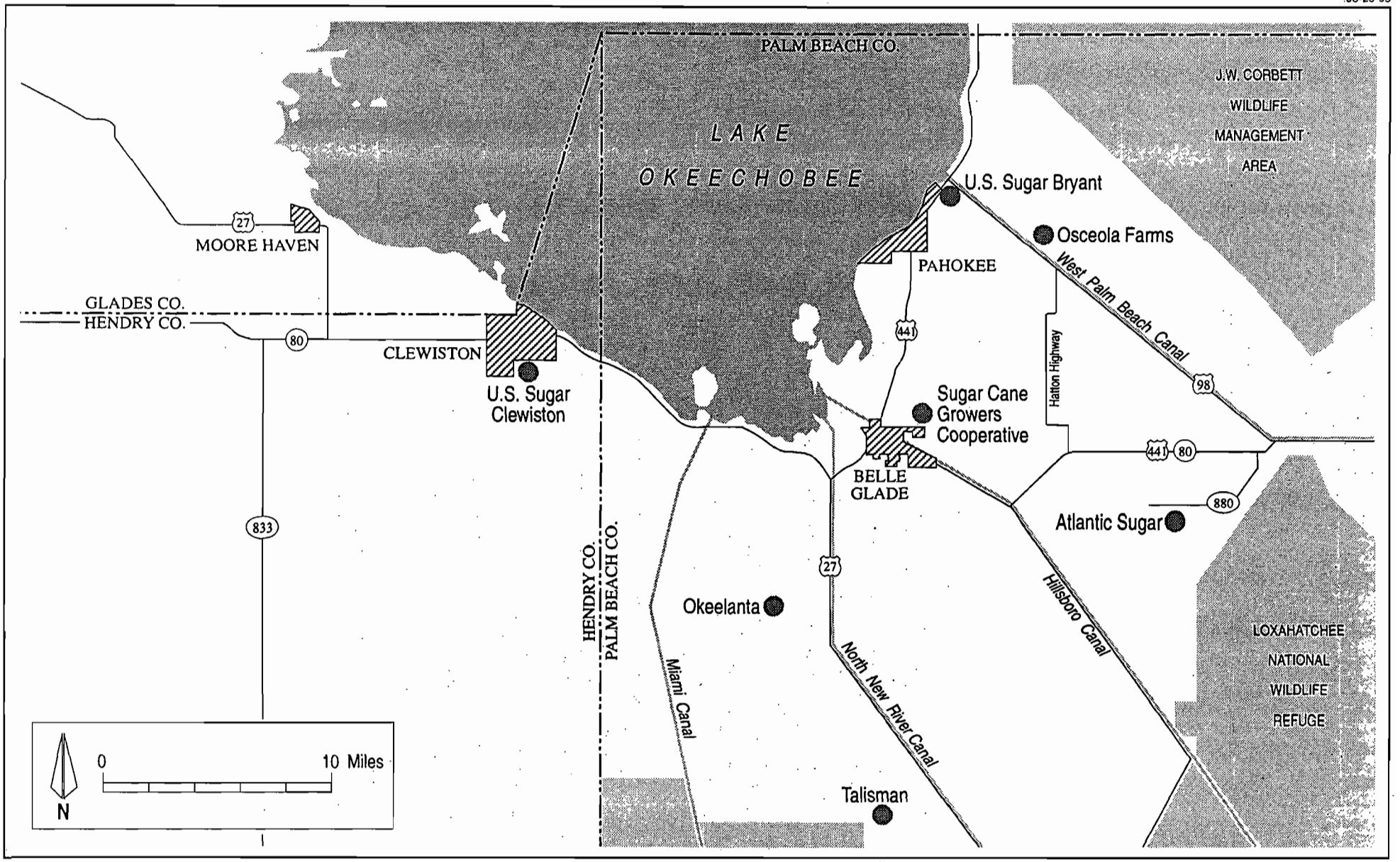


Figure 2-1
Regional Site Map

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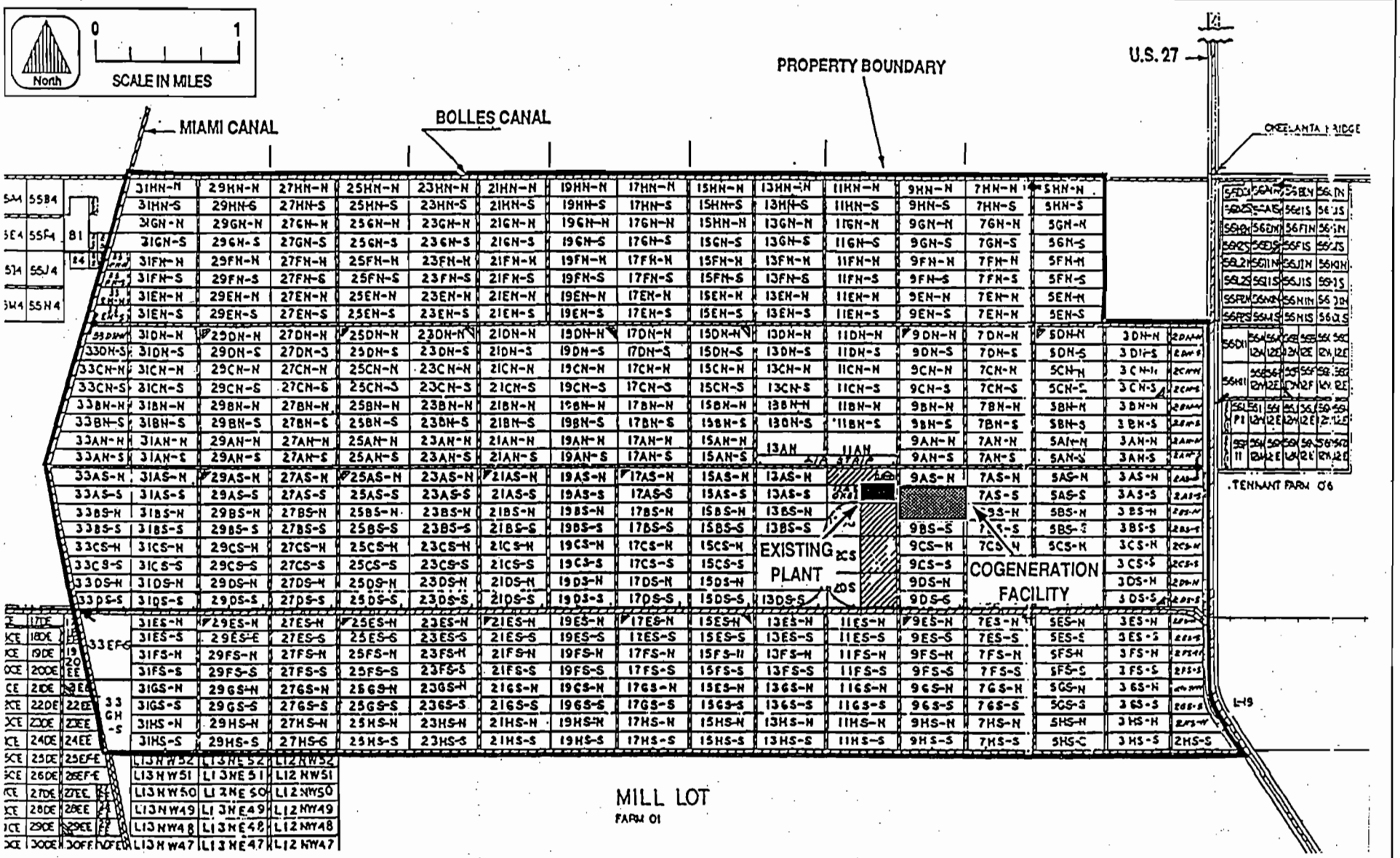

Figure 2-2
Location of Existing Sugar Mill and Cogeneration Facility

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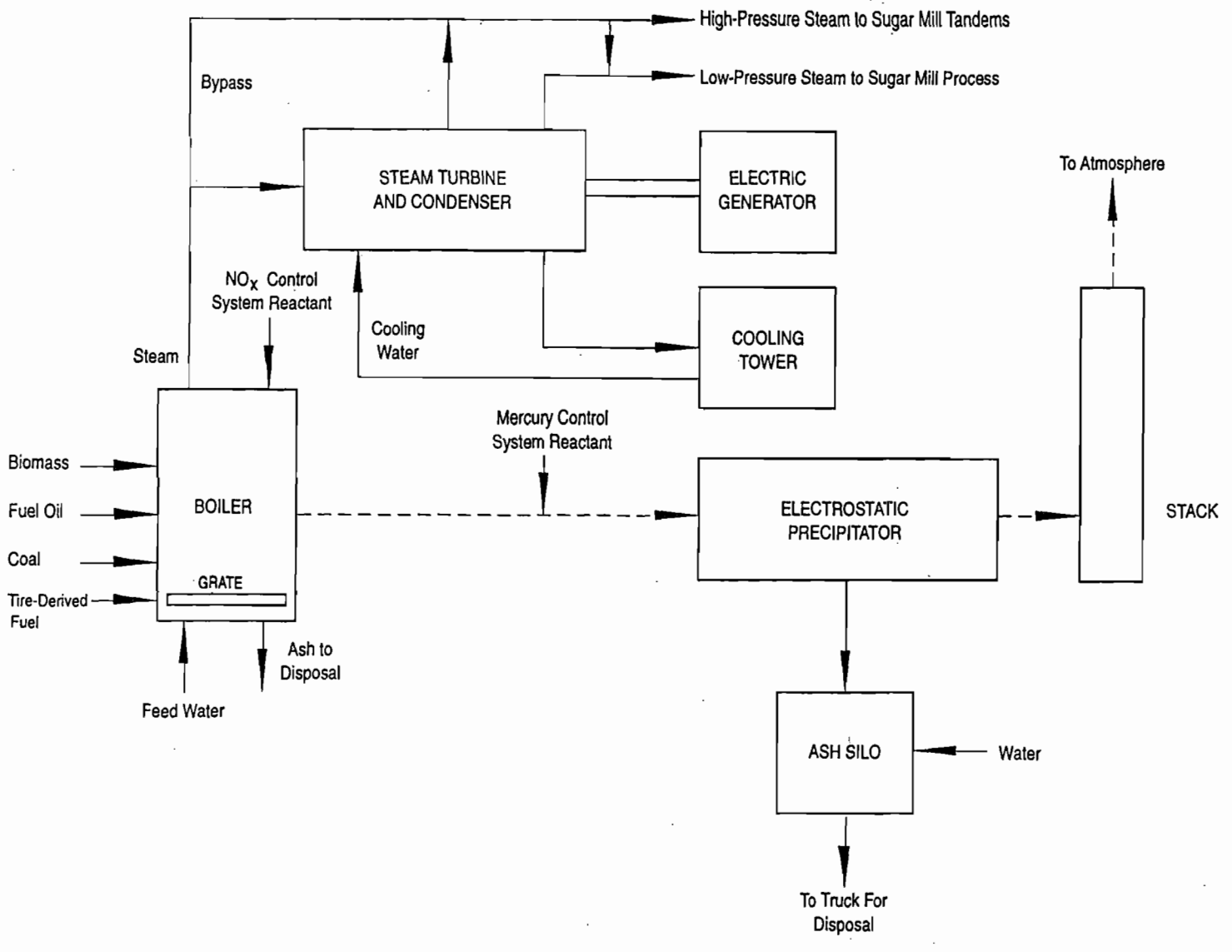

Figure 2-3
Simplified Flow Diagram for Okeelanta Power Cogeneration Facility

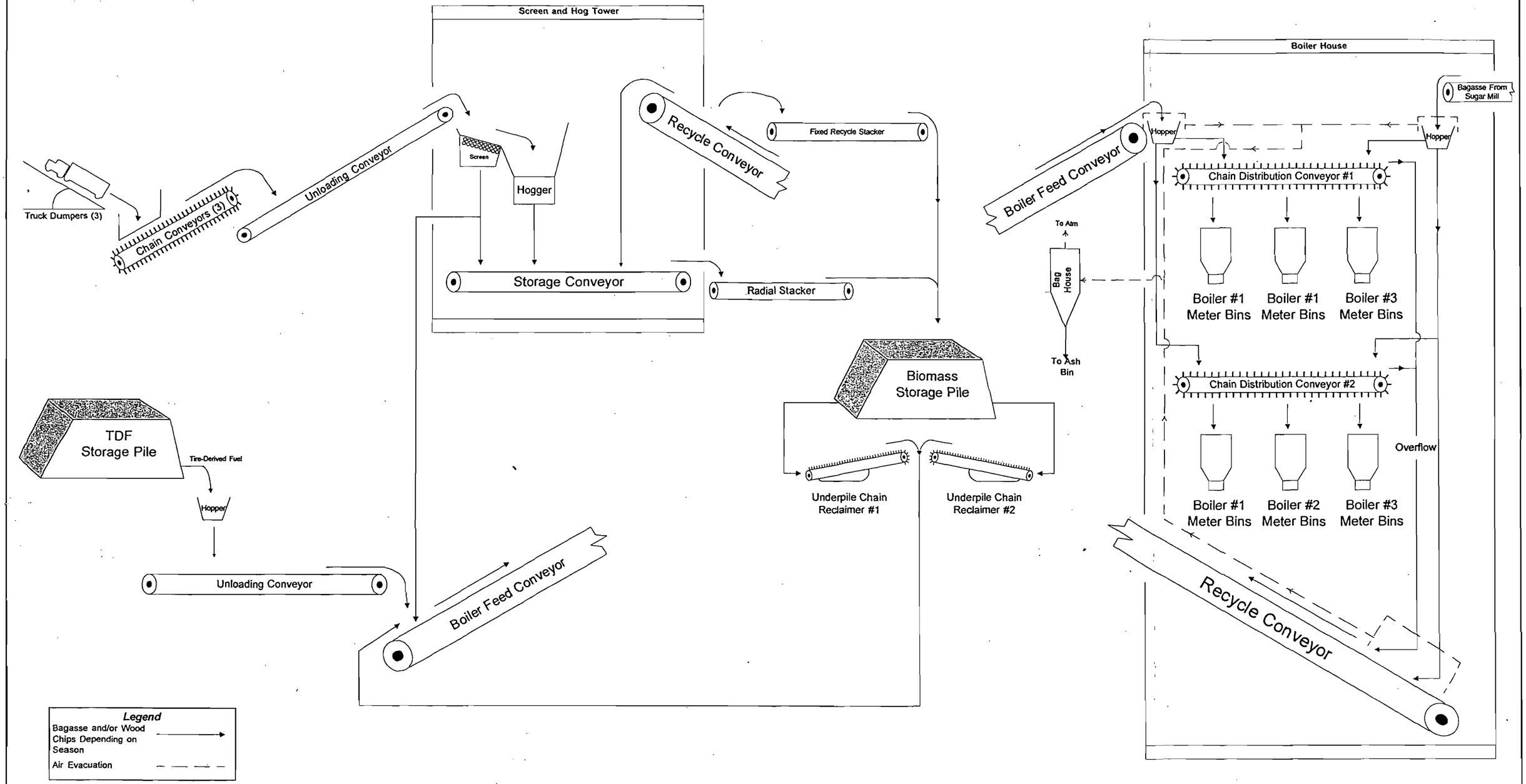

Figure 2-4.
Okeelanta Power Fuel Handling System

Okeelanta Power Limited Partnership	South Bay, Florida	*Filename:* OKFULFLW.VSD	*Project:* 9651013Y/F1/WP
		Latest Revision Date: 3/19/96	

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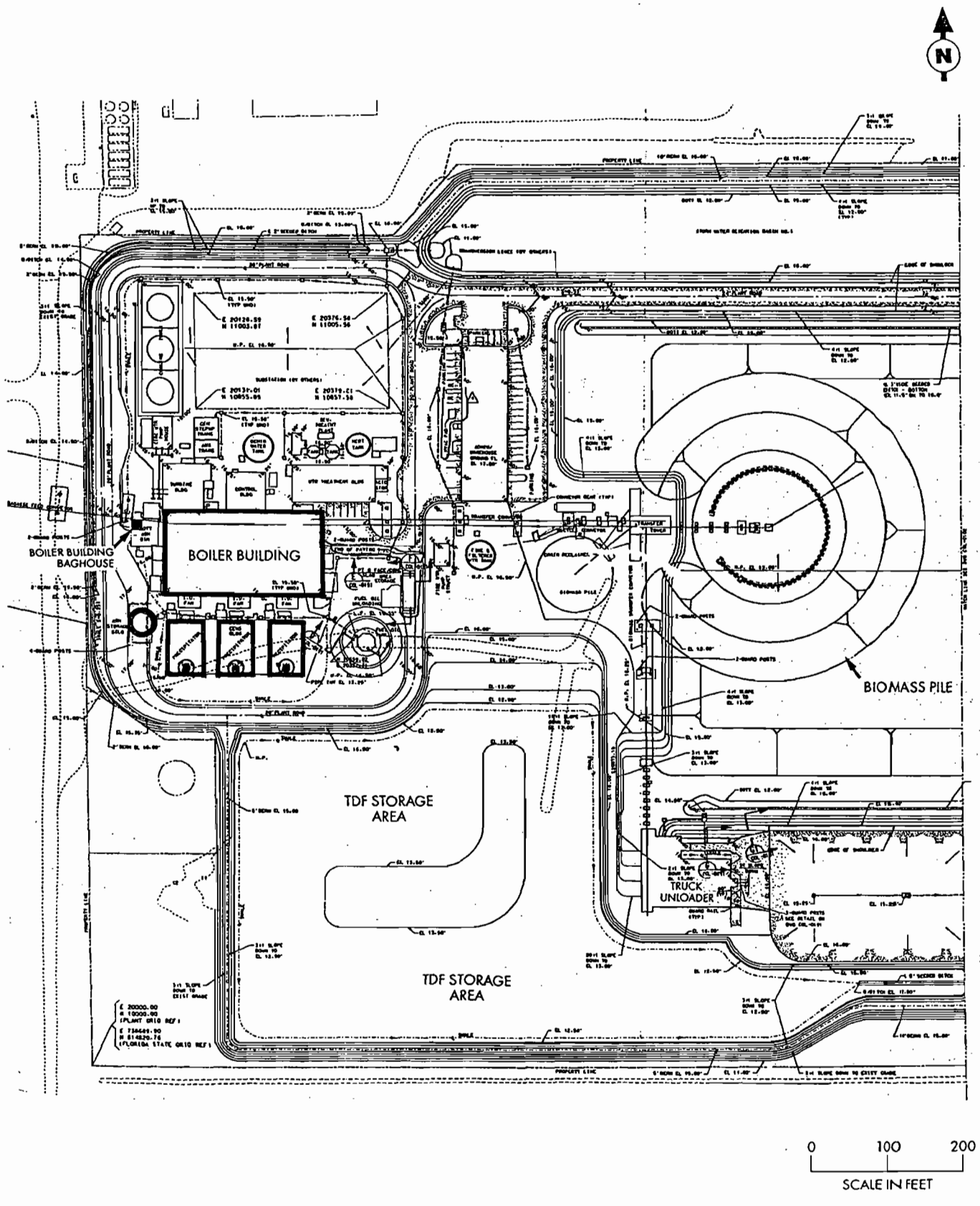

Figure 2-5
Plot Plan of Okeelanta Power

Source: Bechtel, 1995.

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3.0 AIR QUALITY REVIEW REQUIREMENTS AND SOURCE APPLICABILITY

Okeelanta Power received a state and federal PSD construction permit in 1993. PSD review was triggered for SO_2, beryllium, and fluorides. The facility is now in the startup period but has not yet conducted compliance testing. Okeelanta Power is now proposing changes to the facility and desires to amend the PSD construction permit. As presented in Section 2.0, the proposed emissions from the boilers are not greater than the currently permitted emissions. Some additional fugitive PM emissions may be generated by TDF handling. A revised PSD source applicability analysis for Okeelanta Power, incorporating these changes, is provided in Table 3-1. As shown, based on the current permit limits and the Okeelanta Power maximum annual emissions, PSD review will not be triggered by this request.

Although PSD review is not being triggered by the proposed modification, changes are occurring in some air toxics emission rates. As a result, the previous air toxics modeling analysis has been updated. This analysis is presented in Section 4.0.

Table 3-1. PSD Source Applicability Analysis for the Okeelanta Power Facility

Regulated Pollutant	Cogeneration Facility Emissions (TPY)			Significant Emission Rate (TPY)	Current Permit Limit (TPY)	PSD Applies ?	Permit Amendment Required ?
	Baseline	Annual	Net Change				
Particulate (TSP)	473.7	200.0[a]	-273.7	25	172.5[c]	No	No
Particulate (PM10)	426.3	190.8[b]	-235.5	15	172.5[c]	No	No
Sulfur Dioxide	748.3	1,154.3	406.0	40	1,154.3	No	No
Nitrogen Oxides	888.7	862.5	-26.2	40	862.5	No	No
Carbon Monoxide	10,388.0	2,012.5	-8,375.5	100	2,012.5	No	No
VOC	401.9	345.0	-56.9	40	345.0	No	No
Lead	0.28	0.17	-0.11	0.6	0.17	No	No
Mercury	0.0292	0.0300	0.0008	0.1	0.0300	No	No
Beryllium	0.0004	0.0052	0.0048	0.0004	0.0052	No	No
Fluorides	0.04	21.2	21.2	3	21.2	No	No
Sulfuric Acid Mist	22.4	34.6	12.2	7	34.6	No	No
Total Reduced Sulfur	--	--	0	10	--	No	No
Asbestos	--	--	0	0.007	--	No	No
Vinyl Chloride	--	--	0	0	--	No	No

[a] Includes 172.5 TPY from boilers and 27.5 TPY from fugitive dust sources.

[b] Includes 172.5 TPY from boilers and 18.3 TPY from fugitive dust sources.

[c] PM/PM10 emissions from boilers only; does not included fugitive dust sources.

4.0 AIR TOXICS MODELING ANALYSIS

4.1 INTRODUCTION

As a result of the utilization of TDF as a supplemental fuel and the use of updated emission factors for hazardous/toxic air pollutants, emissions of these pollutants may have changed from the original application. In addition, FDEP released Version 4.0 of the air toxics working list in August 1995. As a result, some of the Florida air reference concentrations (FARCs) have changed since the original application. Therefore, a revised air modeling analysis for HAPs/toxics was conducted.

4.2 METHODOLOGY

The procedure used in the analysis followed the recommendations in the U.S. Environmental Protection Agency's (EPA's) modeling guidelines, which are approved by FDEP for general use. The recommendations are related to specific models and options that are preferred for use in particular situations. The guidelines provide recommendations for predicting impacts in both flat or gently rolling terrain by the use of simple terrain models (i.e., terrain less than stack height). These models are applicable to the Okeelanta Cogeneration facility.

The Industrial Source Complex Short-Term (ISCST) dispersion model, Version 95250 (ISCST3; EPA, 1995) is preferred because EPA and FDEP have specifically recommended this model to provide refined air quality impacts in simple terrain. The ISCST3 model is a Gaussian plume model that can be used to assess the air quality impact of emissions from a wide variety of sources associated with an industrial facility.

The ISCST3 model is designed to calculate hour-by-hour concentrations or deposition values and provide averages for time periods of 2, 3, 4, 6, 8, 12, and 24 hours and 1 year. The ISCST3 model has rural and urban options that affect the wind speed profile exponent law, dispersion rates, and mixing-height formulations used in calculating ground-level concentrations. Concentrations are readily obtainable from the model output for comparison to the Florida ambient reference concentrations (FARCs) developed by FDEP. A list of ISCST3 model features is presented in Table 4-1.

For the application of the ISCST3 model, the general modeling approach followed EPA and FDEP modeling guidelines for determining compliance with regulatory standards, such as FARCs.

One source, representing the Okeelanta cogeneration facility's three boilers, was modeled in the ISCST3 model with a generic emission rate of 10.0 grams per second (g/sec) (i.e., 79.365 lb/hr). The selected averaging times were for 8 hours, 24 hours, and annual average. The highest predicted 8-hour, 24-hour, and annual concentrations in 5 years were selected for comparison to the FARCs.

Short-term (i.e., maximum pound per hour) and annual averaged (i.e., tons per year) emission rates were determined for the Okeelanta Cogeneration facility for each HAP and air toxic pollutant emitted. The emission rates for these compounds are provided in Section 2.0. The short-term emission rates for each pollutant were used for determining compliance with the 8-hour and 24-hour FARCs, while the annual averaged emissions were used for determining compliance with the annual FARC. The maximum pollutant-specific impact for each averaging time was determined by multiplying the maximum predicted generic concentration by the pollutant-specific emission rate and dividing the product by the generic emission rate.

Meteorological data used in the ISCST3 model to determine air quality impacts consisted of 5 years of coincident hourly surface weather observations and twice-daily upper-air soundings from the National Weather Service (NWS) station at the West Palm Beach International Airport. The 5-year period of meteorological data was from 1982 through 1986. These data have been recommended by FDEP for projects in the sugar mill area.

For the screening analysis, 36 receptors were located at 10-degree increments along the plant property boundary. A listing of these receptors is presented in Table 4-2. Modeling refinements were performed by using a 2-degree angular spacing along the plant property boundary. The refined receptor grid was centered on the screening analysis receptor that produced the highest impact and extended to and included the adjacent screening grid receptors.

Direction-specific building heights and widths that were used for these sources in the original modeling analysis for the cogeneration facility were also used in the toxic model analysis. The

only significant structure near the cogeneration facility stacks is the cogeneration facility boiler structure (see Figure 2-5). The dimensions of this structure are 120 ft high, 180 ft long, and 75 ft wide.

4.3 MODELING RESULTS

The maximum predicted concentrations for the 8-hour, 24-hour, and annual averaging periods for each HAP and air toxic pollutant are presented in Table 4-3. Table 4-3 indicates the maximum short-term and annual emission rates and the maximum impacts for each compound emitted. As shown, all compounds have maximum impacts that are below the FARC for the 8-hour, 24-hour, and annual averaging times, respectively.

Table 4-1. Major Features of the ISCST3 Model

ISCST3 Model Features
• Polar or Cartesian coordinate systems for receptor locations
• Rural or one of three urban options which affect wind speed profile exponent, dispersion rates, and mixing height calculations
• Plume rise due to momentum and buoyancy as a function of downwind distance for stack emissions (Briggs, 1969, 1971, 1972, and 1975; Bowers, et al., 1979).
• Procedures suggested by Huber and Snyder (1976); Huber (1977); and Schulman and Scire (1980) for evaluating building wake effects
• Procedures suggested by Briggs (1974) for evaluating stack-tip downwash
• Separation of multiple emission sources
• Consideration of the effects of gravitational settling and dry deposition on ambient particulate concentrations
• Capability of simulating point, line, volume, area, and open pit sources
• Capability to calculate dry and wet deposition, including both gaseous and particulate precipitation scavenging for wet deposition
• Variation of wind speed with height (wind speed-profile exponent law)
• Concentration estimates for 1-hour to annual average times
• Terrain-adjustment procedures for elevated terrain including a terrain truncation algorithm for ISCST3; a built-in algorithm for predicting concentrations in complex terrain
• Consideration of time-dependent exponential decay of pollutants
• The method of Pasquill (1976) to account for buoyancy-induced dispersion
• A regulatory default option to set various model options and parameters to EPA recommended values (see text for regulatory options used)
• Procedure for calm-wind processing including setting wind speeds less than 1 m/s to 1 m/s.

Note: ISCST3 = Industrial Source Complex Short-Term.

Source: EPA, 1995.

Table 4-2. Property Boundary Receptors Used in the Modeling Analysis

Direction (deg)	Distance (m)	Direction (deg)	Distance (m)
10	3674.	190	2764.
20	3850.	200	2897.
30	4178.	210	3143.
40	3642.	220	3553.
50	3163.	230	4234.
60	4066.	240	5444.
70	3849.	250	7958.
80	3669.	260	9485.
90	3609.	270	9675.
100	3661.	280	9585.
110	3832.	290	9602.
120	4153.	300	7236.
130	4234.	310	5629.
140	3553.	320	4723.
150	3143.	330	4178.
160	2897.	340	3850.
170	2764.	350	3674.
180	2722.	360	3618.

Note: Distances are relative to centroid of cogeneration facility stacks locations.

Table 4-3. Maximum Impacts of HAPs and Air Toxic Pollutants for Okeelanta Power Cogeneration Facility (total 3 boilers)

	Emission Rates (Total 3 Boilers)		Concentrations (µg/m³)						Compound
	Maximum	Annual	8-Hour		24-Hour		Annual		Complies With
Pollutant	(lb/hr)	(TPY)	Impact	FARC	Impact	FARC	Impact	FARC	FARCs?
acetaldehyde	1.67	4.49	0.0906	450	0.0689	107	0.0029	0.5	YES
acetone	0.82	2.19	0.0442	17800	0.0336	4238	1.4E-03	NA	YES
acetophenone	0.0079	0.021	0.0004	490	0.0003	117	1.4E-05	100	YES
acrolein	0.139	0.37	0.0076	2.3	0.0057	0.5	2.4E-04	0.02	YES
ammonia	70.6	123.3	3.8229	170	2.9072	41	0.080	100	YES
antimony	0.051	0.029	0.0028	5	0.0021	1.2	1.9E-05	0.3	YES
arsenic	0.36	0.32	0.0193	0.1	0.0147	0.02	0.00021	0.00023	YES
barium	0.11	0.09	0.0059	5	0.0045	1.2	5.9E-05	50	YES
benzene	2.79	7.48	0.1511	30	0.1149	7	0.0049	0.12	YES
benzo (a) anthracene (POM)	0.0016	0.0043	8.7E-05	NA	6.6E-05	NA	2.8E-06	0.0011	YES
benzo (a) pyrene	7.6E-05	2.0E-04	4.1E-06	NA	3.1E-06	NA	1.3E-07	0.0003	YES
beryllium	0.0087	5.0E-04	4.7E-04	0.02	3.6E-04	0.005	3.3E-07	0.00042	YES
bromine	1.16	0.88	0.0629	6.6	0.0478	1.6	5.7E-04	NA	YES
cadmium	0.0049	0.0083	2.6E-04	0.02	2.0E-04	0.005	5.4E-06	0.00056	YES
carbon disulfide	0.28	0.75	0.0151	310	0.0115	74	4.9E-04	200	YES
carbon tetrachloride	0.013	0.035	0.0007	310	0.0005	74	2.2E-05	0.067	YES
chlorine	1.97	5.29	0.1069	15	0.0813	3.6	0.0034	0.4	YES
chloroform	0.10	0.27	0.0055	490	0.0042	117	1.8E-04	0.043	YES
chromium	0.34	0.32	0.0182	5	0.0139	1.2	2.1E-04	1000	YES
chromium +6	0.067	0.064	0.0036	0.5	0.0028	0.1	4.2E-05	0.000083	YES
chrysene	0.076	0.20	0.0041	2	0.0031	0.5	1.3E-04	NA	YES
cobalt	0.330	0.37	0.0179	0.5	0.0136	0.1	2.4E-04	NA	YES
copper	0.79	1.04	0.0429	10	0.0326	2.4	6.8E-04	NA	YES
cumene	0.039	0.10	0.0021	2460	0.0016	586	6.7E-05	1	YES
dibutyl phthalate	0.124	0.33	0.0067	50	0.0051	12	2.2E-04	100	YES
ethylbenzene	0.008	0.022	0.0005	4340	0.0003	1033	1.5E-05	1000	YES
fluorine (as fluorides)	35.28	21.21	1.9115	25	1.4536	6	0.014	NA	YES
formaldehyde	2.79	7.48	0.1511	3.7	0.1149	0.9	0.0049	0.077	YES
hexane	1.18	3.16	0.0639	1760	0.0486	419	0.0021	200	YES
hydrogen chloride	116.1	113.1	6.2919	70	4.7848	17	0.0735	7	YES
indium	0.27	0.73	0.0148	1	0.0112	0.2	4.7E-04	NA	YES
iodine	0.0050	0.012	0.0003	10	0.0002	2.4	7.8E-06	NA	YES
isopropanol	19.73	52.90	1.0690	9800	0.8129	2333	3.4E-02	NA	YES
lead	0.071	0.171	0.0038	0.5	0.0029	0.1	1.1E-04	0.09	YES
manganese	0.77	1.18	0.0414	50	0.0315	12	7.7E-04	0.05	YES
mercury	0.014	0.037	0.0007	0.5	0.0006	0.1	2.4E-05	0.3	YES
methanol	3.22	8.63	0.1743	2600	0.1326	619	5.6E-03	NA	YES
methyl ethyl ketone	0.026	0.069	0.0014	5900	0.0011	1405	4.5E-05	1000	YES
methyl isobutyl ketone	1.84	4.95	0.0999	2050	0.0760	488	3.2E-03	NA	YES
methylene chloride	3.22	8.63	0.1743	1740	0.1326	414	5.6E-03	2	YES
molybdenum	0.05	0.053	0.0025	50	0.0019	12	3.4E-05	NA	YES
m&p xylene	0.017	0.045	0.0009	4340	0.0007	1033	2.9E-05	80	YES
napthalene	1.27	3.39	0.0686	500	0.0521	119	2.2E-03	NA	YES
nickel	0.047	0.073	0.0025	10	0.0019	2.4	4.8E-05	0.0042	YES
o xylene	0.006	0.015	0.0003	4340	0.0002	1033	9.7E-06	80	YES
PAH	1.3E-06	3.4E-06	6.9E-08	2	5.2E-08	0.5	2.2E-09	NA	YES
phenols	0.088	0.24	0.0048	190	0.0036	45	1.5E-04	30	YES
phosphorus	1.26	0.73	0.0685	1	0.0521	0.2	4.7E-04	NA	YES
pom (polycyclic organic matter)	0.012	0.013	0.0007	NA	0.0005	NA	8.4E-06	NA	YES
selenium	0.079	0.10	0.0043	2	0.0032	0.5	6.5E-05	NA	YES
silver	0.0030	0.0081	1.6E-04	0.1	1.2E-04	0.02	5.2E-06	NA	YES
styrene	0.032	0.086	0.0017	2130	0.0013	507	5.6E-05	1000	YES
sulfuric acid mist	52.9	34.6	2.87	10	2.18	2.4	2.3E-02	NA	YES
tin	0.013	0.0076	7.0E-04	1	5.3E-04	0.2	4.9E-06	NA	YES
2,3,7,8 -TCDD (dioxin)	1.3E-08	3.5E-08	7.0E-10	NA	5.3E-10	NA	2.2E-11	2.2E-08	YES
toluene	0.19	0.52	0.0105	1880	0.0080	448	3.4E-04	400	YES
1, 1, 1 trichloroethane	0.36	0.98	0.0198	19000	0.015	4524	6.4E-04	NA	YES
trichloroethylene	0.016	0.044	0.0009	2690	6.7E-04	640	2.8E-05	0.77	YES
tungsten	2.8E-05	7.4E-05	1.50E-06	50	1.1E-06	12	4.8E-08	NA	YES
uranium	2.6E-05	3.0E-05	1.4E-06	0.5	1.1E-06	0.1	1.9E-08	NA	YES
vanadium	8.2E-04	0.0014	4.4E-05	0.5	3.4E-05	0.1	9.1E-07	20	YES
yttrium	1.4E-04	3.8E-04	7.6E-06	10	5.8E-06	2.4	2.5E-07	NA	YES
zinc	10.48	13.23	0.57	10	0.43	2.4	8.6E-03	NA	YES
zirconium	8.8E-04	0.0024	4.8E-05	50	3.6E-05	12	1.5E-06	NA	YES

Notes: FARC= Florida Ambient Reference Concentrations, Version 4.0.
Maximum concentrations determined with ISCST3 model and West Palm Beach meteorological data for 1982 to 1986.
Highest predicted concentrations (µg/m³) for a generic emission rate of 10 g/s (79.365 lb/hr) are :

8-hour=	4.3
24-hour=	3.27
Annual=	0.226

APPENDIX A

EMISSION FACTORS

Table A-1. Emission Factors for Criteria/Designated Pollutants, Okeelanta Power L. P. Cogeneration Facility

Regulated Pollutant	Biomass		No. 2 Fuel		Coal		Tire-Derived Fuel	
	Emission Factor (lb/MMBtu)	Reference	Emission Factor (lb/MMBtu)	Reference	Emission Factor (lb/MMBtu)	Reference	Emission Factor (lb/MMBtu)	Reference
Particulate (TSP)	0.03	NSPS, Current permit limit	0.03	NSPS, Current permit limit	0.03	NSPS, Current permit limit	0.03	NSPS, Current permit limit
Particulate (PM10)	0.03	NSPS, Current permit limit	0.03	NSPS, Current permit limit	0.03	NSPS, Current permit limit	0.03	NSPS, Current permit limit
Sulfur dioxide: 24-hr Annual average - Bagass - Wood w	0.10 0.02 0.05	Current permit limit Current permit limit Okeelanta CEM data	0.05	Current permit limit	1.2	NSPS, Current permit limit	1.2 0.8	NSPS, Current permit limit S content of TDF; S capture in ash
Nitrogen oxides	0.15	Current permit limit	0.15	Current permit limit	0.17	Current permit limit	0.15	Current permit limit for biomass
Carbon monoxide	0.35	Current permit *limit*	0.20	Current permit limit	0.20	Current permit limit	0.35	Current permit limit for biomass
VOC	0.060	Current permit limit	0.03	Current permit limit	0.03	Current permit limit	0.06	Current permit *limit* for biomass
Lead	2.5E-05	Current permit	8.9E-07	Current permit limit	6.4E-05	Current permit limit	4.2E-05	TDF analysis; 99% removal
Mercury- Bagasse Wood waste	6.3E-06 2.9E-07	Current permit Current permit	2.4E-06	Current permit limit	8.4E-06	Current permit limit	6.5E-06	TDF analysis
Beryllium	--		3.5E-07	Current permit limit	5.9E-06	Current permit limit	4.5E-07	TDF analysis; 99% removal
Fluorides	--		6.27E-06	Current permit limit	0.024	Current permit limit	6.5E-04	TDF analysis
Sulfuric acid mist: 24-hr Annual average	0.003 0.0060	Original permit application AP-42; 4% of SO2 is SO3	0.0015	Current permit limit	0.036	Current permit limit	0.010 0.0069	AP-42 factor for coal: 0.7% of SO2 is SO3
Total reduced sulfur	--		--		--	--	--	--
Asbestos	--		--		--	--	--	--
Vinyl Chloride	--		--		--	--	--	--

Table A-2. Emission Factors for Hazardous Air Pollutants

	Biomass			No. 2 Fuel Oil			Coal		
	Ref	Published Emission Factor	Converted Emission Factor (lb/MMBtu)	Ref.	Published Emission Factor	Converted Emission Factor (lb/MMBtu)	Ref.	Published Emission Factor	Converted Emission Factor (lb/MMBtu)
Acetaldehyde	1	7.8E-04 lb/MMBtu	7.8E-04						
Acetophenone	1	3.7E-06 lb/MMBtu	3.7E-06						
Acrolein	1	6.5E-05 lb/MMBtu	6.5E-05						
Antimony	1	ND	--	3	24 lb/10^{12} Btu[a]	2.4E-07	5	0.15 ng/J	3.5E-05
Arsenic - Maximum	10	1.66E-04 lb/MMBtu	1.66E-04	8	4.2 lb/10^{12} Btu[a]	4.2E-08	9	542 lb/10^{12} Btu[a]	5.4E-06
- Annual	10	5.65E-05 lb/MMBtu	5.65E-05						
Benzene	1	1.3E-03 lb/MMBtu	1.3E-03						
Cadmium	1	0.84 lb/10^{12} Btu	8.4E-07	8	11 lb/10^{12} Btu[a]	1.1E-07	9	43 lb/10^{12} Btu[a]	4.3E-07
Carbon Disulfide	1	1.3E-04 lb/MMBtu	1.3E-04						
Carbon Tetrachloride	1	6E-06 lb/MMBtu	6.0E-06						
Chlorine	2	0.0078 lb/ton	9.2E-04						
Chloroform	1	4.7E-05 lb/MMBtu	4.7E-05						
Chromium - Maximum	10	1.57E-04 lb/MMBtu	1.57E-04	8	67 lb/10^{12} Btu[a]	6.7E-07	9	1570 lb/10^{12} Btu[a]	1.6E-05
- Annual	10	5.55E-05 lb/MMBtu	5.55E-05						
Chromium (VI) - Maximum	10	3.14E-05 lb/MMBtu	3.14E-05	7	20% of Cr	1.3E-07	7	20% of Cr	3.1E-06
- Annual	10	1.11E-05 lb/MMBtu	1.11E-05						
Cobalt	2	1.3E-04 lb/ton[a]	1.3E-04	5	50.5 pg/J	1.2E-05	5	0.31 ng/J	7.2E-05
Cumene	1	1.8E-05 lb/MMBtu	1.8E-05						
Di - n - Butyl Phthalate	1	5.8E-05 lb/MMBtu	5.8E-05						
Ethyl Benzene	1	3.9E-06 lb/MMBtu	3.9E-06						
Formaldehyde	1	1.3E-03 lb/MMBtu	1.3E-03	8	405 lb/10^{12} Btu	4.1E-04	9	221 lb/10^{12} Btu	2.2E-04
n Hexane	1	5.5E-04 lb/MMBtu	5.5E-04						
Hydrogen Chloride	1	5.6E-04 lb/MMBtu	5.6E-04	6	274 pg/J	6.4E-04	6	33.9 ng/J	7.9E-02
Manganese	1	95 lb/10^{12} Btu	9.5E-05	8	14 lb/10^{12} Btu[a]	1.4E-07	4	31 lb/10^{12} Btu[a]	3.1E-07
Methanol	1	1.5E-03 lb/MMBtu	1.5E-03						
Methyl Ethyl Ketone	1	1.2E-05 lb/MMBtu	1.2E-05						
Methyl Isobutyl Ketone	1	8.6E-04 lb/MMBtu	8.6E-04						
Methylene Chloride	1	1.5E-03 lb/MMBtu	1.5E-03						
Napthalene	1	5.9E-04 lb/MMBtu	5.9E-04						
Nickel	1	6.3 lb/10^{12} Btu	6.3E-06	8	170 lb/10^{12} Btu[a]	1.7E-06	4	1020 lb/10^{12} Btu[a]	1.0E-05
Phenols	1	4.1E-05 lb/MMBtu	4.1E-05						
Phosphorous	1	160 lb/10^{12} Btu	1.6E-06	5	25 pg/J	5.8E-05	5	3.7 ng/J	8.6E-04
Polycyclic Organic Matter	2	22 lb/10^{12} Btu	2.2E-07	8	8 lb/10^{12} Btu	8.4E-06			
Selenium	1	3.8 lb/10^{12} Btu	3.8E-06	2	38 lb/10^{12} Btu[a]	3.8E-07	5	0.23 ng/J	5.3E-05
Styrene	1	1.5E-05 lb/MMBtu	1.5E-05						
2,3,7,8 Tetrachlorodibenzo -p-dioxin	2	5.1E-11 lb/ton	6.0E-12						
Toluene	1	9.0E-05 lb/MMBtu	9.0E-05						
1,1,1 Trichlorethane	1	1.7E-04 lb/MMBtu	1.7E-04						
Trichloroethylene	1	7.6E-06 lb/MMBtu	7.6E-06						
m & p Xylene	1	7.8E-06 lb/MMBtu	7.8E-06						
o Xylene	1	2.6E-06 lb/MMBtu	2.6E-06						

[a] Uncontrolled emission factor; 99% control with ESP is assumed to calculate controlled emission factor.

Conversions:
lb/10^{12} Btu x 10^{12} Btu/1,000,000 MMBtu = lb/MMBtu
lb/ton x ton/2000 lb x lb/4250 BTU x 10^{6} Btu/MMBtu = lb/MMBtu
ng/J x 2.324×10^{-3} = lb/MMBtu (uncontrolled)
ng/J x 2.324×10^{-4} = lb/MMBtu (90% controll)
pg/J x 2.324×10^{-6} = lb/MMBtu (uncontrolled)
ng/J x 2.324×10^{-4} = lb/MMBtu (90% controll)

Note: UD = undetectable levels in gas stream.
References
1: Based on NCASI Compilation of Air Toxic Emission Data for Boilers, Pulp Mills, and Bleach Plants, Technical Bulletin No. 650, June 1993, Tables 5A an
2: AP-42, Tables 1.6-5 and 1.6-7.
3. AP-42, Table 1.3-11, low value for No. 6 fuel oil.
4: Estimating Emissions from Oil and Coal Combustion Sources EPA-450/2-89-001 (1989).
5: Emissions Assessment of Conventional Stationary Combustion Systems Volume V, 1981. Based on an uncontrolled spreader stoker design and then assuming 90% control from ESP.
6: Emissions Assessment of Conventional Stationary Combustion Systems Volume V, 1981. Based on an uncontrolled spreader stoker design.
7: Based upon stack test data at Dade County RRF, 1992, which indicated less than 20% of total chromium was chromium +6.
8. AP-42, Tables 1.3-9 and 1.3-11.
9. AP-42, Table 1.1-13.
10. Based on 3.0% treated wood burning.

Source: KBN, 1996.

Table A-3. Emission Factors for Additional Florida Air Toxics, Okeelanta Power

Pollutant	Biomass Ref.	Biomass Published Emission Factor	Biomass Converted Emission Factor (lb/MMBtu)	No.2 Fuel Oil Reference	No.2 Fuel Oil Published Emission Factor	No.2 Fuel Oil Converted Emission Factor (lb/MMBtu)	Coal Ref.	Coal Published Emission Factor	Coal Converted Emission Factor (lb/MMBtu)
Acetone	1	3.8E-04 lb/MMBtu	3.80E-04						
Ammonia	2	1.50E-02 lb/MMBtu	1.50E-02	2	1.50E-02 lb/MMBtu	1.50E-02	2	4.80E-02 lb/MMBtu	4.80E-02
Barium	3	0.0044 lb/ton[a]	5.20E-06	6	28.8 pg/J	6.69E-07	6	3.2 ng/J	7.44E-05
Benzo(a)anthracene	3	6.4E-06 lb/ton	7.53E-07						
Benzo(a)pyrene	3	3.0E-07 lb/ton	3.53E-08						
Bromine	3	0.00039 lb/ton	4.59E-05	6	3.0 pg/J	6.97E-07	6	0.34 ng/J	7.90E-04
Chrysene	3	3.0E-04 lb/ton	3.53E-05						
Copper - Maximum	4	1.48E-04 lb/MMBtu	1.48E-04	7	4.20E-05 lb/MMBtu	4.20E-05	8	1.71E-04 lb/MMBtu	1.71E-04
Copper - Annual	4	7.24E-05 lb/MMBtu	7.24E-05						
Indium	5	1.27E-04 lb/MMBtu	1.27E-04						
Iodine	2	1.8E-05 lb/ton	2.12E-06						
Isopropanol	1	9.2E-03 lb/MMBtu	9.20E-03						
Molybdenum	2	1.9E-04 lb/ton[a]	2.24E-07	6	21 pg/J	4.88E-07	6	0.38 ng/J	8.83E-06
PAH	1	5.9E-04 lb/MMBtu	5.90E-10						
Silver	1	140 lb/10_{12} Btu[a]	1.40E-06						
Thallium	1	ND	ND						
Tin	2	3.1E-05 lb/ton[a]	3.65E-08	6	142 pg/J	3.3E-06	6	0.38 ng/J	8.83E-06
Tungsten	2	1.1E-05 lb/ton[a]	1.29E-08						
Vanadium	2	1.2E-04 lb/ton[a]	1.41E-07						
Yttrium	2	5.6E-05 lb/ton[a]	6.59E-08						
Zirconium	2	3.5E-04 lb/ton[a]	4.12E-07						
Zinc	9	14,130 ppm	4.24E-04	6	28.8 pg/J	6.69E-07	6	1.5 ng/J	3.49E-05

[a] Uncontrolled emission factor; 99% control with ESP is assumed to calculate controlled emission factor.
ND = Non-detectable

References

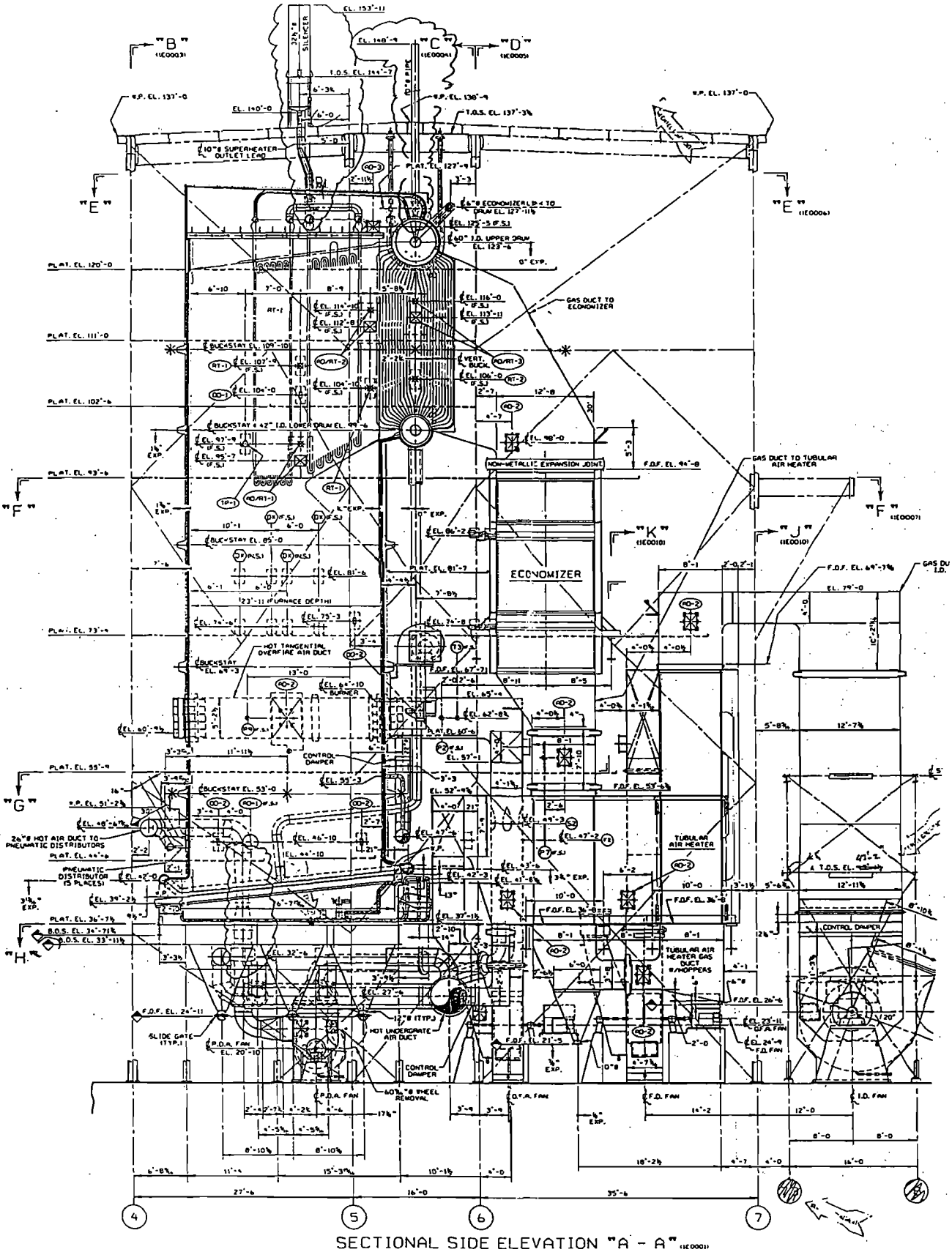
1. NCASI Technical Bulletin No. 650, June 1993.
2. Based on 25ppm NH3 in exhaust gases for biomass and No. 2 Fuel Oil; 65 ppm NH3 for coal.
3. AP-42, Tables 1.6-5 and 1.6-7.
4. Based on 3.0 % treated wood burning.
5. EPA PM/VOC Database updated October, 1989.
6. Emissions Assessment of Conventional Stationary Combustion Systems, Volume V, 1981. Based on uncontrolled spreader stoker design and then assuming 99% control from ESP if emitted as a particulate.
7. Toxic Air Pollutant Emission FActors - A Compilation for Selected Air Toxic Compounds and Sources, Second Edition EPA-450/2-90-011 (1990).
8. Estimating Emissions from Oil and Coal Combustion Sources EPA-450/2-89-001 (1989).
9. Air Toxics Emissions From Wood-Fired Boilers. C. Sassenrath, 1991 TAPPI Proceedings.

Conversions:

lb/10_{12} Btu x 10_{12} Btu/1,000,000 MMBtu = lb/MMBtu
lb/ton x ton/2000 lb x lb/4,250 BTU x 10_6 Btu/MMBtu = lb/MMBtu
pg/J x 2.324×10^{-6} (lb/MMBtu)/(pg/J)x (1 - 0.99) = 2.324^{-8} lb/MMBtu
ng/J x 2.324×10^{-3} (lb/MMBtu)/(ng/J)x (1 - 0.99) = 2.324^{-5} lb/MMBtu

APPENDIX B

DRAWINGS

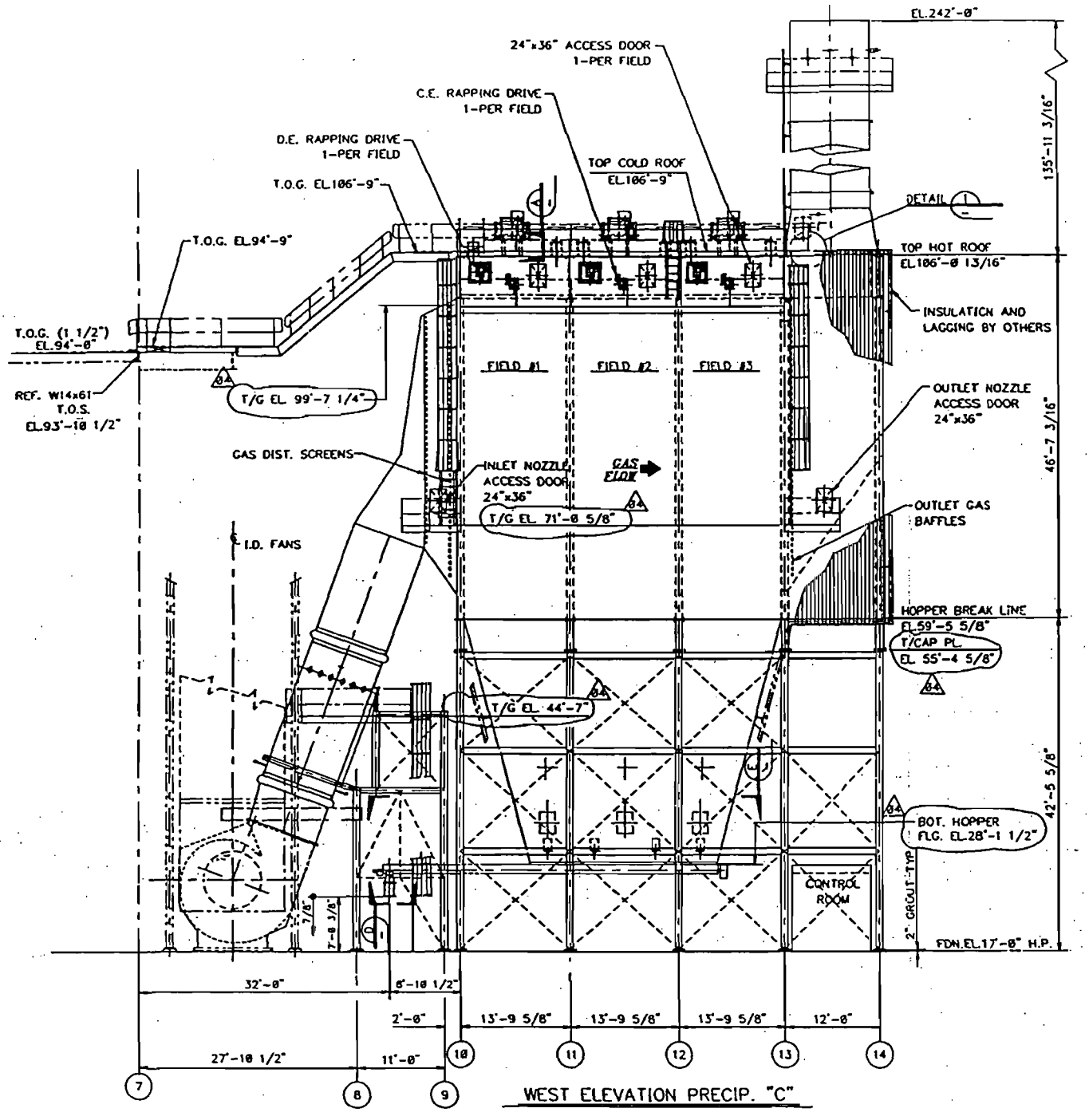


SECTIONAL SIDE ELEVATION "A - A"

LOOKING WEST @ CENTERLINE OF UNIT
COLUMN LINES "D" & "F" BRACING SHOWN

General Arrangement View of Boiler

Source: ABB Environmental Systems, 1994.



East Elevation of ESPs with Stack

Source: ABB Environmental Systems, 1994.

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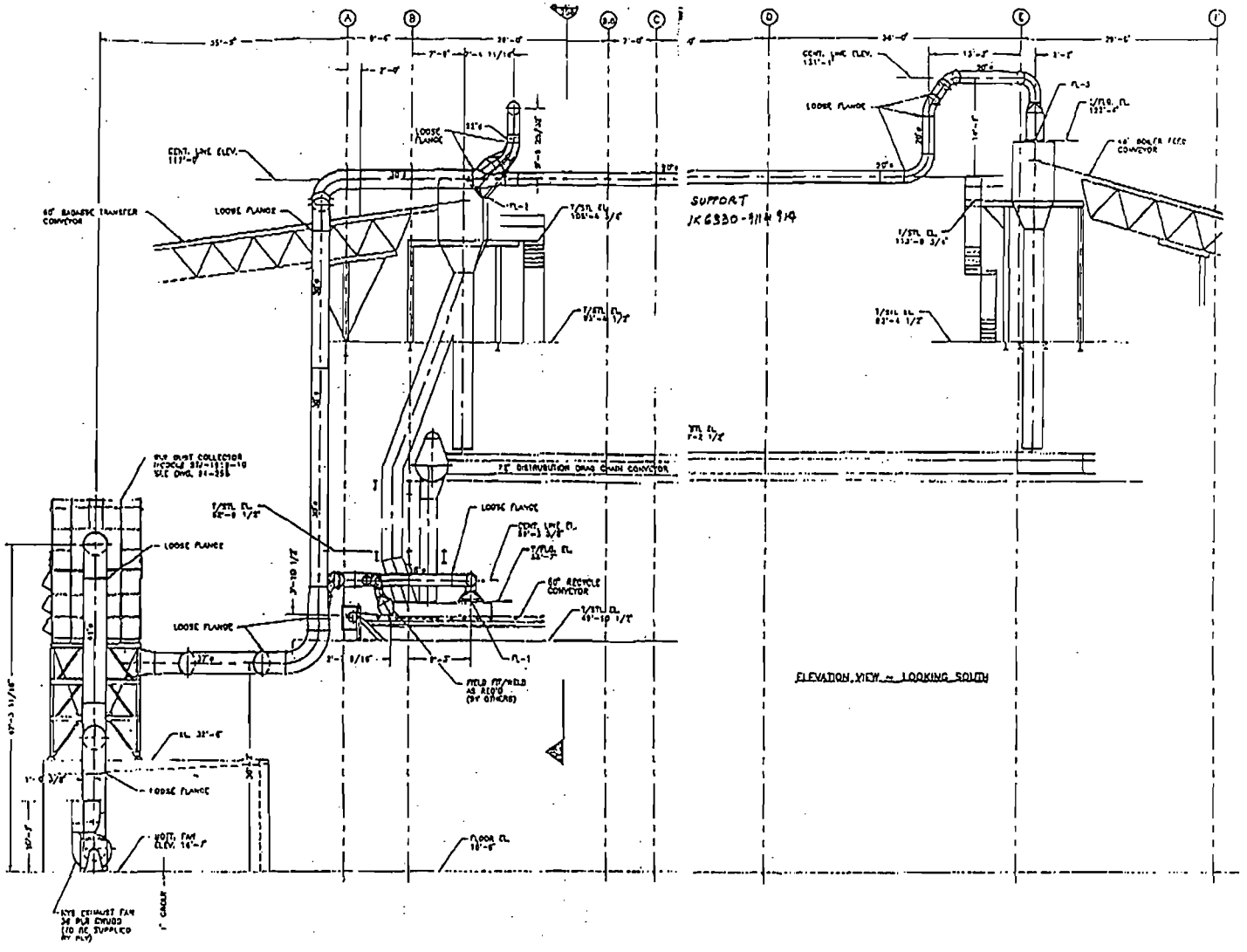
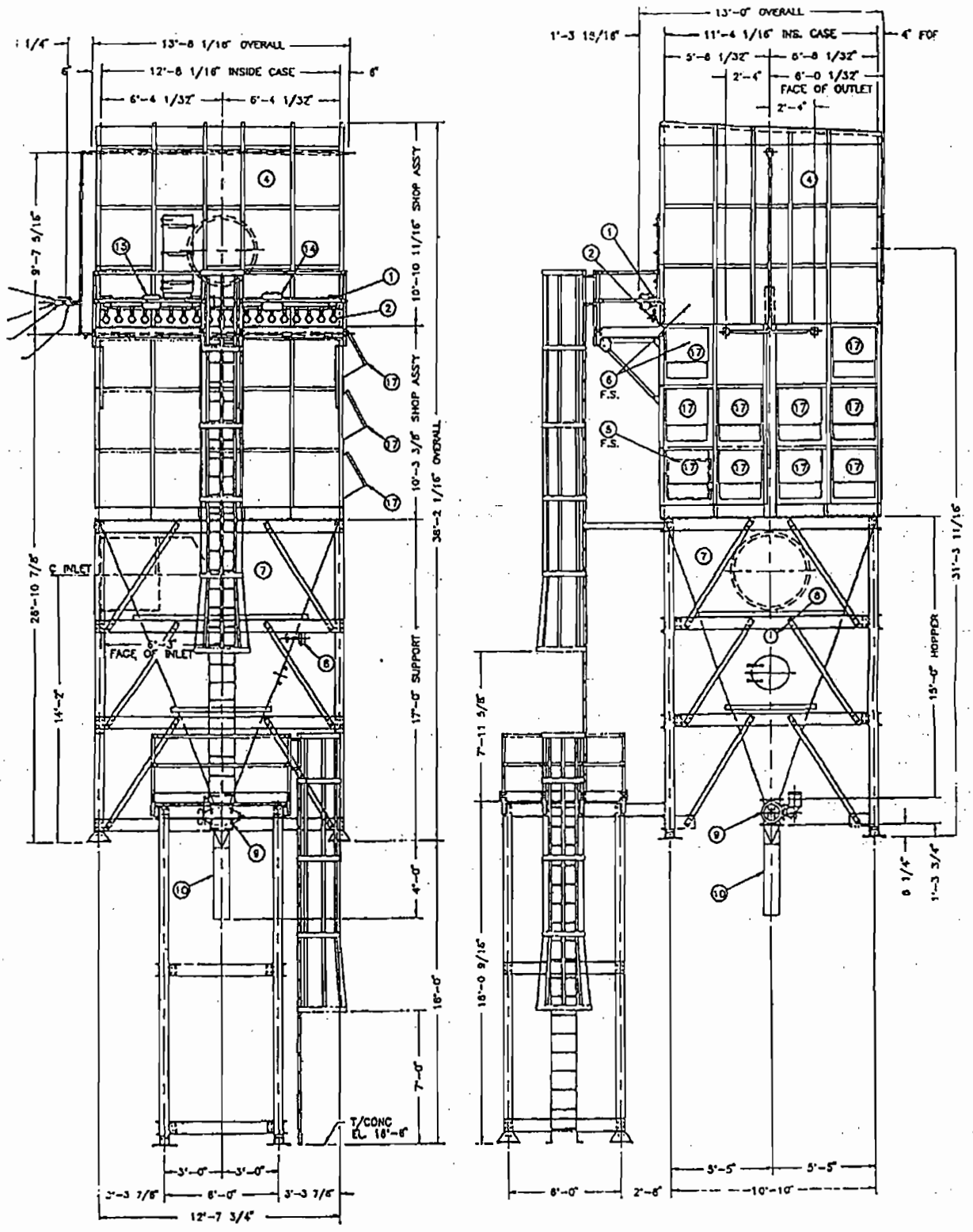
A GOLDER ASSOCIATES COMPANY



Schematic of Dust Collector at Boiler House

Source: Sly, Inc., 1994.



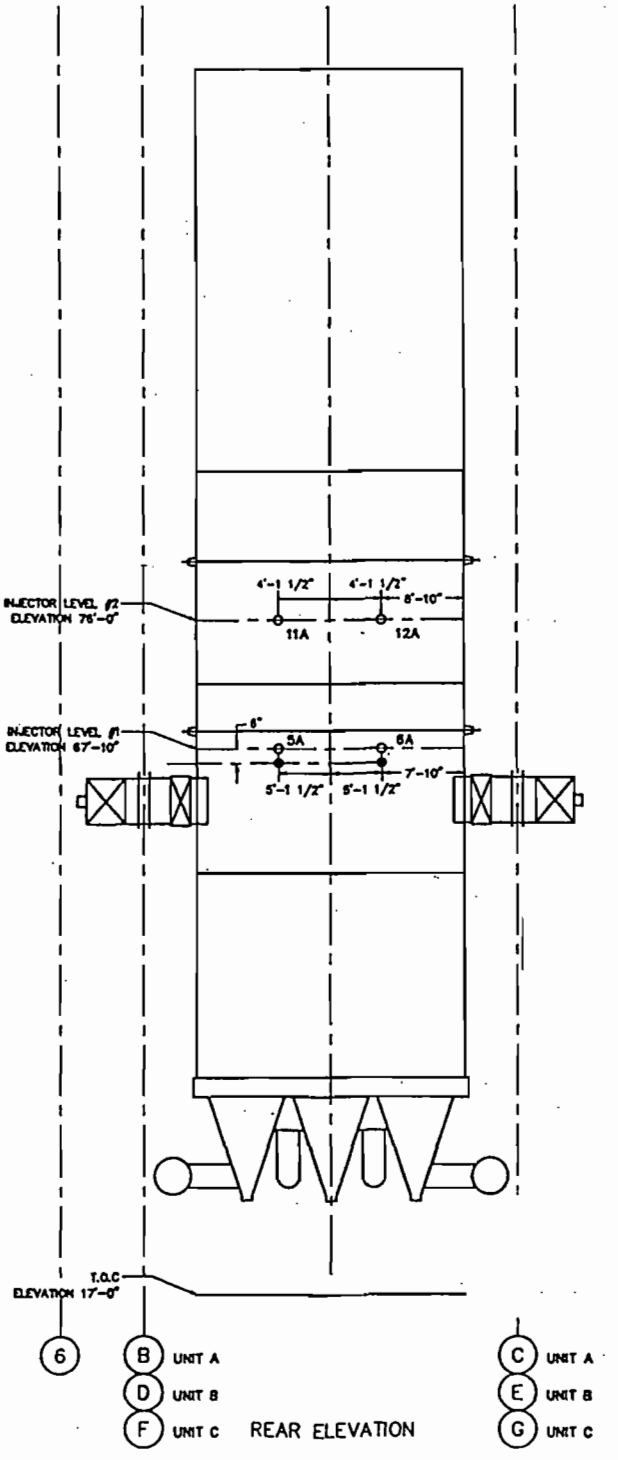
FRONT ELEVATION
LOOKING NORTH

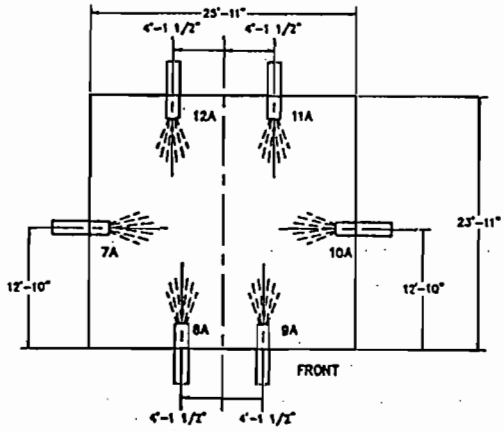
END ELEVATION
LOOKING WEST

Elevation Views of Dust Collector at Boiler House

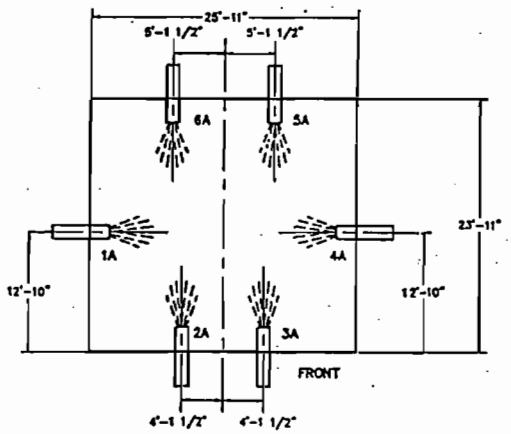
Source: Sly, Inc., 1994.

KBN





PLAN VIEW @ LEVEL #2
EL. 76'-0"

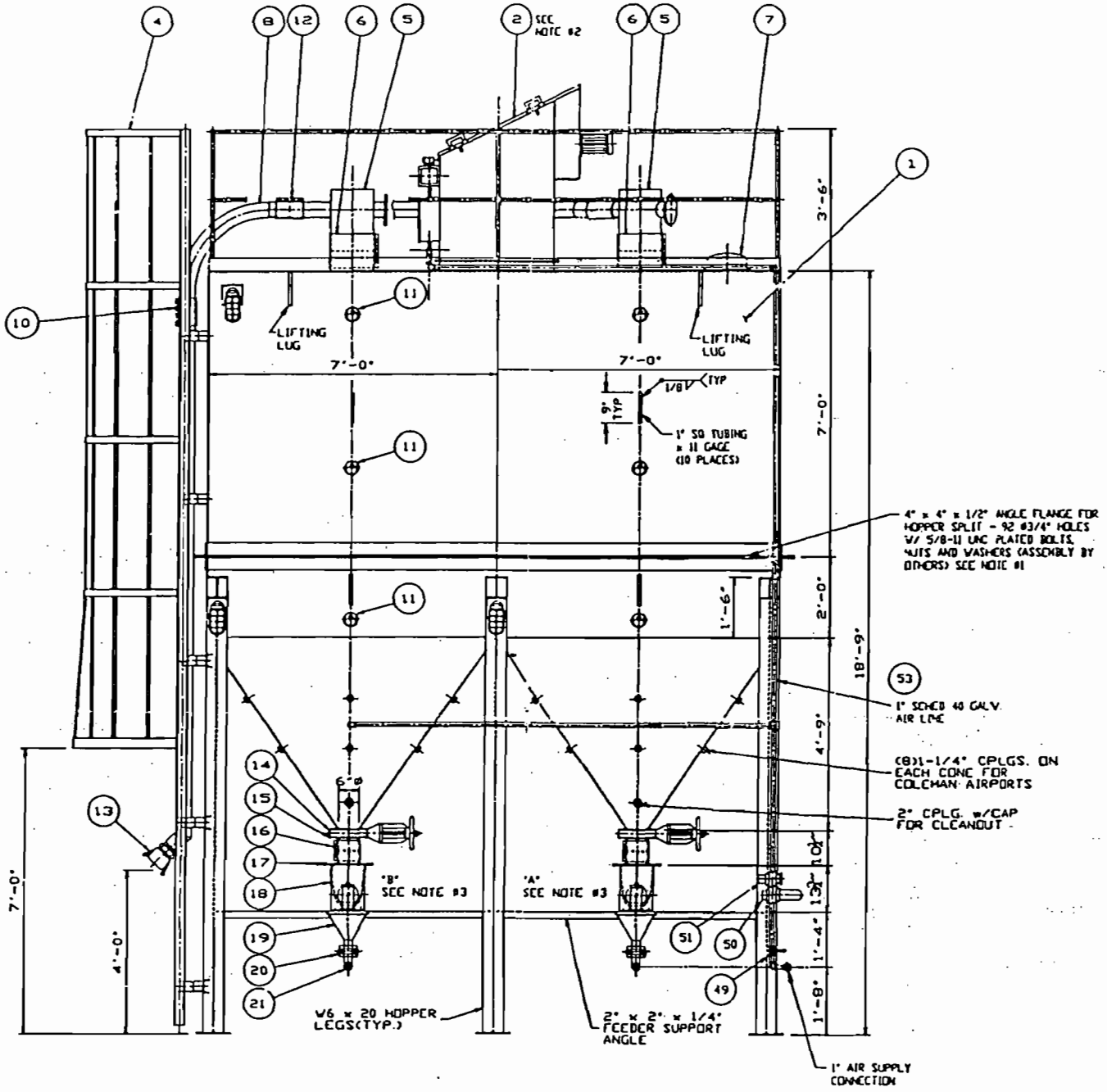


PLAN VIEW @ LEVEL #1
EL. 67'-10"

Schematic of Urea Injection Points

Source: Nalco FuelTech, 1994.

KBN
A GOLDER ASSOCIATES COMPANY

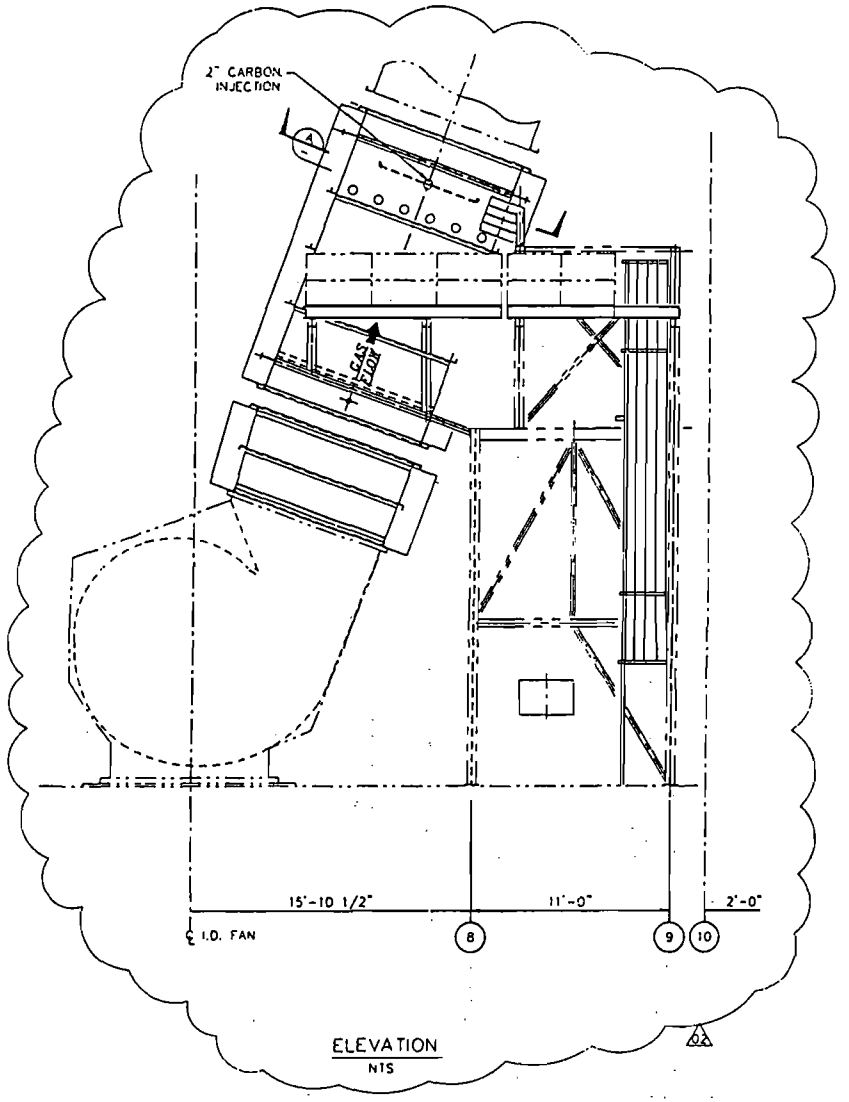


WEST ELEVATION

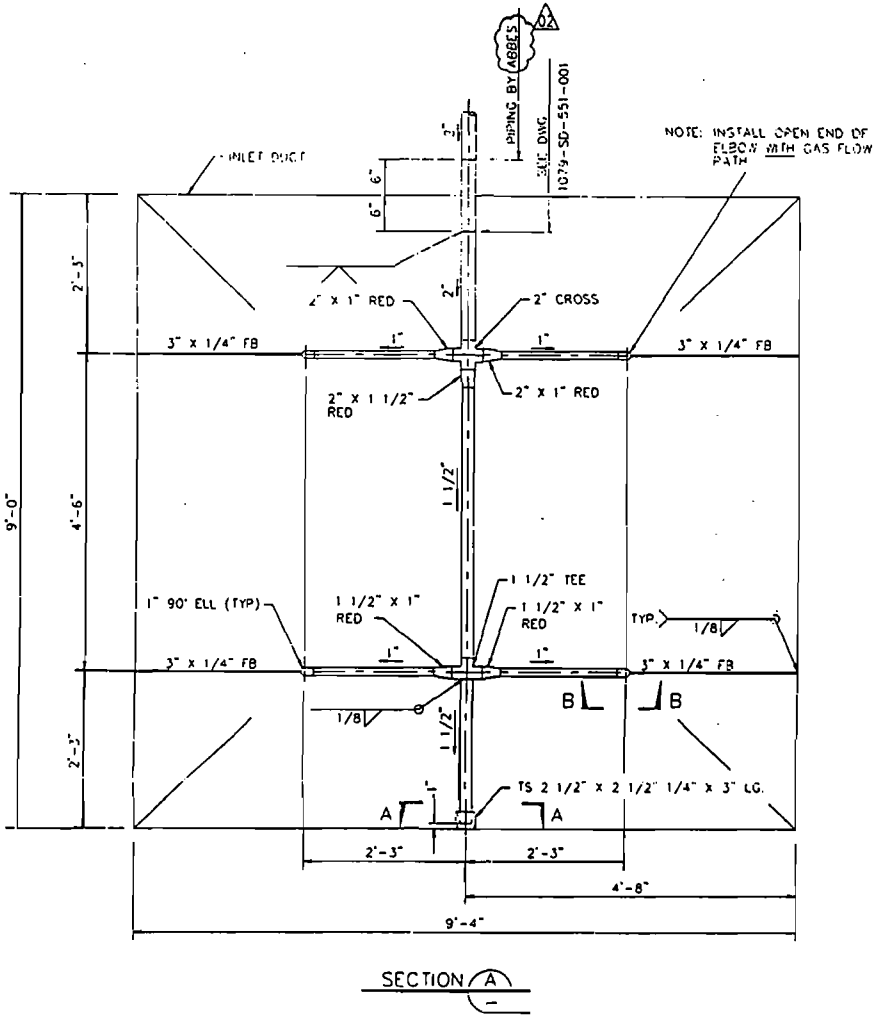
West Elevation of Carbon Storage Silos

Source: Chemco Equipment Co., 1994.

KBN



ELEVATION
NTS

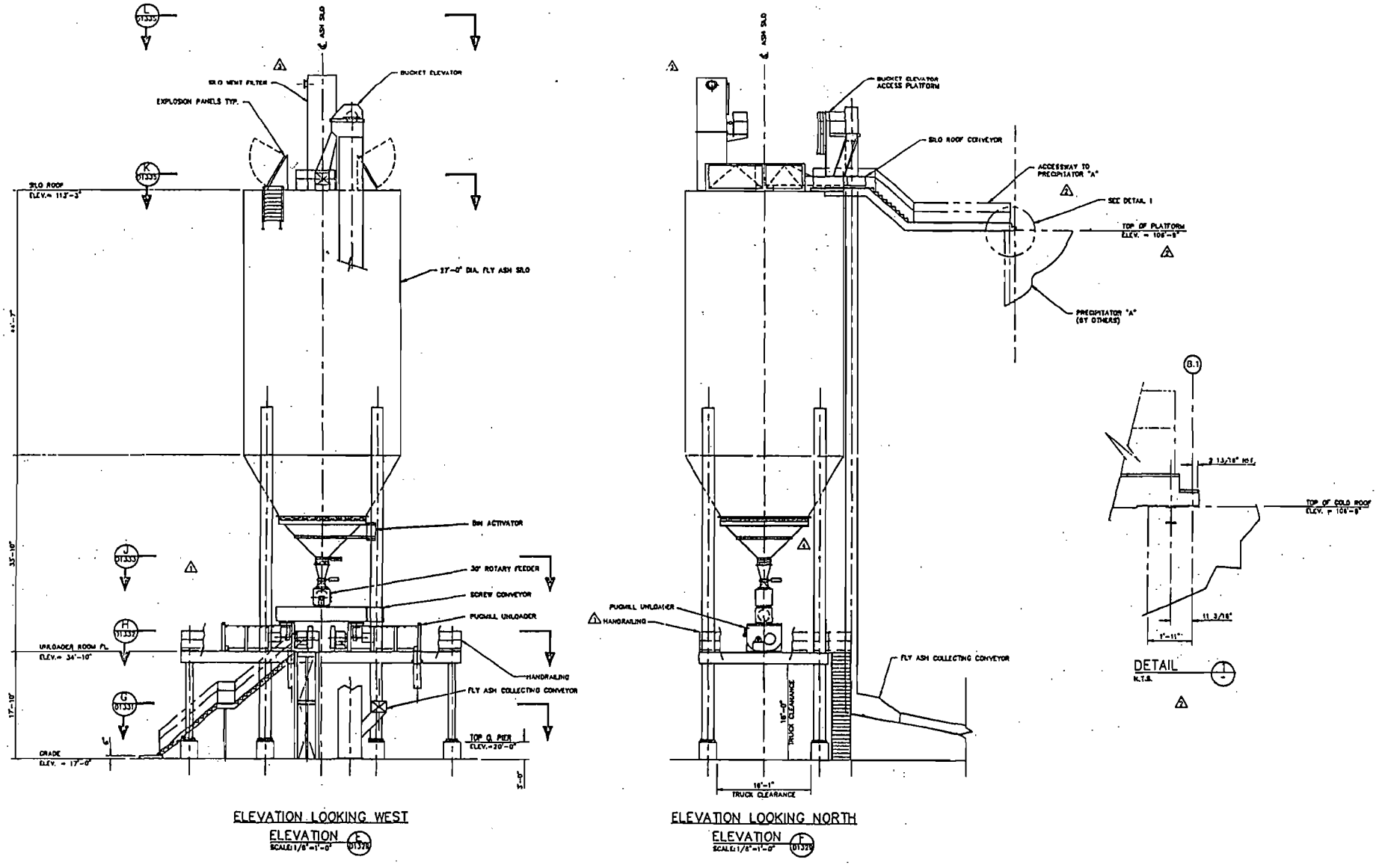


SECTION A
A

Carbon Injection Configuration for Mercury Control

Source: ABB Environmental Systems, 1994.

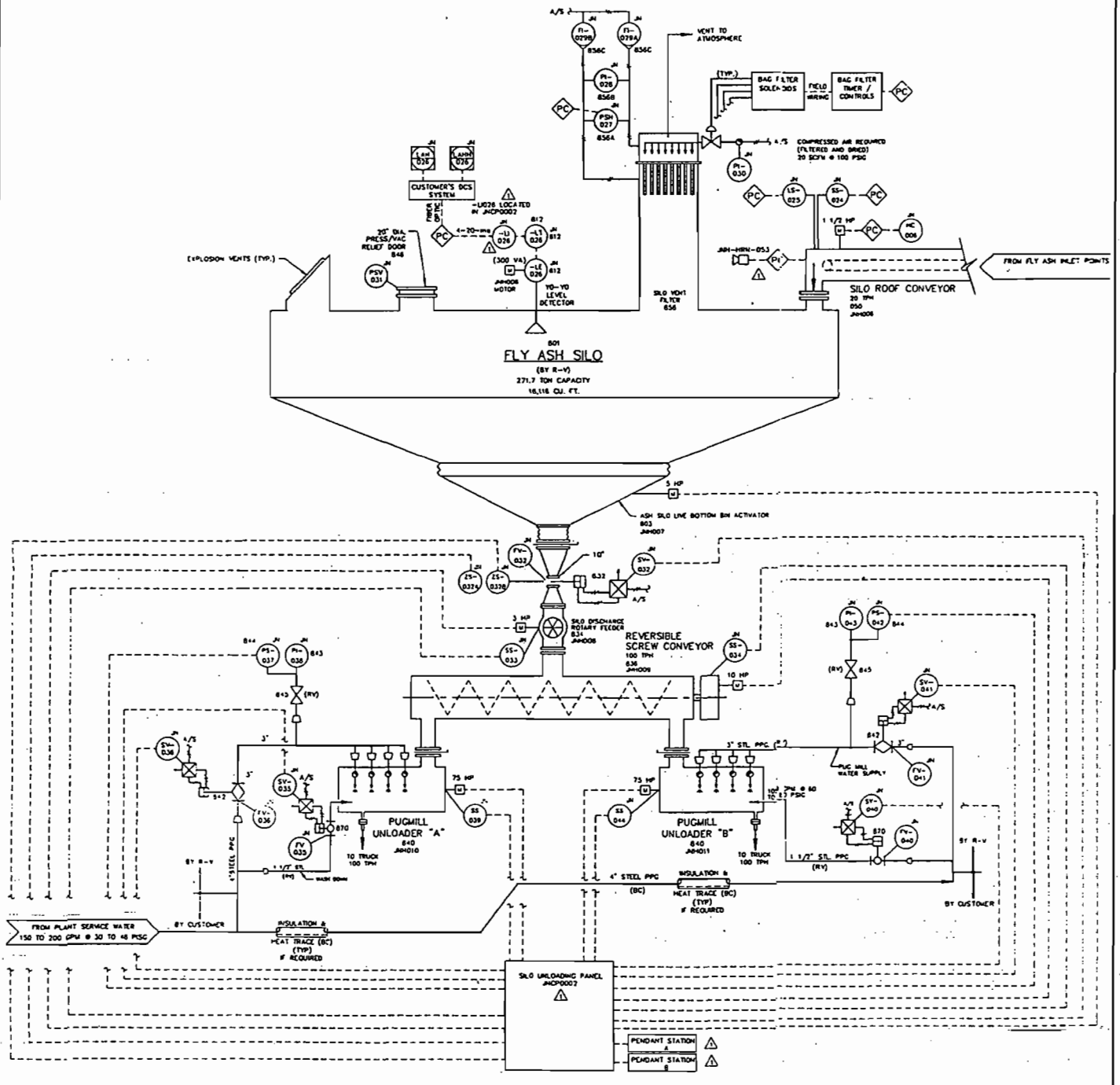
KBN



General Arrangement of Fly Ash System

Source: RV Industries, Inc., 1994.

KBN
A GOLDER ASSOCIATES COMPANY



Fly Ash Silo

Source: RV Industries, Inc., 1994.

KBN

APPENDIX C

FUGITIVE DUST CALCULATIONS

Table C-1. Estimation of Emission Factors and Rates For Vehicle Traffic on Unpaved Roads
Okeelanta Power Generation Facility

General Data	Pile Mainten. Front-end loader	Pile Mainten. Front-end loader	Pile Mainten. Front-end loader
Vehicle Data			
Description	Biomass	Coal	Tire-Derived Fuel
Vehicle Speed (S), mph- Average	5	5	5
Vehicle weight (W), tons- Loaded	27	27	27
- Unloaded	9	9	9
- Average	18	18	18
Vehicle number of wheels (w)	4	4	4
Vehicle miles traveled (VMT)- Annual	21,900 a	4,800 b	21,900 b
General/ Site Characteristics			
Days of precipitation greater than or equal to 0.01 inch (p)- Annual	120	120	120
Silt content (s), %	5	5	5
Particle size multiplier, PM (k)	1.00	1.00	1.00
Particle size multiplier, PM10 (k)	0.35	0.35	0.35
Emission Control Data			
Emission control method	Watering	Watering	Watering
Emission control removal efficiency, %	50	50	50
Calculated PM Emission Factor (EF)			
Uncontrolled EF, lb/VMT - Annual	0.96	0.96	0.96
Controlled (Final) EF,lb/VMT- Annual	0.48	0.48	0.48
Calculated PM10 Emission Factor (EF)			
Uncontrolled EF, lb/VMT - Annual	0.34	0.34	0.34
Controlled (Final) EF,lb/VMT- Annual	0.17	0.17	0.17
Estimated Emission Rate (ER)			
PM ER, lb/hr	2.41	2.41	11.00
TPY	5.278	1.157	5.278
PM10 ER, lb/hr	0.84	0.84	3.85
TPY	1.847	0.405	1.847

Emission Factor (EF) Equations

Uncontrolled EF (UEF) Equation:

UEF(lb/VMT) = k x 5.9 x (s/12) x (S/30) x (W/3)^0.7 x (w/4)^0.5 x ((365 - p)/365)

Controlled (Final) EF (CEF) Equation:

CEF(lb/VMT) = UEF (lb/ton) x (100 - Removal efficiency (%))

a Based on vehicle operating 12 hrs/day, 365 days/yr.
b Based on vehicle operating 8 hrs/day, 120 days/yr.

Source: AP-42, Section 13.2.1, Unpaved Roads, July, 1994.

Spreadsheet as of 11:52:07 on 03-28-1995

ut Filename: coalpile.epc
.nventory area: Osceola Power L.P.
Source ID: Coalpile Filename: A:\Coalpile.EPC

Emissions estimate year: 94
Based on wind data year: 94
Fastest mile filename: westp94.met
System of units: English
Source life (inclusive days of year)
Start day: 1
End day: 365
F=flat area, PC=conical pile, PO=oval pile: PC
Pile height (ft) :30
Pile diameter (ft) :500
Area (sq ft): 197658
Material description: Coal
Percent moisture content: 4.5
Percent silt content: 2.2
Threshold friction velocity, U*t, (cm/sec): 112
Roughness height (cm): 0.1
Mode (mm) of size distribution 3.533677# (# denotes calculated value)
Lc value (cf. Fig. 6-3 of reference manual):

Frequency of disturbance information :
/Ur = .9 -- subarea # 1 -- 50 % of regime disturbed every 4 day(s)
./Ur = .6 -- subarea # 1 -- 50 % of regime disturbed every 4 day(s)
Us/Ur = .2 -- subarea # 1 -- 50 % of regime disturbed every 4 day(s)

Total emissions emitted over the period: 95652.99 g

Threshold velocity = 112 cm/s
Control: Effective windspeed ratio = 1

Us/Ur = .9 Disturbance interval = 4 days

Period 9 - 13 high on 10 1.2069 m/s 1438.047 g emitted
Period 13 - 17 high on 16 1.12644 m/s 90.01624 g emitted
Period 33 - 37 high on 34 1.16667 m/s 712.3215 g emitted
Period 41 - 45 high on 45 1.32759 m/s 4235.759 g emitted
Period 45 - 49 high on 46 1.40805 m/s 6618.004 g emitted
Period 61 - 65 high on 62 1.85058 m/s 27114.97 g emitted
Period 65 - 69 high on 68 1.24713 m/s 2267.197 g emitted
Period 73 - 77 high on 77 1.16667 m/s 712.3215 g emitted
Period 77 - 81 high on 77 1.16667 m/s 712.3215 g emitted
Period 85 - 89 high on 88 1.12644 m/s 90.01624 g emitted
riod 89 - 93 high on 93 1.24713 m/s 2267.197 g emitted
od 93 - 97 high on 93 1.24713 m/s 2267.197 g emitted
Period 137 - 141 high on 141 1.24713 m/s 2267.197 g emitted
Period 141 - 145 high on 141 1.24713 m/s 2267.197 g emitted
Period 165 - 169 high on 168 1.16667 m/s 712.3215 g emitted
Period 189 - 193 high on 193 1.56897 m/s 12623.55 g emitted

```
Period  193 - 197  high on  193   1.56897  m/s  12623.55  g emitted
Period  205 - 209  high on  207   1.2069   m/s  1438.047  g emitted
Period  209 - 213  high on  212   1.32759  m/s  4235.759  g emitted
 -iod   321 - 325  high on  323   1.2069   m/s  1438.047  g emitted
  iod   329 - 333  high on  333   1.12644  m/s  90.01624  g emitted
.eriod  333 - 337  high on  333   1.12644  m/s  90.01624  g emitted
Period  349 - 353  high on  353   1.16667  m/s  712.3215  g emitted
Period  353 - 357  high on  353   1.16667  m/s  712.3215  g emitted

Summary for Us/Ur =  .9      Disturbance Interval =  4
 87735.69  Total g emitted over  1  -  365
-----------------------------------------------------------------
Us/Ur =  .6    Disturbance interval = 4  days

Period  61 - 65  high on  62   1.23372  m/s  7917.303  g emitted

Summary for Us/Ur =  .6      Disturbance Interval =  4
 7917.303  Total g emitted over  1  -  365
-----------------------------------------------------------------
Us/Ur =  .2    Disturbance interval = 4  days


Summary for Us/Ur =  .2      Disturbance Interval =  4
 0  Total g emitted over  1  -  365
-----------------------------------------------------------------
Summary for entire source:  95652.99   g emitted over period  1  -  365
NOTE: For a variety of reasons given in the user manual, the erosion estimates
      presented above may be considered as CONSERVATIVELY HIGH.  See the
      user manual for more information.
```

Spreadsheet as of 11:57:11 on 03-28-1995

Jt Filename: bagpile.epc
..ventory area: Osceola Power L.P.
Source ID: Bagpile Filename: A:\Bagpile.EPC

Emissions estimate year: 94
Based on wind data year: 94
Fastest mile filename: westp94.met
System of units: English
Source life (inclusive days of year)
Start day: 1
End day: 365
F=flat area, PC=conical pile, PO=oval pile: PC
Pile height (ft) :30
Pile diameter (ft) :566
Area (sq ft): 252888.5
Material description: Bagasse/WW
Percent moisture content: 37
Percent silt content: 2.2
Threshold friction velocity, U*t, (cm/sec): 112
Roughness height (cm): 0.3
Mode (mm) of size distribution 3.533677# (# denotes calculated value)
Lc value (cf. Fig. 6-3 of reference manual):

Frequency of disturbance information :
'Ur = .9 -- subarea # 1 -- 20 % of regime disturbed every 1 day(s)
/Ur = .6 -- subarea # 1 -- 20 % of regime disturbed every 1 day(s)
Us/Ur = .2 -- subarea # 1 -- 20 % of regime disturbed every 1 day(s)

Total emissions emitted over the period: 79243.23 g

Threshold velocity = 112 cm/s
Control: Effective windspeed ratio = 1

Us/Ur = .9 Disturbance interval = 1 days

Period 9 - 10 high on 10 1.2069 m/s 735.9493 g emitted
Period 10 - 11 high on 10 1.2069 m/s 735.9493 g emitted
Period 15 - 16 high on 16 1.12644 m/s 46.0676 g emitted
Period 16 - 17 high on 16 1.12644 m/s 46.0676 g emitted
Period 33 - 34 high on 34 1.16667 m/s 364.5446 g emitted
Period 34 - 35 high on 34 1.16667 m/s 364.5446 g emitted
Period 44 - 45 high on 45 1.32759 m/s 2167.734 g emitted
Period 45 - 46 high on 46 1.40805 m/s 3386.895 g emitted
Period 46 - 47 high on 46 1.40805 m/s 3386.895 g emitted
Period 61 - 62 high on 62 1.85058 m/s 13876.62 g emitted
Period 62 - 63 high on 62 1.85058 m/s 13876.62 g emitted
Period 67 - 68 high on 68 1.24713 m/s 1160.283 g emitted
Period 68 - 69 high on 68 1.24713 m/s 1160.283 g emitted
Period 76 - 77 high on 77 1.16667 m/s 364.5446 g emitted
Period 77 - 78 high on 77 1.16667 m/s 364.5446 g emitted
Period 87 - 88 high on 88 1.12644 m/s 46.0676 g emitted

```
Period  88 - 89  high on  88   1.12644  m/s  46.0676  g emitted
Period  92 - 93  high on  93   1.24713  m/s  1160.283  g emitted
Period  93 - 94  high on  93   1.24713  m/s  1160.283  g emitted
Period  94 - 95  high on  94   1.16667  m/s  364.5446  g emitted
  iod  139 - 140  high on  140   1.2069  m/s  735.9493  g emitted
 riod  140 - 141  high on  141   1.24713  m/s  1160.283  g emitted
Period  141 - 142  high on  141   1.24713  m/s  1160.283  g emitted
Period  142 - 143  high on  142   1.2069  m/s  735.9493  g emitted
Period  167 - 168  high on  168   1.16667  m/s  364.5446  g emitted
Period  168 - 169  high on  168   1.16667  m/s  364.5446  g emitted
Period  191 - 192  high on  192   1.2069  m/s  735.9493  g emitted
Period  192 - 193  high on  193   1.56897  m/s  6460.352  g emitted
Period  193 - 194  high on  193   1.56897  m/s  6460.352  g emitted
Period  206 - 207  high on  207   1.2069  m/s  735.9493  g emitted
Period  207 - 208  high on  207   1.2069  m/s  735.9493  g emitted
Period  211 - 212  high on  212   1.32759  m/s  2167.734  g emitted
Period  212 - 213  high on  212   1.32759  m/s  2167.734  g emitted
Period  322 - 323  high on  323   1.2069  m/s  735.9493  g emitted
Period  323 - 324  high on  323   1.2069  m/s  735.9493  g emitted
Period  332 - 333  high on  333   1.12644  m/s  46.0676  g emitted
Period  333 - 334  high on  333   1.12644  m/s  46.0676  g emitted
Period  352 - 353  high on  353   1.16667  m/s  364.5446  g emitted
Period  353 - 354  high on  353   1.16667  m/s  364.5446  g emitted
Period  354 - 355  high on  354   1.12644  m/s  46.0676  g emitted

Summary for Us/Ur =  .9      Disturbance Interval =  1
 71139.55  Total g emitted over  1  -  365
------------------------------------------------------------------
Us/Ur =  .6    Disturbance interval = 1  days

  od  61 - 62  high on  62   1.23372  m/s  4051.837  g emitted
Period  62 - 63  high on  62   1.23372  m/s  4051.837  g emitted

Summary for Us/Ur =  .6      Disturbance Interval =  1
 8103.673  Total g emitted over  1  -  365
------------------------------------------------------------------
Us/Ur =  .2    Disturbance interval = 1  days


Summary for Us/Ur =  .2      Disturbance Interval =  1
 0  Total g emitted over  1  -  365
------------------------------------------------------------------
Summary for entire source:  79243.23   g emitted over period  1  -  365
NOTE: For a variety of reasons given in the user manual, the erosion estimates
      presented above may be considered as CONSERVATIVELY HIGH.  See the
      user manual for more information.
```

APPENDIX D

TANKS PROGRAM OUTPUT

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification

Identification No.:	Fuel Tank
City:	South Bay
State:	FL
Company:	Okeelanta Power
Type of Tank:	Vertical Fixed Roof

Tank Dimensions

Shell Height (ft):	24
Diameter (ft):	20
Liquid Height (ft):	24
Avg. Liquid Height (ft):	12
Volume (gallons):	50000
Turnovers:	392
Net Throughput (gal/yr):	19600000

Paint Characteristics

Shell Color/Shade:	Gray/Light
Shell Condition:	Good
Roof Color/Shade:	Gray/Light
Roof Condition:	Good

Roof Characteristics

Type:	Dome
Height (ft):	0.00
Radius (ft) (Dome Roof):	20.00
Slope (ft/ft) (Cone Roof):	0.0000

Breather Vent Settings

Vacuum Setting (psig):	-0.03
Pressure Setting (psig):	0.03

Meteorological Data Used in Emission Calculations: West Palm Beach, Florida

Mixture/Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	81.99	73.58	90.40	76.84	0.0130	0.0100	0.0167	130.000			130.00	Option 4: A=12.1010, B=8907.0

Annual Emissions Report

Liquid Contents	Losses (lbs.): Standing	Withdrawal	Total
Distillate fuel oil no. 2	25.81	199.52	225.33
Total:	25.81	199.52	225.33

APPENDIX E

BASIS FOR SULFUR CAPTURE WHEN BURNING TDF AND BIOMASS IN COMBINATION

APPENDIX E

OKEELANTA POWER COGENERATION FACILITY
BASIS FOR SULFUR CAPTURE WHEN BURNING TDF/BIOMASS

---

1. WORST-CASE, SHORT-TERM CONDITION
   25% TDF, 75% biomass, weight basis
   Tons wood burned = 375 MMBtu/hr ÷ 5,500 Btu/lb = 34.09 TPH

   Sulfur in fuel:
   Biomass = 375 MMBtu/hr x 0.10 lb/MMBtu = 37.5 lb/hr
   TDF = 340 MMBtu/hr ÷ 15,500 Btu/lb = 21,935 lb/hr
   = 21,935 lb/hr x 1.23% S = 269.8 lb/hr
   Total = 37.5 + 269.8 = 307.3 lb/hr

   Tons wood/lb S in fuel = 34.09 ÷ 307.3 = 0.11

   Sulfur Capture = 122.34 x $(0.11)^{0.5}$ = 41%

2. ANNUAL AVERAGE CONDITIONS
   9.1% TDF, 90.9% biomass, weight basis
   Assume all biomass utilized is wood waste.

   From Table 2-2:
   Wood waste = 815,455 TPY; 8.97 x 10^{12} Btu/yr
   TDF = 81,613 TPY

   Sulfur in fuel:
   Wood waste = 8.97 x 10^{12} Btu/yr x 0.02 lb/MMBtu = 179,400 lb/yr
   TDF = 81,613 TPY x 2,000 lb/ton x 1.23% = 2,007,680 lb/yr
   Total = 179,400 + 2,007,680 = 2,187,080 lb/yr

   Tons wood/lb S in fuel = 815,455 ÷ 2,187,080 = 0.373

   Sulfur Capture = 122.34 x $(0.373)^{0.5}$ = 75%

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ncasi technical bulletin

NATIONAL COUNCIL OF THE PAPER INDUSTRY FOR AIR AND STREAM IMPROVEMENT, INC., 260 MADISON AVENUE, NEW YORK, N.Y. 10016

SULFUR CAPTURE IN COMBINATION BARK BOILERS

TECHNICAL BULLETIN NO. 640

SEPTEMBER 1992

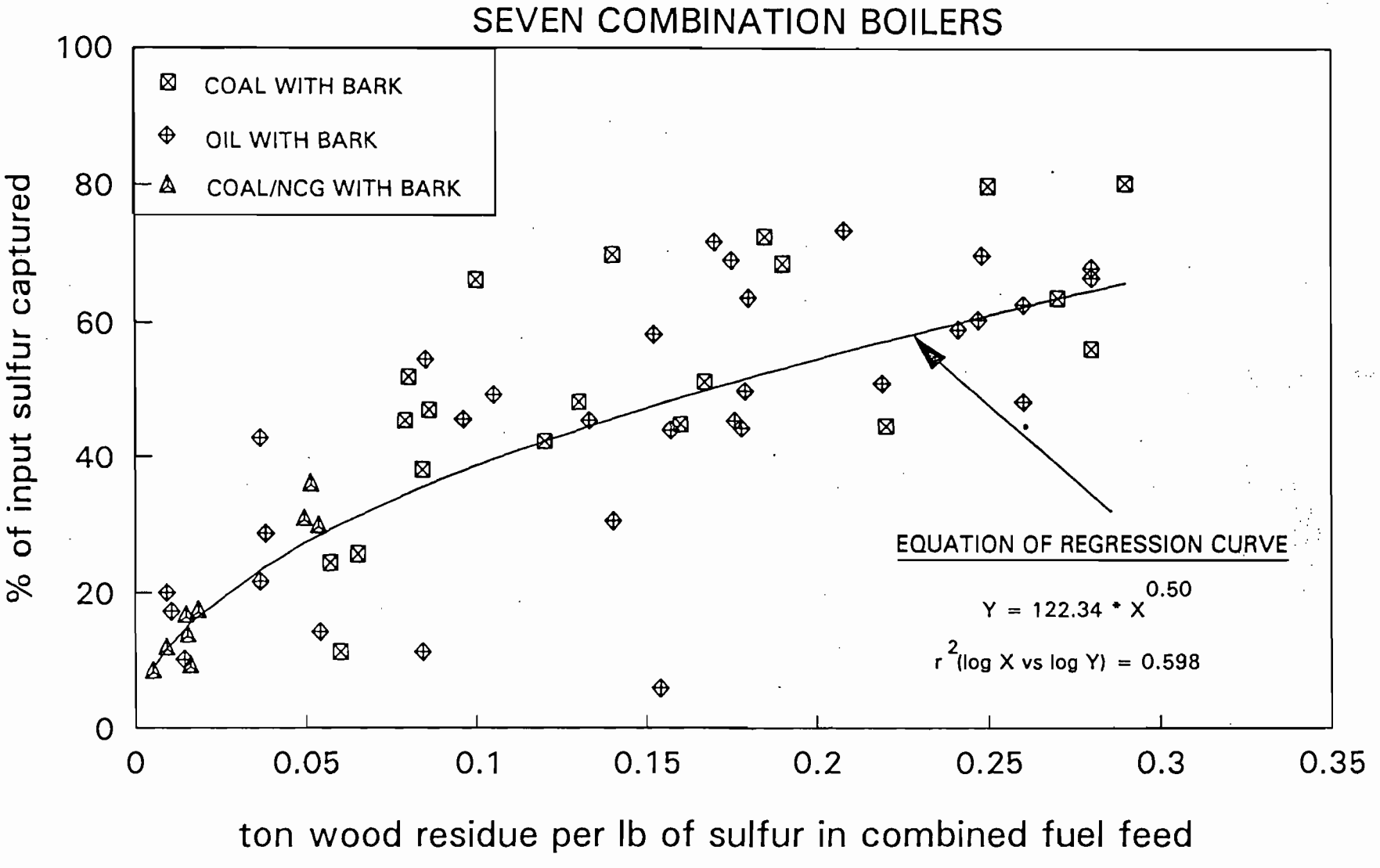

FIGURE 11 SUMMARY OF GAS-SOLID SULFUR CAPTURE IN COMBINATION BOILERS