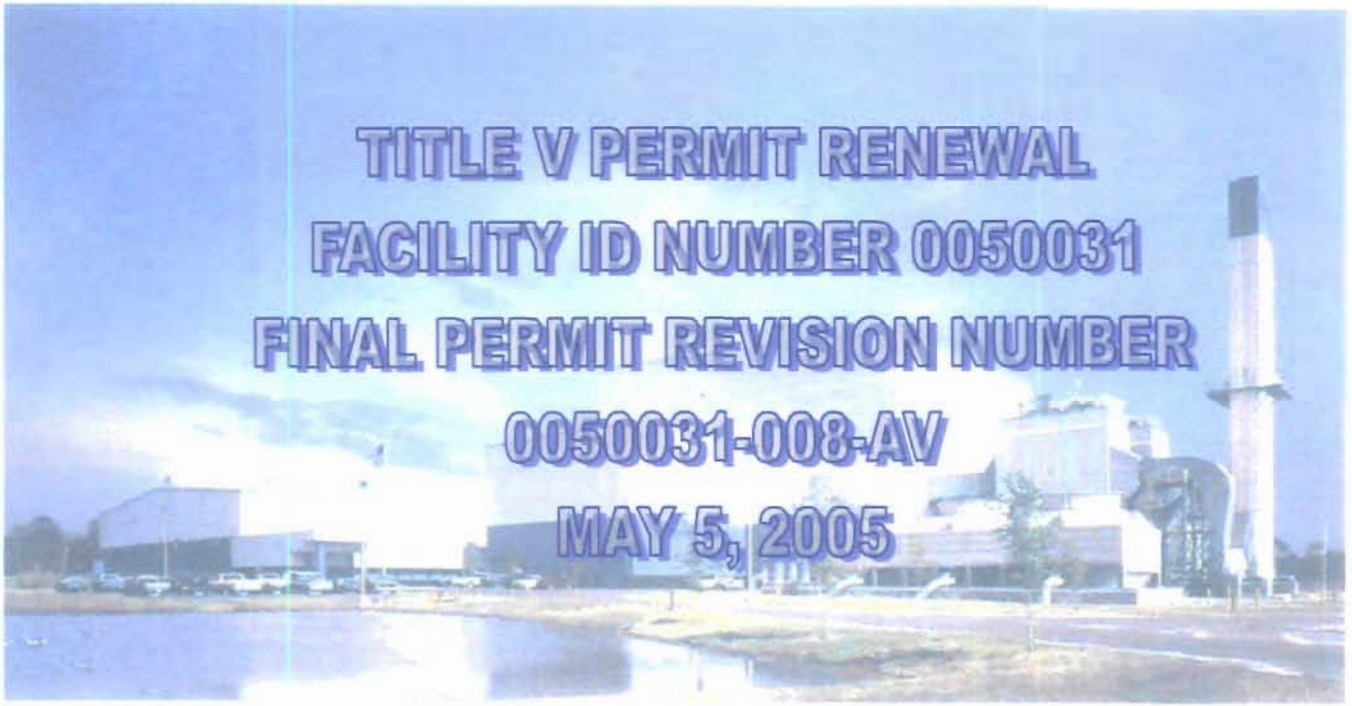
Montenay Bay LLC



ONYX
Montenay Power Corporation

VPP

ISO 14001 REGISTERED
Registration Number 000156

National Environmental PerformanceTrack
U.S. Environmental Protection Agency

VEOLIA Environment

MONTENAY BAY LLC

ONYX

05-083-0505-TITLEV

May 5, 2005

RECEIVED

MAY 06 2005

BUREAU OF AIR REGULATION

Ms. Trina L. Vielhauer
Chief
Florida DEP, Bureau of Air Regulation
Twin Towers Office Building
Mail Station 5505
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

SUBJECT: Title V Permit No.: 0050031-008-AV

Project No.: 0050031-010-AV

Ms. Vielhauer:

Please find attached our application for renewal of the facilities Title V permit. I would like to apologize for our error which resulted in the late submittal of the application. Also I would like to apologize for any inconvenience the late submittal may cause you or our staff. We, in error, focused on the expiration date of the recently issued construction permit, which is November 15 2005, as the trigger date for submitting our renewal application.

Our failure to meet the correct submittal date is an embarrassment not only to Montenay Bay as the operators of the facility but to me personally. We take compliance with the permit and protection of our environment very seriously. We strive to exceed all environment conditions set for the facility as well as identify any non regulated areas in which we can improve. To this end the facility has achieved and maintains an ISO 14001 certification as well as participates as a member of the Federal EPA Performance Track program.

While our lack of planning should not constitute an emergency on your part, I humbly ask for your assistance in expediting the review of the application and the renewal of our permit. We are at your immediate disposal should you decide to assist us in this issue.

Sincerely,

Jerry Gross
Facility Manager
Montenay Bay LLC

cc:	Richard Hunt	Bay County	w/o attachment
	Bruce Mitchell	FLDEP	w/o attachment
	Sandra Veazey	FLDEP	w/o attachment
	Reginald Barrino	EPA Performance Track Coordinator	w/o attachment

Department of Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

RECEIVED
MAY 06 2005
BUREAU OF AIR REGULATION

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit for a proposed project:

- subject to prevention of significant deterioration (PSD) review, nonattainment area (NAA) new source review, or maximum achievable control technology (MACT) review; or
- where the applicant proposes to assume a restriction on the potential emissions of one or more pollutants to escape a federal program requirement such as PSD review, NAA new source review, Title V, or MACT; or
- at an existing federally enforceable state air operation permit (FESOP) or Title V permitted facility.

Air Operation Permit – Use this form to apply for:

- an initial federally enforceable state air operation permit (FESOP); or
- an initial/revised/renewal Title V air operation permit.

Air Construction Permit & Revised/Renewal Title V Air Operation Permit (Concurrent Processing Option) – Use this form to apply for both an air construction permit and a revised or renewal Title V air operation permit incorporating the proposed project.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: Bay County Utilities Service Department
2. Site Name: Bay Resource Management Center
3. Facility Identification Number: 0050031
4. Facility Location...Bay Industrial Park – approximately 2 miles North of intersection of U.S. 231 and County Road 2301.
   Street Address or Other Locator: 6510 Bay Line Drive
   City: Panama City County: Bay Zip Code: 32404
5. Relocatable Facility? ☐ Yes ☒ No
6. Existing Title V Permitted Facility? ☒ Yes ☐ No

Application Contact

1. Application Contact Name: Chalmous Beechem
2. Application Contact Mailing Address...6510 Bay Line Drive
   Organization/Firm: Montenay Bay LLC
   Street Address: 6510 Bay Line Drive
   City: Panama City State: Florida Zip Code: 32404
3. Application Contact Telephone Numbers...
   Telephone: (850)785 - 7933 ext. 206 Fax: (850) 784 - 1779
4. Application Contact Email Address: cbeechem@montenaybay.com

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	
2. Project Number(s):	0050031-010-AV
3. PSD Number (if applicable):	
4. Siting Number (if applicable):	

APPLICATION INFORMATION

Purpose of Application

This application for air permit is submitted to obtain: (Check one)

Air Construction Permit

☐ Air construction permit.

Air Operation Permit

☐ Initial Title V air operation permit.
☐ Title V air operation permit revision.
☒ Title V air operation permit renewal.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.
☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.
☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

On June 25, 2003 permit revision 0050031-008-AV became effective. This permit revision was an opening-for-cause permitting action to install the applicable requirements of 40 CFR 60, Subpart BBBB, Emission Guidelines : Small Municipal Waste Combusiton Units, adopted and incorporated by reference in Rule 62-204.800(9)(e)1., F.A.C. This permit revision authorized the permittee to perform work in accordance with permit condition A.73. Increments of Progress. The following 111(d) SIP Compliance Plan : Increments of Progress shall be implemented :

Submit Final Control Plan	09/30/2001
Award Contracts	05/01/2004
Begin Onsite Construction	06/01/2004
Complete Onsite Construction	07/15/2005
Achieve Final Compliance	11/15/2005

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Proc. Fee
001	MSW-Fired Combustor/Boiler #1 W/ FF baghouse and SDA (North)		NA
002	MSW-Fired Combustor/Boiler #2 W/ FF baghouse and SDA (South)		NA

Application Processing Fee

Check one: ☐ Attached - Amount: $_____ ☒ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :
   not applicable

2. Owner/Authorized Representative Mailing Address...
   Organization/Firm:
   Street Address:
   City: State: Zip Code:

3. Owner/Authorized Representative Telephone Numbers...
   Telephone: ( ) - ext. Fax: ( ) -

4. Owner/Authorized Representative Email Address:

5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the facility addressed in this air permit application. 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 and all other requirements identified in this application to which the facility is subject. 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 the facility or any permitted emissions unit.

   Signature Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Thomas T. Crandall

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

   ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.

   ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

   ☒ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.

   ☐ The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...Thomas T. Crandall/Utilities Director
   Organization/Firm: Bay County Utilities Services Department
   Street Address: 3410 Transmitter Road
   City: Panama City State: FL Zip Code: 32409

4. Application Responsible Official Telephone Numbers...
   Telephone: (850) 872 - 4785 ext. Fax: (850) 872 - 4805

5. Application Responsible Official Email Address:

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. 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 and all other applicable requirements identified in this application to which the Title V source is subject. 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 the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   Thomas T. Crandall — Signature

   5/16/05 — Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: Anthony Lo'Re
   Registration Number: 60373
2. Professional Engineer Mailing Address...
   Organization/Firm: Camp Dresser & McKee, Inc.
   Street Address: 50 Hampshire Street
   City: Cambridge State: MA Zip Code: 02139
3. Professional Engineer Telephone Numbers...
   Telephone: (617) 452 - 6379 ext. Fax: (617) 452 - 8379
4. Professional Engineer Email Address:
5. Professional Engineer Statement:

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

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air 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.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here [X], 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 plan and schedule is submitted with this application.

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

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal 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.

Signature

5/5/05
Date

(seal)

* Attach any exception to certification statement.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone 16 East (km) 642.40 North (km) 3349.50		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) 30/15/54 Longitude (DD/MM/SS) 85/30/8	
3. Governmental Facility Code: 3	4. Facility Status Code: A	5. Facility Major Group SIC Code: 49	6. Facility SIC(s): 4953
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: Chalmous Beechem, Safety Manager
2. Facility Contact Mailing Address...6510 Bay Line Drive, Panama City, FL 32404 Organization/Firm: Montenay Bay LLC Street Address: 6510 Bay Line Drive City: Panama City State: FL Zip Code: 32404
3. Facility Contact Telephone Numbers: Telephone: (850) 785 - 7933 ext. 206 Fax:(850) 784 - 1779
4. Facility Contact Email Address: cbeechem@montenaybay.com

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I. that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) - ext. Fax: ( ) -
4. Facility Primary Responsible Official Email Address:

FACILITY INFORMATION

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☒ Unknown
2. ☐ Synthetic Non-Title V Source	
3. ☒ Title V Source	
4. ☒ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☐ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☒ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☐ Synthetic Minor Source of HAPs	
8. ☒ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☒ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☒ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

FACILITY INFORMATION

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	B	N
H027 Cd	B	N
PB	B	N
NOX	A	N
CO	A	N
DIOX	B	N
SO2	B	N
H106 HCL	B	N
H114 HG	B	N
FL	B	Y
H021 BE	B	Y
SAM	B	Y
PM10	B	N
VOC	B	Y

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility Wide Cap [Y or N]? (all units)	3. Emissions Unit ID No.s Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap
FL	Y		0.3	1.31	RULE
H021	Y		1.0E -05	4.4E -05	RULE
SAM	Y		3.0	13.1	RULE
VOC	Y		14.2	62.2	RULE

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

FL, PSD-FL-129

H021, PSD-FL-129

SAM, PSD-FL-129

VOC, PSD-FL-129

FACILITY INFORMATION

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach. 01 [ ] Previously Submitted, Date: _____
2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 02 [ ] Previously Submitted, Date: _____
3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 03 [ ] Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   [ ] Attached, Document ID: _____ [ ] Not Applicable (existing permitted facility)
2. Description of Proposed Construction or Modification:
   [ ] Attached, Document ID: _____
3. Rule Applicability Analysis:
   [ ] Attached, Document ID: _____
4. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   [ ] Attached, Document ID: _____ [ ] Not Applicable (no exempt units at facility)
5. Fugitive Emissions Identification (Rule 62-212.400(2), F.A.C.):
   [ ] Attached, Document ID: _____ [ ] Not Applicable
6. Preconstruction Air Quality Monitoring and Analysis (Rule 62-212.400(5)(f), F.A.C.):
   [ ] Attached, Document ID: _____ [ ] Not Applicable
7. Ambient Impact Analysis (Rule 62-212.400(5)(d), F.A.C.):
   [ ] Attached, Document ID: _____ [ ] Not Applicable
8. Air Quality Impact since 1977 (Rule 62-212.400(5)(h)5., F.A.C.):
   [ ] Attached, Document ID: _____ [ ] Not Applicable
9. Additional Impact Analyses (Rules 62-212.400(5)(e)1. and 62-212.500(4)(e), F.A.C.):
   [ ] Attached, Document ID: _____ [ ] Not Applicable
10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    [ ] Attached, Document ID: _____ [ ] Not Applicable

FACILITY INFORMATION

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units (Rule 62-210.300(3)(a) or (b)1., F.A.C.):
   ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities (Required for initial/renewal applications only):
   ☒ Attached, Document ID: Attach 04 ☐ Not Applicable (revision application)
2. Identification of Applicable Requirements (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought):
   ☒ Attached, Document ID: Attach 09
   ☐ Not Applicable (revision application with no change in applicable requirements)
3. Compliance Report and Plan (Required for all initial/revision/renewal applications):
   ☒ Attached, Document ID: Attach 05
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.
4. List of Equipment/Activities Regulated under Title VI (If applicable, required for initial/renewal applications only):
   ☒ Attached, Document ID: Attach 06
   ☐ Equipment/Activities On site but Not Required to be Individually Listed
   ☐ Not Applicable
5. Verification of Risk Management Plan Submission to EPA (If applicable, required for initial/renewal applications only) :
   ☐ Attached, Document ID:_____ ☒ Not Applicable
6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☒ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [1] of [2]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   [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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (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.

2. Description of Emissions Unit Addressed in this Section:
   Unit #1 MSW fired combustor-boiler W/FF baghouse and SDA

3. Emissions Unit Identification Number: 001

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	JAN 1986	May 1, 1987	49	[ ] Yes [x] No

9. Package Unit:
   Manufacturer: O'Connor Combustor Model Number:

10. Generator Nameplate Rating: MW 15

11. Emissions Unit Comment: Emission Unit 001 is a O'Connor Combustor mass burn waterwall municipal waste combustor (MWC) with a maximum charging rate that shall not exceed 245 tons of municipal solid waste (MSW) per day. The electric generator nameplate rating is 15 megawatts (MW). The MWC air pollution control system is being retrofitted with a carbon injection, spray dryer absorber (SDA), and fabric filter baghouse system. The original two flue stack, with a stack height of 125 feet, is being replaced with a new stack with a stack height of 141 feet. The MWC initial startup date was May 1, 1987. Start up of the new air pollution control system and stack is scheduled for May 2005.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

   a. Fabric Filter Baghouse—5 compartment, pulse jet and fiberglass bags.
   Manufacturer: Merrick
   Removal Eff.: 99%+particulate matter

   b. Downflow Spray Dryer Absorber—5 dual fluid nozzles and calcium hydroxide lime Slurry injection.
   Manufacturer: Belco/Merrick
   Removal Eff.: 75%+ sulfur dioxide and 95%+ hydrogen chloride

   c. Carbon Injection—Powdered activated carbon gravimetric loss in weight feeders and pneumatic injection upstream of absorber.
   Manufacturer: Merrick
   Removal Eff.: 85%+ mercury

2. Control Device or Method Code(s): 016, 202, 207

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 245 tons of MSW per day	
2. Maximum Production Rate: Steam flow rate, 65,333 lb/hr over 24 hr rolling average	
3. Maximum Heat Input Rate: million Btu/hr 91.875 MMBtu per hour	
4. Maximum Incineration Rate: pounds/hr 20,417 tons/day 245	
5. Requested Maximum Operating Schedule: 24 hours/day 52 weeks/year	7 days/week 8760 hours/year
6. Operating Capacity/Schedule Comment:	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: C-3 on drawing C-2	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: V	6. Stack Height: 141 feet	7. Exit Diameter: 5 feet
8. Exit Temperature: 290 °F	9. Actual Volumetric Flow Rate: 43,400 acfm	10. Water Vapor: 16.5 %
11. Maximum Dry Standard Flow Rate: 28066 dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 16 East (km): 642.4 North (km): 3349.5	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers Electrical Generation Auxiliary fuel burner		Natural Gas Boilers < 100 Million Btu/hr except Tangential
2. Source Classification Code (SCC): 1-01-006-02	3. SCC Units: Million Cubic Feet Natural Gas	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: 1.55	6. Estimated Annual Activity Factor: 0
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1050
10. Segment Comment: Natural Gas is used in the auxiliary burner during startup during the introduction of MSW. Maximum annual rate based on 2004 natural gas use. Usage varies by unit and year Depending on the number of startups and shutdowns.		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers Electric Generation Waste wood and bark.		Wood/Bark Waste Wood/Bark Fired Boiler
2. Source Classification Code (SCC): 1-01-009-02	3. SCC Units: Tons wood/Bark Burned	
4. Maximum Hourly Rate: 4.6	5. Maximum Annual Rate: 40,296	6. Estimated Annual Activity Factor: 0
7. Maximum % Sulfur: NA	8. Maximum % Ash: 0.4	9. Million Btu per SCC Unit: 11
10. Segment Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers Solid Waste Electric Generation Municipal solid waste.		
2. Source Classification Code (SCC): 1-01-012-01	3. SCC Units: Tons Solid Waste Burned	
4. Maximum Hourly Rate: 10.21	5. Maximum Annual Rate: 89,425	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.16	8. Maximum % Ash: 28	9. Million Btu per SCC Unit: 9
10. Segment Comment:		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	**016**		**EL**
PM10	**016**		**EL**
H027	**202**	**016**	**EL**
PB	**202**	**016**	**EL**
NOX			**EL**
CO	**025**	**031**	**EL**
DIOX	**207**	**016**	**EL**
SO2	**202**	**016**	**EL**
H106	**202**	**016**	**EL**
H114	**207**	**016**	**EL**
FL	**202**	**016**	**EL**
H021	**202**	**016**	**EL**
SAM	**202**	**016**	**EL**
VOC			**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control: 99
3. Potential Emissions: 2.58 lb/hour 11.3 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 27 mg/dscm Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM10	2. Total Percent Efficiency of Control: 99
3. Potential Emissions: 2.58 lb/hour 11.3 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 27 mg/dscm Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H027	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.0038 lb/hour 0.017 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.04 mg/dscm @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PB	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.047 lb/hour 0.21 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.49 mg/dscm @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 31.08 lb/hour 136.1 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 170 ppmv @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 27.82 lb/hour 127.87 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 250 ppmv @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: DIOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 2.88E-06 lb/hour 1.26E-05 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 30 ng/dscm @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO2	2. Total Percent Efficiency of Control: 75
3. Potential Emissions: 8.95 lb/hour 39.20 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 35 ppmv @ 7% O2 (controlled) Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Emission Factor is based on an outlet concentration of 35 ppmv @ 7% O2 assuming 75% control.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H106	2. Total Percent Efficiency of Control: 95
3. Potential Emissions: 4.49 lb/hour 19.7 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 31 ppmv @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H114	2. Total Percent Efficiency of Control: 85
3. Potential Emissions: 0.029 lb/hour 0.125 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.30 mg/dscm @ 7% O2 (controlled) Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Emission Factor is based on an outlet concentration of 0.30 mg/dscm @ 7% O2 assuming 85% control.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: FL	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.15 lb/hour 0.66 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.15 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H021	2. Total Percent Efficiency of Control:
3. Potential Emissions: 5.0E-06 lb/hour 2.2E-05 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 5.0E-06 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.5 lb/hour 6.57 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 1.5 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 7.1 lb/hour 31.1 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 7.1 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 27 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 2.58 lb/hour 11.3 tons/year
5. Method of Compliance: Annual Compliance Test and Continuous Opacity Monitor (COMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 2 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 27 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 2.58 lb/hour 11.3 tons/year
5. Method of Compliance: Annual Compliance Test and Continuous Opacity Monitor (COMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 3 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.04 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 0.0038 lb/hour 0.017 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 4 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.49 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 0.047 lb/hour 0.21 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 5 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 170 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 31.08 lb/hour 136.1 tons/year
5. Method of Compliance: Continuous Emissions Monitor (CEMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 6 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 250 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 27.82 lb/hour 121.87 Tons/year
5. Method of Compliance: Continuous Emissions Monitor (CEMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 7 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 30 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 2.88E-06 lb/hour1.26E-05 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 8 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 35 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 8.95 lb/hour 39.2 tons/year
5. Method of Compliance: Continuous Emissions Monitor (CEMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB. Allowable emissions based on 75% control.	

Allowable Emissions Allowable Emissions 9 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 31 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 4.49 lb/hour 19.7 Tons/year
5. Method of Compliance: Annual Emissions Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 10 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.30 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 0.029 lb/hour 0.125 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 11 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.15 lb/hr	4. Equivalent Allowable Emissions: 0.15 lb/hour 0.66 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

Allowable Emissions Allowable Emissions 12 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 5.0E-06 lb/hr	4. Equivalent Allowable Emissions: 5.0E-06 lb/hour 2.2E-05 Tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 13 of 14

1. Basis for Allowable Emissions Code: Other	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.5 lb/hr	4. Equivalent Allowable Emissions: 1.5 lb/hour 6.57 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

Allowable Emissions Allowable Emissions 14 of 14

1. Basis for Allowable Emissions Code: Other	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 7.1 lb/hr	4. Equivalent Allowable Emissions: 7.1 lb/hour 31.1 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

Allowable Emissions Allowable Emissions __ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: thirty 6-minute averages	
4. Method of Compliance: EPA Method 9, Continuous Opacity Monitoring	
5. Visible Emissions Comment: 40CFR60, Subpart BBBB	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE05	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: 3 min/hour	
4. Method of Compliance: EPA Method 22	
5. Visible Emissions Comment: 40CFR60, Subpart BBBB	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: EM	2. Pollutant(s): NOX, CO, SO2
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Environnement S A Model Number: MIR 9000	Serial Number: 690
5. Installation Date: 5/6/2005 TENATIVE	6. Performance Specification Test Date: 7/5/2005 TENATIVE
7. Continuous Monitor Comment: 1. 40CFR60, Subpart BBBB 2. Multi-gas analyzer	

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: O2	2. Pollutant(s): O2
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Environnement S A Model Number: MIR 9000	Serial Number: 690
5. Installation Date: 5/6/2005 TENATIVE	6. Performance Specification Test Date: 7/5/2005 TENATTIVE
7. Continuous Monitor Comment: 1. 40CFR60, Subpart BBBB 2. Multi-gas analyzer	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: VE	2. Pollutant(s): VISIBLE EMISSIONS
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: DURAG Model Number: DR 290-150 R111	Serial Number: 415440
5. Installation Date: 5/6/2005 TENATIVE	6. Performance Specification Test Date: 7/5/2005 TENATIVE
7. Continuous Monitor Comment: 40CFR60, Subpart BBBB	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 02 [ ] Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 12 [ ] Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [X] Attached, Document ID: Attach 07 [ ] Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 08 [ ] Previously Submitted, Date _____
   [ ] Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [X] Attached, Document ID: Attach 13 [ ] Previously Submitted, Date _____
   [ ] Not Applicable

6. Compliance Demonstration Reports/Records
   [x] Attached, Document ID: Attach 10
   Test Date(s)/Pollutant(s) Tested: See attachment 10
   [ ] Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   [ ] To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   [ ] Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [x] Not Applicable

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: Attach 09
2. Compliance Assurance Monitoring
   ☒ Attached, Document ID: Attach 14 ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☒ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☒ Not Applicable

Additional Requirements Comment

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application for air permit. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised/renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. **The air construction permitting classification must be used to complete the Emissions Unit Information Section of this application for air permit.** A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air construction permitting and insignificant emissions units are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [2] of [2]

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   [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.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (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.

2. Description of Emissions Unit Addressed in this Section:
   Unit #2 MSW fired combustor-boiler W/FF baghouse and SDA

3. Emissions Unit Identification Number: 001

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:	8. Acid Rain Unit?
A	JAN 1986	May 1, 1987	49	[ ] Yes [x] No

9. Package Unit:
   Manufacturer: O'Connor Combustor Model Number:

10. Generator Nameplate Rating: MW 15

11. Emissions Unit Comment: Emission Unit 002 is a O'Connor Combustor mass burn waterwall municipal waste combustor (MWC) with a maximum charging rate that shall not exceed 245 tons of municipal solid waste (MSW) per day. The electric generator nameplate rating is 15 megawatts (MW). The MWC air pollution control system is being retrofitted with a carbon injection, spray dryer absorber (SDA), and fabric filter baghouse system. The original two flue stack, with a stack height of 125 feet, is being replaced with a new stack with a stack height of 141 feet. The MWC initial startup date was May 1, 1987. Start up of the new air pollution control system and stack is scheduled for May 2005.

Emissions Unit Control Equipment

1. Control Equipment/Method(s) Description:

   a. Fabric Filter Baghouse—5 compartment, pulse jet and fiberglass bags.
   Manufacturer: Merrick
   Removal Eff.: 99%+particulate matter

   b. Downflow Spray Dryer Absorber—5 dual fluid nozzles and calcium hydroxide lime Slurry injection.
   Manufacturer: Belco/Merrick
   Removal Eff.: 75%+ sulfur dioxide and 95%+ hydrogen chloride

   c. Carbon Injection—Powdered activated carbon gravimetric loss in weight feeders and pneumatic injection upstream of absorber.
   Manufacturer: Merrick
   Removal Eff.: 85%+ mercury

2. Control Device or Method Code(s): 016, 202, 207

B. EMISSIONS UNIT CAPACITY INFORMATION

(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate: 245 tons of MSW per day	
2. Maximum Production Rate: Steam flow rate, 65,333 lb/hr over 24 hr rolling average	
3. Maximum Heat Input Rate: million Btu/hr 91.875 MMBtu per hour	
4. Maximum Incineration Rate: pounds/hr 20,417 tons/day 245	
5. Requested Maximum Operating Schedule: 24 hours/day 52 weeks/year	7 days/week 8760 hours/year
6. Operating Capacity/Schedule Comment:	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: C-3 on drawing C-2	2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking: Not applicable		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: V	6. Stack Height: 141 feet	7. Exit Diameter: 5 feet
8. Exit Temperature: 290 °F	9. Actual Volumetric Flow Rate: 43,400 acfm	10. Water Vapor: 16.5 %
11. Maximum Dry Standard Flow Rate: 28066 dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: 16 East (km): 642.4 North (km): 3349.5	14. Emission Point Latitude/Longitude... Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment 1 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers Electrical Generation Auxiliary fuel burner		Natural Gas Boilers < 100 Million Btu/hr except Tangential
2. Source Classification Code (SCC): 1-01-006-02	3. SCC Units: Million Cubic Feet Natural Gas	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: 1.55	6. Estimated Annual Activity Factor: 0
7. Maximum % Sulfur: NA	8. Maximum % Ash: NA	9. Million Btu per SCC Unit: 1050
10. Segment Comment: Natural Gas is used in the auxiliary burner during startup during the introduction of MSW. Maximum annual rate based on 2004 natural gas use. Usage varies by unit and year Depending on the number of startups and shutdowns.		

Segment Description and Rate: Segment 2 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers Electric Generation Waste wood and bark.		Wood/Bark Waste Wood/Bark Fired Boiler
2. Source Classification Code (SCC): 1-01-009-02	3. SCC Units: Tons wood/Bark Burned	
4. Maximum Hourly Rate: 4.6	5. Maximum Annual Rate: 40,296	6. Estimated Annual Activity Factor: 0
7. Maximum % Sulfur: NA	8. Maximum % Ash: 0.4	9. Million Btu per SCC Unit: 11
10. Segment Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment 3 of 3

1. Segment Description (Process/Fuel Type): External Combustion Boilers Solid Waste Electric Generation Municipal solid waste.		
2. Source Classification Code (SCC): 1-01-012-01	3. SCC Units: Tons Solid Waste Burned	
4. Maximum Hourly Rate: 10.21	5. Maximum Annual Rate: 89,425	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.16	8. Maximum % Ash: 28	9. Million Btu per SCC Unit: 9
10. Segment Comment:		

Segment Description and Rate: Segment __ of __

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	016		EL
PM10	016		EL
H027	202	016	EL
PB	202	016	EL
NOX			EL
CO	025	031	EL
DIOX	207	016	EL
SO2	202	016	EL
H106	202	016	EL
H114	207	016	EL
FL	202	016	EL
H021	202	016	EL
SAM	202	016	EL
VOC			EL

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM	2. Total Percent Efficiency of Control: 99
3. Potential Emissions: 2.58 lb/hour 11.3 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 27 mg/dscm Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PM10	2. Total Percent Efficiency of Control: 99
3. Potential Emissions: 2.58 lb/hour 11.3 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 27 mg/dscm Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H027	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.0038 lb/hour 0.017 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.04 mg/dscm @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: PB	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.047 lb/hour 0.21 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.49 mg/dscm @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 31.08 lb/hour 136.1 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 170 ppmv @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control:
3. Potential Emissions: 27.82 lb/hour 127.87 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 250 ppmv @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: DIOX	2. Total Percent Efficiency of Control:
3. Potential Emissions: 2.88E-06 lb/hour 1.26E-05 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 30 ng/dscm @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SO2	2. Total Percent Efficiency of Control: 75
3. Potential Emissions: 8.95 lb/hour 39.20 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 35 ppmv @ 7% O2 (controlled) Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Emission Factor is based on an outlet concentration of 35 ppmv @ 7% O2 assuming 75% control.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H106	2. Total Percent Efficiency of Control: 95
3. Potential Emissions: 4.49 lb/hour 19.7 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 31 ppmv @ 7% O2 Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H114	2. Total Percent Efficiency of Control: 85
3. Potential Emissions: 0.029 lb/hour 0.125 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.30 mg/dscm @ 7% O2 (controlled) Reference: 40 CFR 60, Subpart BBBB	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment: Emission Factor is based on an outlet concentration of 0.30 mg/dscm @ 7% O2 assuming 85% control.	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: FL	2. Total Percent Efficiency of Control:
3. Potential Emissions: 0.15 lb/hour 0.66 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 0.15 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: H021	2. Total Percent Efficiency of Control:
3. Potential Emissions: 5.0E-06 lb/hour 2.2E-05 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 5.0E-06 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: SAM	2. Total Percent Efficiency of Control:
3. Potential Emissions: 1.5 lb/hour 6.57 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 1.5 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL/ESTIMATED FUGITIVE EMISSIONS

(Optional for unregulated emissions units.)

Potential/Estimated Fugitive Emissions

Complete for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control:
3. Potential Emissions: 7.1 lb/hour 31.1 tons/year	4. Synthetically Limited? ☐ Yes ☒ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: 7.1 lb/hr Reference: PSD-FL-129	7. Emissions Method Code: O
8. Calculation of Emissions: See Attachment 11	
9. Pollutant Potential/Estimated Fugitive Emissions Comment:	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 1 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 27 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 2.58 lb/hour 11.3 tons/year
5. Method of Compliance: Annual Compliance Test and Continuous Opacity Monitor (COMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 2 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 27 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 2.58 lb/hour 11.3 tons/year
5. Method of Compliance: Annual Compliance Test and Continuous Opacity Monitor (COMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 3 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.04 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 0.0038 lb/hour 0.017 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 4 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.49 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 0.047 lb/hour 0.21 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 5 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 170 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 31.08 lb/hour 136.1 tons/year
5. Method of Compliance: Continuous Emissions Monitor (CEMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 6 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 250 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 27.82 lb/hour 121.87 Tons/year
5. Method of Compliance: Continuous Emissions Monitor (CEMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 7 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 30 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 2.88E-06 lb/hour1.26E-05 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 8 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 35 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 8.95 lb/hour 39.2 tons/year
5. Method of Compliance: Continuous Emissions Monitor (CEMs)	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB. Allowable emissions based on 75% control.	

Allowable Emissions Allowable Emissions 9 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 31 ppmv @ 7% O2	4. Equivalent Allowable Emissions: 4.49 lb/hour 19.7 Tons/year
5. Method of Compliance: Annual Emissions Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 10 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.30 mg/dscm @ 7% O2	4. Equivalent Allowable Emissions: 0.029 lb/hour 0.125 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): 40 CFR 60, subpart BBBB	

Allowable Emissions Allowable Emissions 11 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 0.15 lb/hr	4. Equivalent Allowable Emissions: 0.15 lb/hour 0.66 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

Allowable Emissions Allowable Emissions 12 of 14

1. Basis for Allowable Emissions Code: OTHER	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 5.0E-06 lb/hr	4. Equivalent Allowable Emissions: 5.0E-06 lb/hour 2.2E-05 Tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions 13 of 14

1. Basis for Allowable Emissions Code: Other	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 1.5 lb/hr	4. Equivalent Allowable Emissions: 1.5 lb/hour 6.57 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

Allowable Emissions Allowable Emissions 14 of 14

1. Basis for Allowable Emissions Code: Other	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: 7.1 lb/hr	4. Equivalent Allowable Emissions: 7.1 lb/hour 31.1 tons/year
5. Method of Compliance: Annual Compliance Test	
6. Allowable Emissions Comment (Description of Operating Method): PSD-FL-129	

Allowable Emissions Allowable Emissions __ of ___

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation 1 of 2

1. Visible Emissions Subtype: VE10	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: 10 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: thirty 6-minute averages	
4. Method of Compliance: EPA Method 9, Continuous Opacity Monitoring	
5. Visible Emissions Comment: 40CFR60, Subpart BBBB	

Visible Emissions Limitation: Visible Emissions Limitation 2 of 2

1. Visible Emissions Subtype: VE05	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: 3 min/hour	
4. Method of Compliance: EPA Method 22	
5. Visible Emissions Comment: 40CFR60, Subpart BBBB	

H. CONTINUOUS MONITOR INFORMATION

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: EM	2. Pollutant(s): NOX, CO, SO2
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Environnement S A Model Number: MIR 9000	Serial Number: 691
5. Installation Date: 5/6/2005 TENATIVE	6. Performance Specification Test Date: 7/5/2005 TENATIVE
7. Continuous Monitor Comment: 1. 40CFR60, Subpart BBBB 2. Multi-gas analyzer	

Continuous Monitoring System: Continuous Monitor 1 of 2

1. Parameter Code: O2	2. Pollutant(s): O2
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: Environnement S A Model Number: MIR 9000	Serial Number: 691
5. Installation Date: 5/6/2005 TENATIVE	6. Performance Specification Test Date: 7/5/2005 TENATTIVE
7. Continuous Monitor Comment: 1. 40CFR60, Subpart BBBB 2. Multi-gas analyzer	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Complete if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor 2 of 2

1. Parameter Code: VE	2. Pollutant(s): VISIBLE EMISSIONS
3. CMS Requirement:	☐ Rule ☒ Other
4. Monitor Information... Manufacturer: DURAG Model Number: DR 290-150 R111	Serial Number: 415439
5. Installation Date: 5/6/2005 TENATIVE	6. Performance Specification Test Date: 7/5/2005 TENATIVE
7. Continuous Monitor Comment: 40CFR60, Subpart BBBB	

Continuous Monitoring System: Continuous Monitor ___ of ___

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 02 [ ] Previously Submitted, Date _____

2. Fuel Analysis or Specification (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 12 [ ] Previously Submitted, Date _____

3. Detailed Description of Control Equipment (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [X] Attached, Document ID: Attach 07 [ ] Previously Submitted, Date _____

4. Procedures for Startup and Shutdown (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [x] Attached, Document ID: Attach 08 [ ] Previously Submitted, Date _____
   [ ] Not Applicable (construction application)

5. Operation and Maintenance Plan (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   [X] Attached, Document ID: Attach 13 [ ] Previously Submitted, Date _____
   [ ] Not Applicable

6. Compliance Demonstration Reports/Records
   [x] Attached, Document ID: Attach 10
   Test Date(s)/Pollutant(s) Tested: See attachment 10
   [ ] Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   [ ] To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   [ ] Not Applicable

   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute
   [ ] Attached, Document ID: _____ [x] Not Applicable

EMISSIONS UNIT INFORMATION
Section [2] of [2]

Additional Requirements for Air Construction Permit Applications

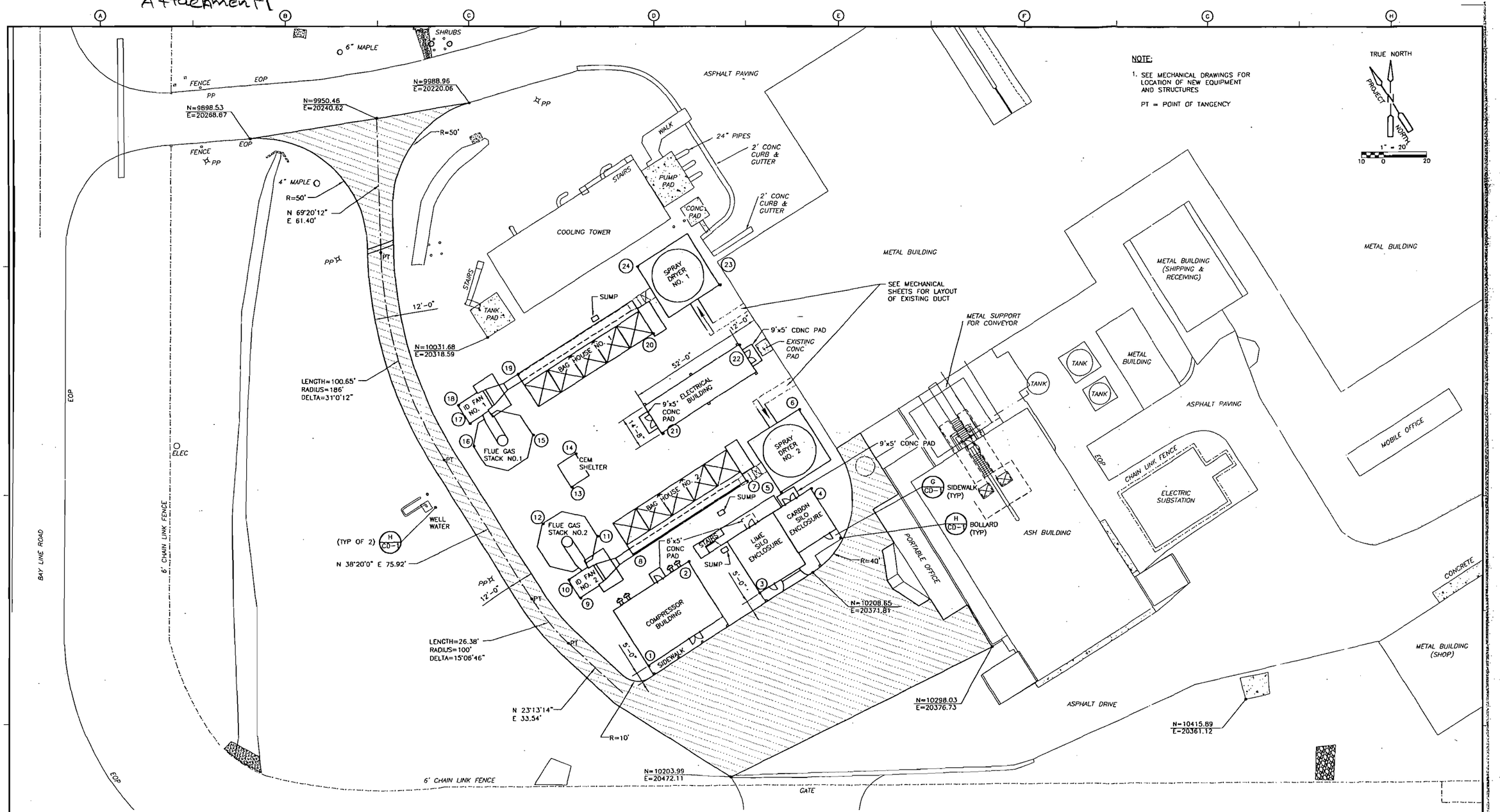
1. Control Technology Review and Analysis (Rules 62-212.400(6) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e))
   ☐ Attached, Document ID: _____ ☐ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rule 62-212.400(5)(h)6., F.A.C., and Rule 62-212.500(4)(f), F.A.C.)
   ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Description of Stack Sampling Facilities (Required for proposed new stack sampling facilities only)
   ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements
   ☒ Attached, Document ID: Attach 09
2. Compliance Assurance Monitoring
   ☒ Attached, Document ID: Attach 14 ☐ Not Applicable
3. Alternative Methods of Operation
   ☐ Attached, Document ID: _____ ☒ Not Applicable
4. Alternative Modes of Operation (Emissions Trading)
   ☐ Attached, Document ID: _____ ☒ Not Applicable
5. Acid Rain Part Application
   - ☐ Certificate of Representation (EPA Form No. 7610-1)
     - ☐ Copy Attached, Document ID:
   - ☐ Acid Rain Part (Form No. 62-210.900(1)(a))
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ New Unit Exemption (Form No. 62-210.900(1)(a)2.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☐ Phase II NOx Averaging Plan (Form No. 62-210.900(1)(a)5.)
     - ☐ Attached, Document ID: _____
     - ☐ Previously Submitted, Date: _____
   - ☒ Not Applicable

Additional Requirements Comment

Attachment 1



NO.	LOCATION	NORTHING	EASTING
1	COMPRESSOR BUILDING CORNER	N=10150.97	E=20436.70
2	COMPRESSOR BUILDING CORNER	N=10153.07	E=20385.67
3	LIME SILO ENCLOSURE CORNER	N=10189.01	E=20388.59
4	CARBON SILO ENCLOSURE CORNER	N=10195.17	E=20335.66
5	SPRAY DRYER NO. 2 FOUNDATION CORNER	N=10182.64	E=20341.83
6	SPRAY DRYER NO. 2 FOUNDATION CORNER	N=10178.08	E=20302.88
7	BAG HOUSE NO. 2 FOUNDATION CORNER	N=10166.28	E=20341.93
8	BAG HOUSE NO. 2 FOUNDATION CORNER	N=10127.59	E=20390.86

NO.	LOCATION	NORTHING	EASTING
9	ID FAN NO. 2 FOUNDATION CORNER	N=10111.30	E=20417.77
10	ID FAN NO. 2 FOUNDATION CORNER	N=10103.45	E=20411.56
11	FLUE GAS STACK NO. 2 FOUNDATION CORNER	N=10109.55	E=20388.34
12	FLUE GAS STACK NO. 2 FOUNDATION CORNER	N=10083.73	E=20391.36
13	CEM SHELTER FOUNDATION CORNER	N=10090.84	E=20370.92
14	CEM SHELTER FOUNDATION CORNER	N=10087.58	E=20355.70
15	FLUE GAS STACK NO. 1 FOUNDATION CORNER	N=10066.25	E=20354.10
16	FLUE GAS STACK NO. 1 FOUNDATION CORNER	N=10041.67	E=20367.82

NO.	LOCATION	NORTHING	EASTING
17	ID FAN NO. 1 FOUNDATION CORNER	N=10036.61	E=20358.71
18	ID FAN NO. 1 FOUNDATION CORNER	N=10028.77	E=20352.51
19	BAG HOUSE NO. 1 FOUNDATION CORNER	N=10050.54	E=20329.94
20	BAG HOUSE NO. 1 FOUNDATION CORNER	N=10103.14	E=20292.00
21	ELECTRICAL BUILDING CORNER	N=10121.90	E=20333.82
22	ELECTRICAL BUILDING CORNER	N=10142.65	E=20283.93
23	SPRAY DRYER NO. 1 FOUNDATION CORNER	N=10125.15	E=20261.03
24	SPRAY DRYER NO. 1 FOUNDATION CORNER	N=10086.20	E=20265.58

LEGEND:

NEW ASPHALT

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: D. COLLINS
DRAWN BY: J.L. GERTH
SHEET CHK'D BY: W. SPRIGGS
CROSS CHK'D BY: N. LITHWAY
APPROVED BY: D. COLLINS
DATE: MARCH 2004

CDM Camp Dresser & McKee
consulting engineering construction operations
701 Jenks Avenue Panama City, Florida 32401 Tel: 850-785-6999 Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY BAY COUNTY, FLORIDA

AIR POLLUTION CONTROL RETROFIT PROJECT

SITE PLAN AND HORIZONTAL CONTROL

DAVID L. COLLINS
P.E. NO. 45837

PROJECT NO. 6348-40017
FILE NAME: CSTPL004.DWG

SHEET NO.
C-4

P:\6348\40017\Construct\Civil\ CSTPL004 03/12/04 15:26:36 AUTO 3.05-17

Attachment 2.

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	PRIMARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR **	FIELD MOUNTED	AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR **
DISCRETE INSTRUMENTS			
SHARED DISPLAY, SHARED CONTROL OR COMPUTER FUNCTION			
PROGRAMMABLE LOGIC CONTROL			

** NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS MAY BE DEPICTED BY USING THE SAME SYMBOL BUT WITH DASHED HORIZONTAL BARS, i.e.:

INSTRUMENTS SHARING COMMON HOUSING

DENOTES EQUIPMENT SPECIFIED UNDER OTHER SECTIONS OF THIS CONTRACT

DENOTES EXISTING EQUIPMENT OR EQUIPMENT PROVIDED BY OTHERS UNDER A SEPARATE CONTRACT

FUTURE EQUIPMENT

12 CONTROL INTERLOCK FUNCTION, SOFTWARE OR HARDWIRED. SEE DESCRIPTION PROVIDED, ELECTRICAL SCHEMATIC, AND/OR SYSTEM SPECIFICATIONS FOR SPECIFIC FUNCTION.

12 DETAIL NUMBER IF USED

DIGITAL SYSTEM I/O INTERFACE. DIRECTION OF TRIANGLE DENOTES WHETHER INPUT OR OUTPUT

LETTER DENOTES SIGNAL TYPE. THE LETTER "A" DENOTES AN ANALOG SIGNAL. THE LETTER "D" DENOTES A DISCRETE SIGNAL. THE LETTER "P" DENOTES A PULSED SIGNAL.

TYPICAL TAG NUMBERS & DESIGNATION

LOOP NO. 1234 — TYPICAL LOOP NUMBER

CL2 — ADDITIONAL INSTRUMENT IDENTIFICATION SEE FUNCTION SYMBOLS & ABBREVIATIONS

AE *A* — WHEN USED, LETTER DISTINGUISHES BETWEEN MULTIPLE, SIMILAR DEVICES IN THE SAME INSTRUMENT LOOP.

WHEN USED, NUMBER DENOTES DEVICES IN IDENTICAL DUPLICATE SYSTEMS.

GENERAL NOTES

1. THIS IS A GENERAL LEGEND SHEET, SOME SYMBOLS AND ABBREVIATIONS MAY NOT APPLY TO THIS SPECIFIC PROJECT.
2. THIS LEGEND APPLIES TO INSTRUMENTATION DIAGRAMS ONLY AND MAY DIFFER FROM LEGENDS FOR OTHER SHEETS.
3. IN GENERAL THIS LEGEND SHEET AND THE INSTRUMENTATION DIAGRAMS ARE BASED ON THE INSTRUMENTS, SYSTEMS AND AND AUTOMATION SOCIETY (ISA) STANDARDS AND PRACTICES. SOME MODIFICATIONS, ADDITIONS AND ALTERATIONS HAVE BEEN MADE AS REQUIRED TO ACCOMODATE THE PROJECT REQUIREMENTS.
4. SOME PROCESS ITEMS, SUCH AS EQUIPMENT ISOLATION VALVES, BYPASS LINES, etc., WHICH ARE NOT CRITICAL FOR AN UNDERSTANDING OF THE INSTRUMENTATION FUNCTIONS ARE NOT SHOWN ON THE INSTRUMENTATION SHEETS.
5. SEE ELECTRICAL SHEETS AND SPECIFICATIONS FOR ADDITIONAL CONTROL AND INTERLOCK REQUIREMENTS FOR EQUIPMENT NOT SHOWN IN THE LOOP DIAGRAMS.
6. ANY WIRING, FIBER OPTIC CABLE, AND CONDUIT REMOVED OR NOT USED SHALL BE ABANDONED IN PLACE. CONDUITS SHALL BE SEALED AT BOTH ENDS.

LINE SYMBOLS

- MAJOR PROCESS PIPING, FLOW CHANNEL OR DATA HIGHWAY WITH FLOW OR SIGNAL DIRECTION AS SHOWN.
- MINOR PROCESS PIPING WITH FLOW DIRECTION AS SHOWN
- MISCELLANEOUS PIPING WITH FLOW DIRECTION AS SHOWN
- FUTURE PIPING
- ELECTRIC OR ELECTRONIC SIGNAL WITH SIGNAL DIRECTION AS SHOWN
- SOFTWARE SIGNAL LINK
- HYDRAULIC SIGNAL
- PNEUMATIC SIGNAL
- CAPILLARY TUBE OR FILLED SYSTEM SIGNAL
- ELECTROMAGNETIC OR SONIC SIGNAL
- (A) PROCESS OR SIGNAL LINE CONTINUED AT ANOTHER LOCATION
- (A) PROCESS OR SIGNAL LINE CONTINUED FROM ANOTHER LOCATION (MATCH LETTERS)

PROCESS DEVICE SYMBOLS

- DIAPHRAGM SEAL
- ANNULAR TYPE DIAPHRAGM SEAL
- BUBBLER SYSTEM
- PURGE OR FLUSHING DEVICE
- REDUCER OR ENLARGER
- PRIMARY ELEMENT VENTURI TUBE
- PRIMARY ELEMENT MAGNETIC FLOWMETER
- PRIMARY ELEMENT ULTRASONIC FLOWMETER
- PRIMARY ELEMENT PARSHALL FLUME OR TRAPEZOIDAL FLUME
- PRIMARY ELEMENT ORIFICE PLATE
- PRIMARY ELEMENT WEIR
- PRIMARY ELEMENT TURBINE OR PROPELLER TYPE METER
- PRIMARY ELEMENT PITOT TUBE
- PRIMARY ELEMENT ROTAMETER
- NUCLEAR DENSITY METER
- PRIMARY ELEMENT STRAP ON ULTRASONIC METER
- (LE OR FE) PRIMARY ELEMENT ULTRASONIC FLOW OR LEVEL METER
- FLOAT SWITCH
- DRAIN
- CHEMICAL INJECTION POINT
- (REGULATED SIDE) PRESSURE REGULATING VALVE SELF CONTAINED
- BALL VALVE (OR)
- VALVE: GLOBE OR OTHER IN-LINE TYPE NOT OTHERWISE IDENTIFIED
- BUTTERFLY VALVE
- CHECK VALVE WITH FLOW DIRECTION AS INDICATED
- PLUG VALVE
- FLOW CONTROL GATE OR GATE VALVE
- RUPTURE DISK
- CENTRIFUGAL BLOWER
- CENTRIFUGAL PUMP
- ROTARY LOBE PUMP OR BLOWER
- (RATE SET, STROKE ADJUST) DIAPHRAGM PUMP AND MOTOR
- PROGRESSIVE CAVITY PUMP
- AIR HEATER
- MOTOR -- MAY BE ELECTRIC, HYDRAULIC OR PNEUMATIC ARROW DENOTES VARIABLE SPEED

VALVE ACTUATOR SYMBOLS

AUTOMATIC POSITIONER

VALVE OR GATE ACTUATOR WITH * DEFINED AS FOLLOWS:

- P: AIR CYLINDER
- S: SOLENOID
- P/O: AIR/OIL CYLINDER
- M: ELECTRIC MOTOR
- H: HYDRAULIC CYLINDER
- EH: ELECTROHYDRAULIC
- Z: MISCELLANEOUS

FOR PRESSURE RELIEF OR SAFETY VALVES ONLY

PNEUMATICALLY OPERATED

MANUALLY (HAND) OPERATED (OR NO SYMBOL)

INDICATOR COLORS

THE FOLLOWING COLORS SHALL BE APPLIED TO ALL PILOT LIGHTS, BEACONS, AND COMPUTER DISPLAY INDICATORS, UNLESS NOTED OTHERWISE IN THE INDIVIDUAL LOOP DIAGRAMS.

EQUIPMENT RUNNING	RED
EQUIPMENT STOPPED	GREEN
EQUIPMENT TROUBLE/FAIL	AMBER
EQUIPMENT POWER ON	WHITE
VALVE OPENED	RED
VALVE CLOSED	GREEN
VALVE HOLD	BLUE
EQUIPMENT OR VALVE IN AUTOMATIC OR COMPUTER MODE	WHITE
HIGH/LOW PROCESS CONDITIONS (PILOT LIGHT)	AMBER
BEACONS AND REMOTE ALARM PANELS	RED

FUNCTION SYMBOLS AND ABBREVIATIONS

k	PROPORTIONAL GAIN OR ATTENUATE (INPUT:OUTPUT)
-k	REVERSE PROPORTIONAL GAIN OR ATTENUATE (INPUT:OUTPUT)
Σ	SUMMING
Σ/n	AVERAGING
Δ	SUBTRACTING
√	EXTRACT SQUARE ROOT
÷	DIVIDE
x	MULTIPLY
∫	INTEGRATE
+	BIAS POSITIVE
-	BIAS NEGATIVE
F(x)	NONLINEAR OR UNSPECIFIED FUNCTION
>	HIGH SELECT
<	LOW SELECT
⊳	HIGH LIMIT
⊲	LOW LIMIT
/	SIGNAL TRANSDUCER OR CONVERTER (INPUT/OUTPUT) * DEFINED AS FOLLOWS:

- E – VOLTAGE
- I – CURRENT
- P – PNEUMATIC
- PD – PULSE DURATION
- H – HYDRAULIC
- O – ELECTROMAGNETIC, SONIC
- R – RESISTANCE (ELECTRIC)

CHEMICAL ABBREVIATIONS
STANDARD CHEMICAL FORMULAS ARE USED.

HAND SWITCH ABBREVIATIONS
- H – HAND
- O – OFF OR OPEN
- C – COMPUTER OR CLOSE
- A – AUTOMATIC
- L – LOCAL
- R – REMOTE
- S – START OR STOP
- M – MODULATE

AI	ANALOG INPUT	NC	NORMALLY CLOSED
AO	ANALOG OUTPUT	NO	NORMALLY OPEN
AS	AIR SUPPLY	NPW	NON POTABLE WATER
ATM	ATMOSPHERE	PAC	POWDER ACTIVATED CARBON
COND	CONDUCTIVITY	PC	PARTICLE COUNTER
CL	CHLORINE	pH	HYDROGEN ION CONCENTRATION
CL2G	CHLORINE GAS	PLC	PROGRAMMABLE LOGIC CONTROLLER
CR	CHLORINE RESIDUAL	POLM	POLYMER
DI	DIGITAL OR DISCRETE INPUT	PW	PROCESS WATER
DO	DISSOLVED OXYGEN OR DIGITAL OUTPUT	RTU	REMOTE TERMINAL UNIT
ES	ELECTRIC SUPPLY	SA	SAMPLE
ETM	ELAPSED TIME METER	TDR	TIME DELAY RELAY
FC	FAIL CLOSED	TURB	TURBIDITY
FLP	FAIL LAST POSITION	UA	UTILITY AIR
FO	FAIL OPEN	VFD	VARIABLE FREQUENCY DRIVE
FW	FLUSHING WATER	VIB	VIBRATION
H2O2	PEROXIDE	VSD	VARIABLE SPEED DRIVE
IA	INSTRUMENT AIR		
MC	MOTOR CONTROLLER		

MEANINGS OF IDENTIFICATION LETTERS

THIS TABLE APPLIES TO THE FUNCTIONAL IDENTIFICATION OF INSTRUMENTS.

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION		EMERGENCY	USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE		CLEANER	CONTROL	
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL			
E	VOLTAGE (EMF)		PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			
G	GAUGING (DIMENSIONAL)		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH OR OPEN
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW OR CLOSED
M	USER'S CHOICE	MOMENTARY			MIDDLE OR INTERMEDIATE
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE (RESTRICTION)		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE OR TOTALIZE			
R	RUN		RECORD		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VISCOSITY, VIBRATION			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	FAILURE	X AXIS			
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVE, ACTUATE OR UNCLASSIFIED CONTROL ELEMENT	

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. GARCIA
DRAWN BY: S. WHITMORE
SHEET CHK'D BY: J. GARCIA
CROSS CHK'D BY: R. GAUDES
APPROVED BY: W. NELSON
DATE: MARCH 2004

CDM Camp Dresser & McKee
consulting engineering construction operations
701 Jenks Avenue
Panama City, Florida 32401
Tel: 850-785-5999
Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA

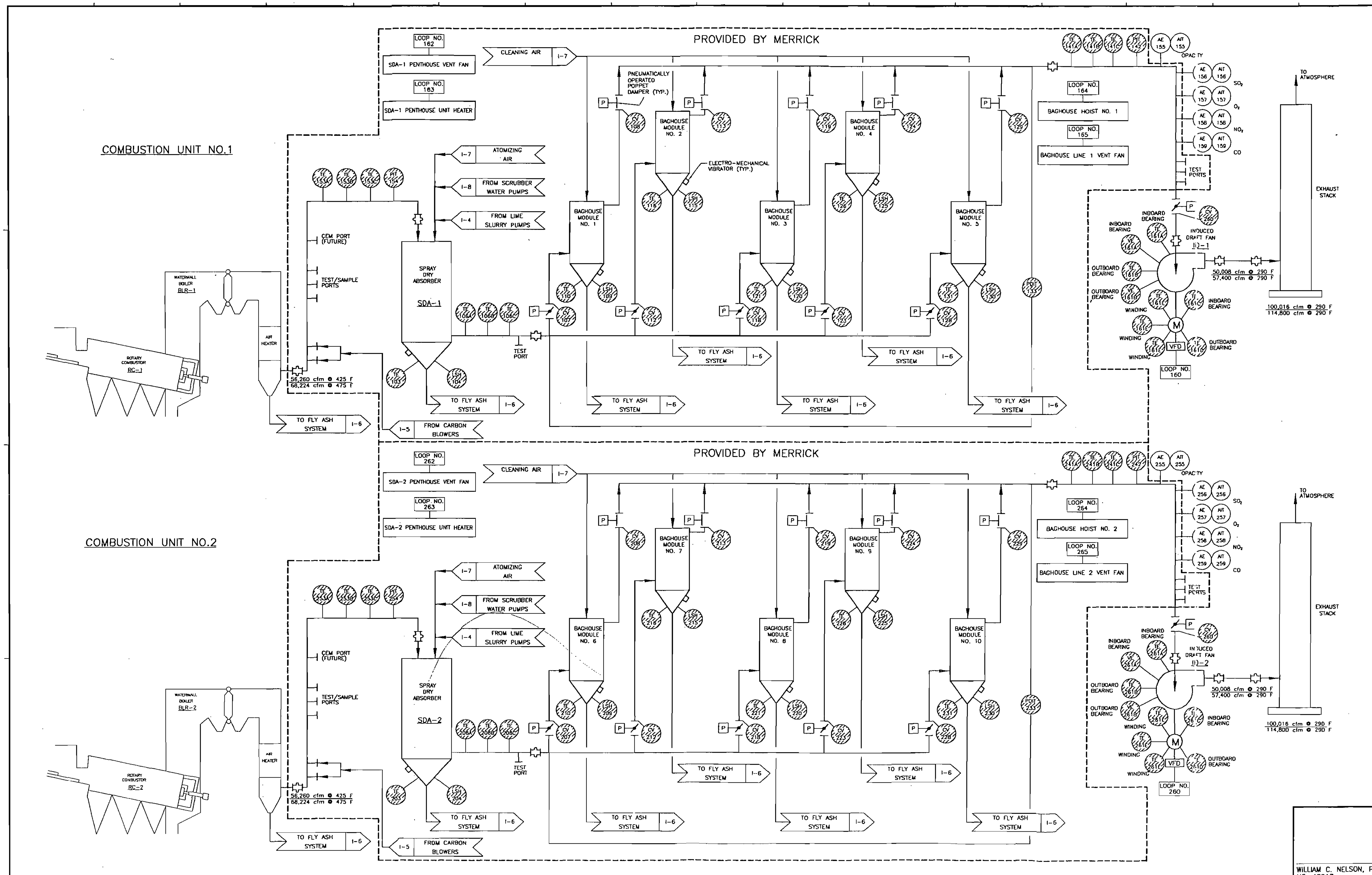
AIR POLLUTION CONTROL RETROFIT PROJECT

INSTRUMENTATION LEGEND

WILLIAM C. NELSON, P.E.
NO. 42017

PROJECT NO. 6348-40017
FILE NAME: I-01.DWG

SHEET NO.
I-1


PROVIDED BY MERRICK
COMBUSTION UNIT NO.1
COMBUSTION UNIT NO.2
LOOP NO. 162
SDA-1 PENTHOUSE VENT FAN
LOOP NO. 163
SDA-1 PENTHOUSE UNIT HEATER
CLEANING AIR
PNEUMATICALLY OPERATED POPPET DAMPER (TYP.)
ELECTRO-MECHANICAL VIBRATOR (TYP.)
BAGHOUSE MODULE NO. 1
BAGHOUSE MODULE NO. 2
BAGHOUSE MODULE NO. 3
BAGHOUSE MODULE NO. 4
BAGHOUSE MODULE NO. 5
LOOP NO. 164
BAGHOUSE HOIST NO. 1
LOOP NO. 165
BAGHOUSE LINE 1 VENT FAN
OPACITY
SO_2
O_2
NO_x
CO
TEST PORTS
TO ATMOSPHERE
EXHAUST STACK
INBOARD BEARING
OUTBOARD BEARING
WINDING
INDUCED DRAFT FAN ID-1
VFD
LOOP NO. 160
50,008 cfm @ 290 F
57,400 cfm @ 290 F
100,016 cfm @ 290 F
114,800 cfm @ 290 F
ATOMIZING AIR
FROM SCRUBBER WATER PUMPS
FROM LIME SLURRY PUMPS
CEM PORT (FUTURE)
TEST/SAMPLE PORTS
SPRAY DRY ABSORBER SDA-1
TEST PORT
WATERWALL BOILER BLR-1
ROTARY COMBUSTOR RC-1
AIR HEATER
56,260 cfm @ 425 F
68,224 cfm @ 475 F
TO FLY ASH SYSTEM
FROM CARBON BLOWERS
LOOP NO. 262
SDA-2 PENTHOUSE VENT FAN
LOOP NO. 263
SDA-2 PENTHOUSE UNIT HEATER
BAGHOUSE MODULE NO. 6
BAGHOUSE MODULE NO. 7
BAGHOUSE MODULE NO. 8
BAGHOUSE MODULE NO. 9
BAGHOUSE MODULE NO. 10
LOOP NO. 264
BAGHOUSE HOIST NO. 2
LOOP NO. 265
BAGHOUSE LINE 2 VENT FAN
INDUCED DRAFT FAN ID-2
LOOP NO. 260
SPRAY DRY ABSORBER SDA-2
WATERWALL BOILER BLR-2
ROTARY COMBUSTOR RC-2

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. GARCIA
DRAWN BY: S. WHITMORE
SHEET CHK'D BY: J. GARCIA
CROSS CHK'D BY: R. GAUDES
APPROVED BY: W. NELSON
DATE: MARCH 2004

CDM Camp Dresser & McKee
701 Jenks Avenue
Panama City, Florida 32401
Tel: 850-785-5099
Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA

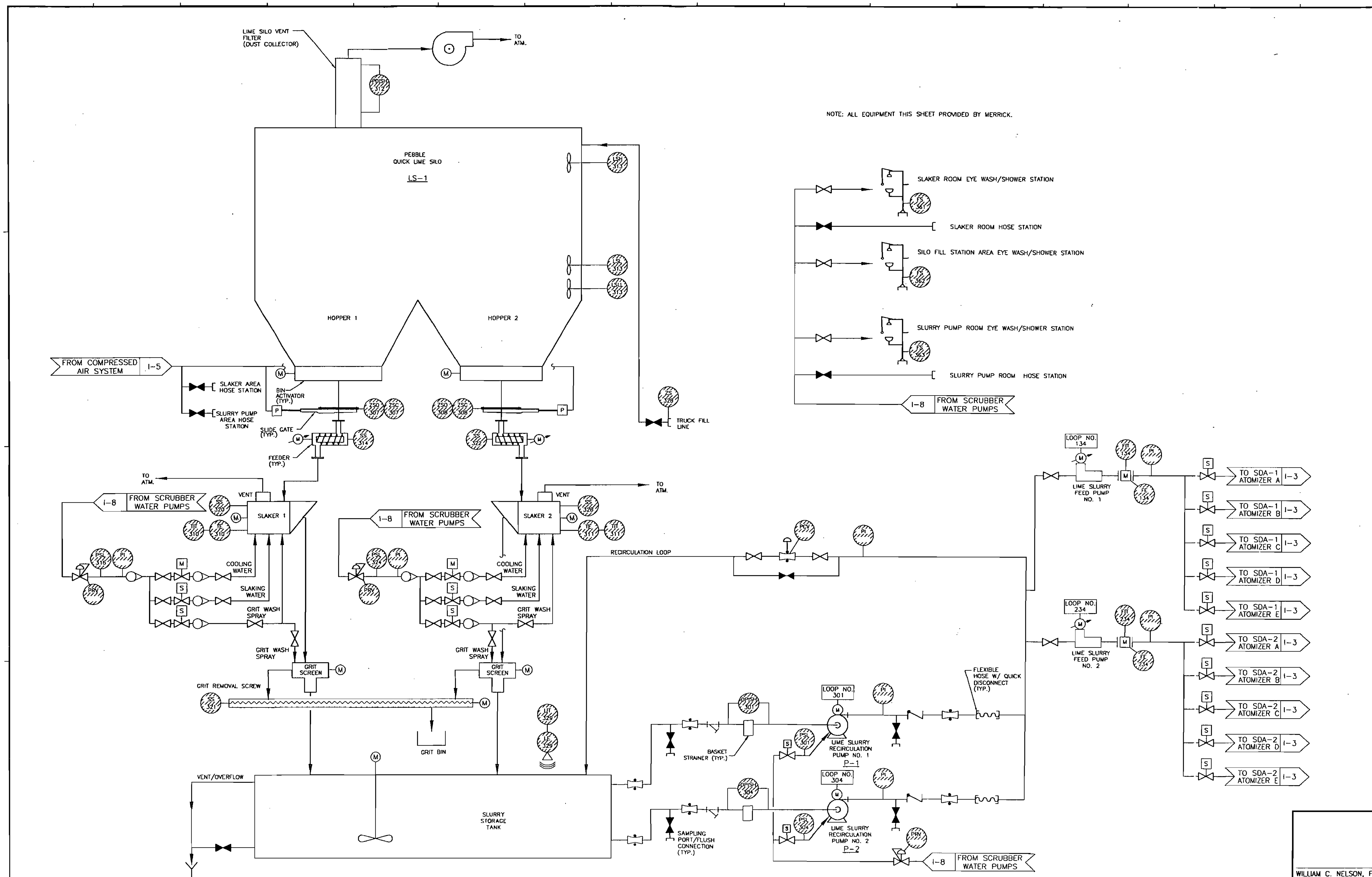
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS AND INSTRUMENTATION DIAGRAM
FLUE GAS SYSTEM

WILLIAM C. NELSON, P.E.
NO. 42017

PROJECT NO. 6348-40017
FILE NAME: I-03.DWG

SHEET NO.
I-3



WILLIAM C. NELSON, P.E.
NO. 42017

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. GARCIA
DRAWN BY: S. WHITMORE
SHEET CHK'D BY: J. GARCIA
CROSS CHK'D BY: R. GAUDES
APPROVED BY: W. NELSON
DATE: MARCH 2004

CDM Camp Dresser & McKee
701 Jenks Avenue
Panama City, Florida 32401
Tel: 850-785-5999
Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA

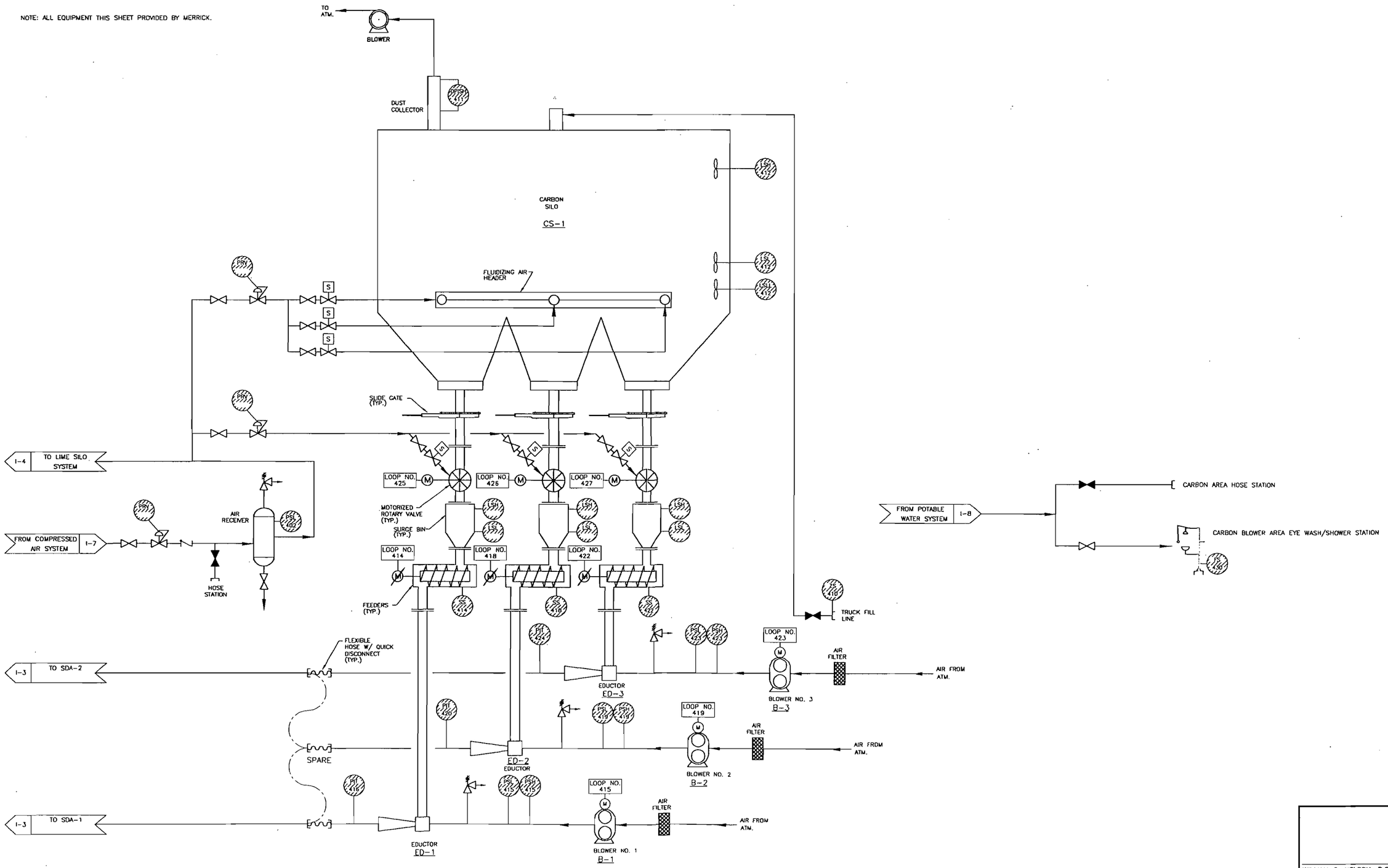
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS AND INSTRUMENTATION DIAGRAM
LIME STORAGE AND FEED SYSTEM

PROJECT NO. 6348-40017
FILE NAME: I-04.DWG

SHEET NO.
I-4

NOTE: ALL EQUIPMENT THIS SHEET PROVIDED BY MERRICK.



REV. NO.	DATE	DRAWN	CHKD	REMARKS

DESIGNED BY: J. GARCIA
DRAWN BY: S. WHITMORE
SHEET CHK'D BY: J. GARCIA
CROSS CHK'D BY: R. GAUDES
APPROVED BY: W. NELSON
DATE: MARCH 2004

CDM Camp Dresser & McKee
consulting engineering construction operations
701 Jenks Avenue
Panama City, Florida 32401
Tel: 850-785-5999
Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA

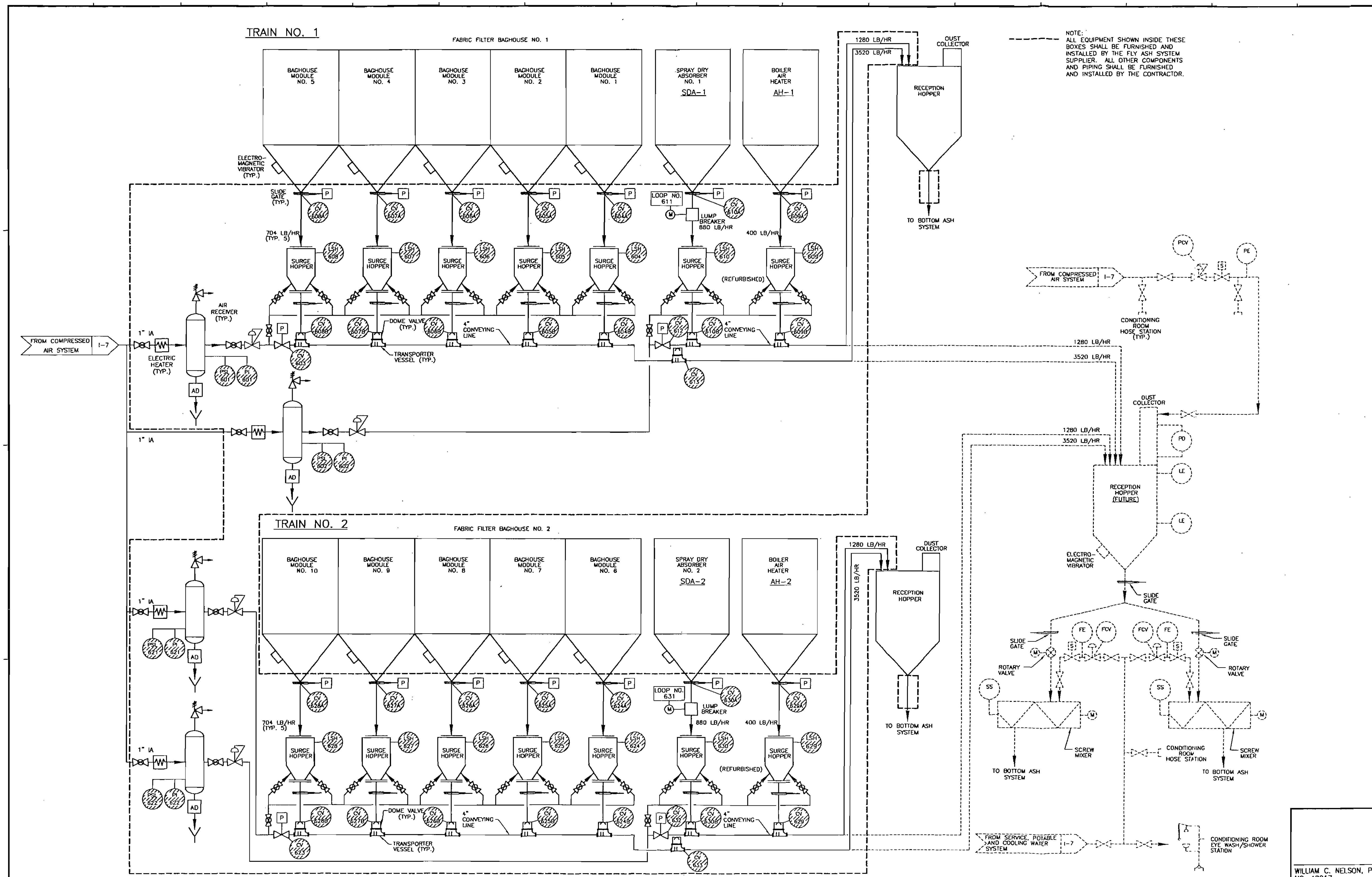
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS AND INSTRUMENTATION DIAGRAM
CARBON STORAGE AND FEED SYSTEM

WILLIAM C. NELSON, P.E.
NO. 42017

PROJECT NO. 6348-40017
FILE NAME: I-05.DWG

SHEET NO.
I-5



WILLIAM C. NELSON, P.E.
NO. 42017

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: J. GARCIA
DRAWN BY: S. WHITMORE
SHEET CHK'D BY: J. GARCIA
CROSS CHK'D BY: R. GAUDES
APPROVED BY: W. NELSON
DATE: MARCH 2004

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Panama City, Florida 32401
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Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA

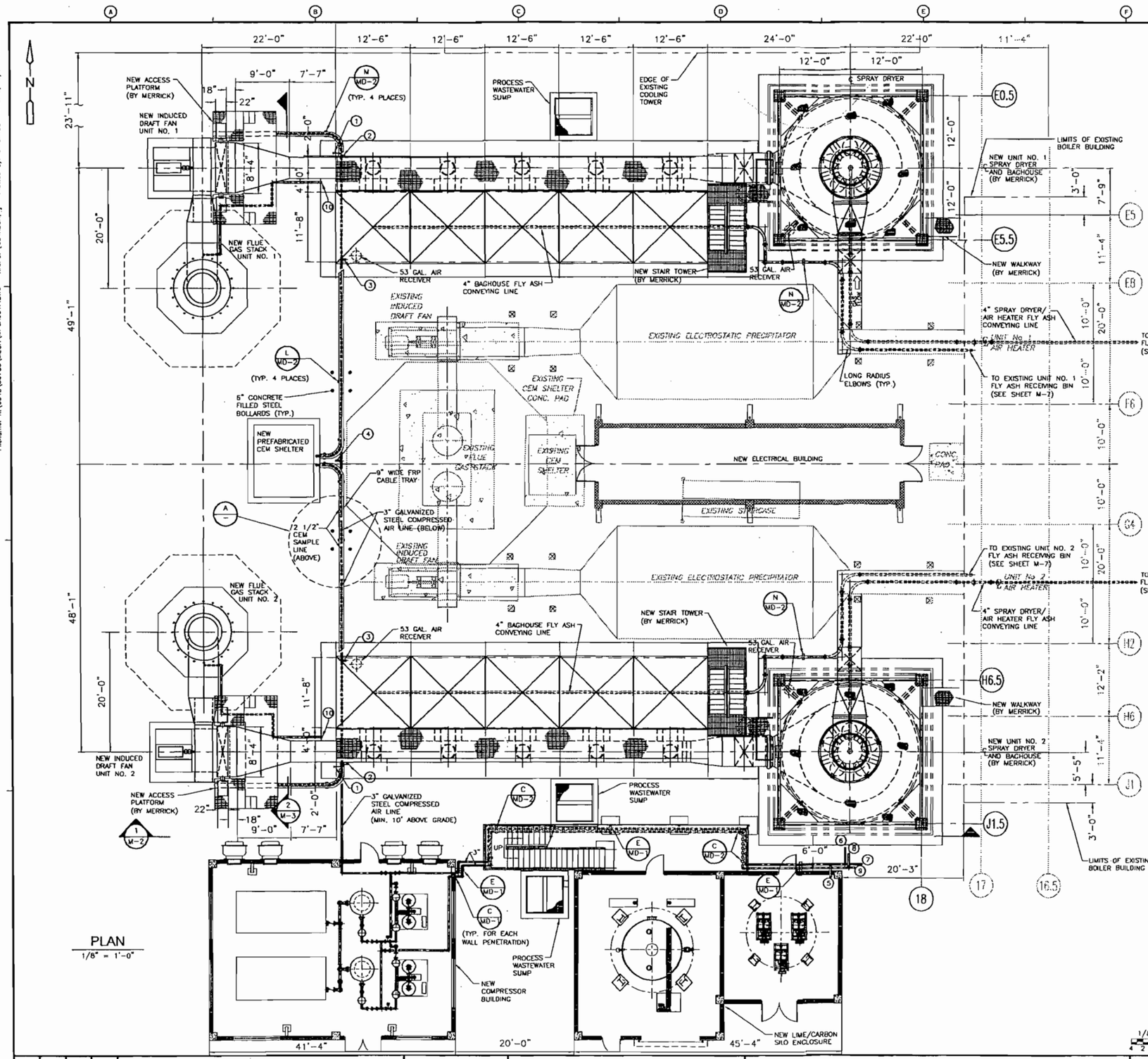
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS AND INSTRUMENTATION DIAGRAM
FLY ASH SYSTEM

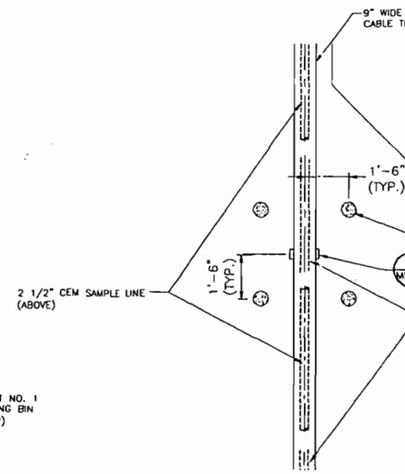
PROJECT NO. 6348-40017
FILE NAME: I-06.DWG

SHEET NO.
I-6

[BAY COUNTY - RESOURCE RECOVERY FACILITY] Plotted by: ZMEJKOG Time: 3/16/04 7:08:29 AM Xref's: [C2+X36H..] Filename: R:\6348\35783\MECH\MPGA001F.DWG



PLAN
1/8" = 1'-0"



DETAIL A
N.T.S.

GENERAL NOTES:

1. NEW SPRAY DRYERS, NEW BAGHOUSES, NEW INTERCONNECTING DUCT WORK FROM BOILER OUTLET TO ID FAN INLET AND ASSOCIATED ACCESS PLATFORMS AND STAIRWAYS TO BE FURNISHED AND INSTALLED BY MERRICK.
2. NEW INDUCED DRAFT FANS, NEW COMPRESSED AIR SYSTEM, NEW FLY ASH SYSTEM AND NEW CEM SYSTEM TO BE PURCHASED BY MONTENAY AND INSTALLED BY CONTRACTOR.
3. NEW FLUE GAS STACKS TO BE PURCHASED BY MONTENAY AND INSTALLED BY STACK SUPPLIER.
4. NEW LIME AND CARBON SILOS AND EQUIPMENT TO BE FURNISHED AND INSTALLED BY MERRICK. NEW LIME/CARBON SILO ENCLOSURE TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
5. NEW COMPRESSOR BUILDING AND NEW ELECTRICAL BUILDING TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
6. ALL FOUNDATIONS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
7. REFER TO SHEET I-7 FOR ADDITIONAL COMPRESSED AIR PIPING DETAILS.

KEY NOTES:

1. 1/2" INSTRUMENT AIR CONNECTION FOR ID FAN DAMPER ACTUATOR. CONTINUATION OF PIPING BY CONTRACTOR.
2. 1" INSTRUMENT AIR CONNECTION FOR BAGHOUSE. COORDINATE LOCATION WITH MERRICK. CONTINUATION OF PIPING BY MERRICK.
3. 2" INSTRUMENT AIR CONNECTION FOR FLY ASH SYSTEM. CONTINUATION OF PIPING BY CONTRACTOR.
4. 1/2" INSTRUMENT AIR CONNECTION FOR CEM SHELTER. CONTINUATION OF PIPING BY CONTRACTOR.
5. 2" INSTRUMENT AIR CONNECTION FOR LIME/CARBON AREA. COORDINATE LOCATION WITH MERRICK. CONTINUATION OF PIPING BY MERRICK.
6. 2" INSTRUMENT AIR CONNECTION FOR SPRAY DRYER. COORDINATE LOCATION WITH MERRICK. CONTINUATION OF PIPING BY MERRICK.
7. 3" INSTRUMENT AIR CONNECTION TO EXISTING INSTRUMENT AIR SYSTEM. CONTINUATION OF PIPING BY CONTRACTOR (SEE SHEET M-7).
8. 3" UTILITY AIR CONNECTION FOR SPRAY DRYERS. COORDINATE LOCATION WITH MERRICK. CONTINUATION OF PIPING BY MERRICK.
9. 2" UTILITY AIR CONNECTION TO EXISTING UTILITY AIR SYSTEM. CONTINUATION OF PIPING BY CONTRACTOR (SEE SHEET M-7).
10. 3" 316L STAINLESS STEEL STACK DRAIN TO BAGHOUSE TRENCH DRAIN. CONTINUATION OF PIPING BY CONTRACTOR, SLOPE 1/4" PER FOOT (SEE SHEETS M-2 & M-3).

1/8" = 1'-0"

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. LoRe
DRAWN BY: G. ZMEJKO
SHEET CHK'D BY: A. LoRe
CROSS CHK'D BY: R. CAUDES
APPROVED BY: A. LoRe
DATE: MARCH 2004

CDM Camp Dresser & McKee Inc.
consulting engineering construction services
101 Jenks Avenue, Panama City, Florida 32401, Tel. 850-785-5999, Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS GENERAL ARRANGEMENT PLAN

ANTHONY M. LoRe
P.E. NO. 60373

PROJECT NO. 6348-35783
FILE NAME: MPGA001F.DWG

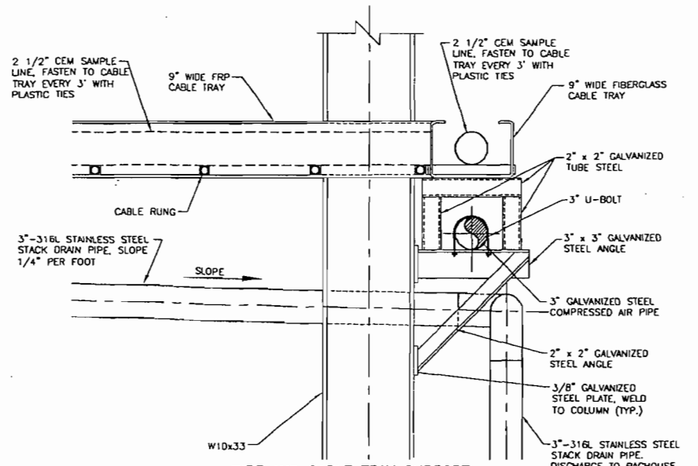
SHEET NO.
M-1

GENERAL NOTES:

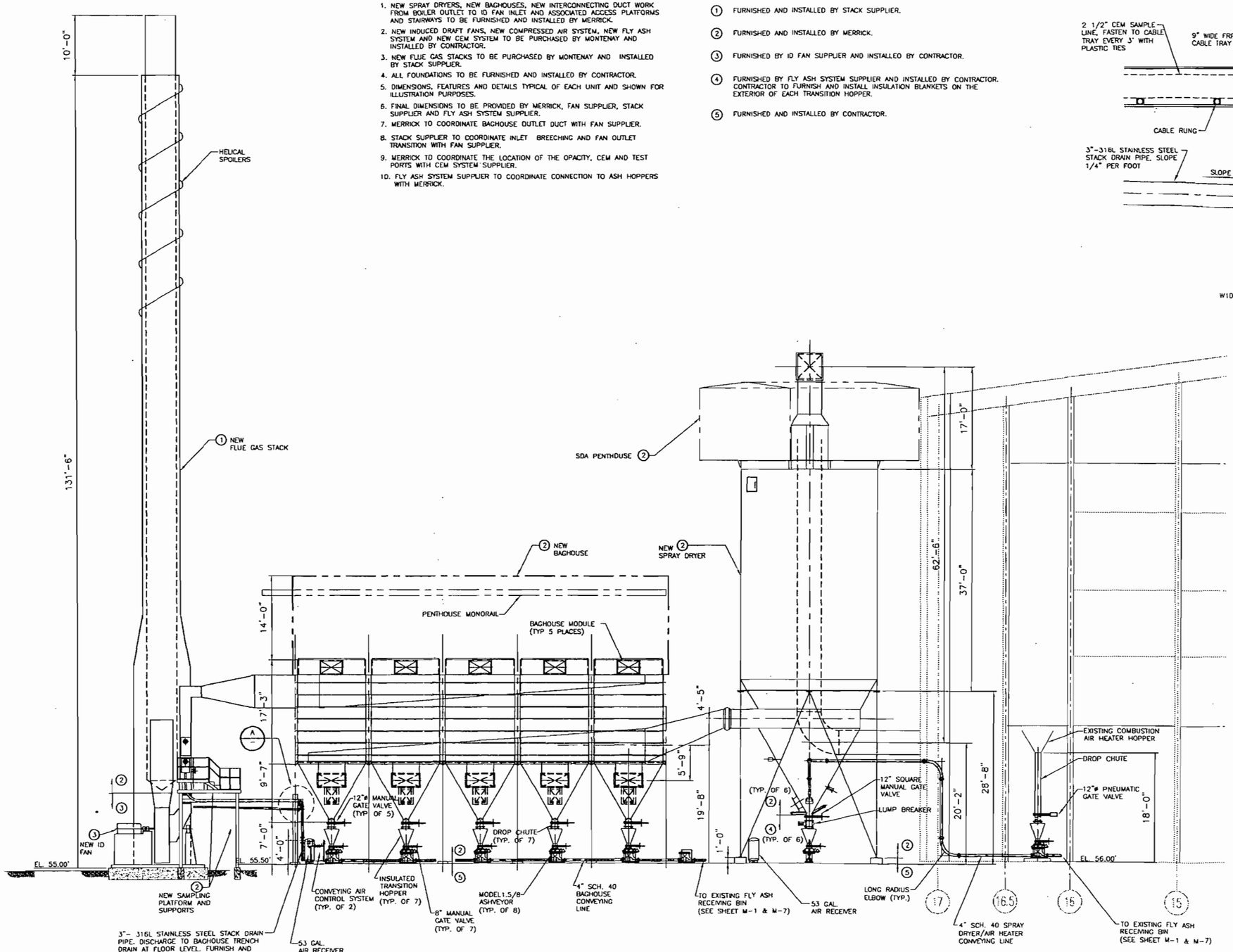
1. NEW SPRAY DRYERS, NEW BAGHOUSES, NEW INTERCONNECTING DUCT WORK FROM BOILER OUTLET TO ID FAN INLET AND ASSOCIATED ACCESS PLATFORMS AND STAIRWAYS TO BE FURNISHED AND INSTALLED BY MERRICK.
2. NEW INDUCED DRAFT FANS, NEW COMPRESSED AIR SYSTEM, NEW FLY ASH SYSTEM AND NEW CEM SYSTEM TO BE PURCHASED BY MONTENAY AND INSTALLED BY CONTRACTOR.
3. NEW FLUE GAS STACKS TO BE PURCHASED BY MONTENAY AND INSTALLED BY STACK SUPPLIER.
4. ALL FOUNDATIONS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
5. DIMENSIONS, FEATURES AND DETAILS TYPICAL OF EACH UNIT AND SHOWN FOR ILLUSTRATION PURPOSES.
6. FINAL DIMENSIONS TO BE PROVIDED BY MERRICK, FAN SUPPLIER, STACK SUPPLIER AND FLY ASH SYSTEM SUPPLIER.
7. MERRICK TO COORDINATE BAGHOUSE OUTLET DUCT WITH FAN SUPPLIER.
8. STACK SUPPLIER TO COORDINATE INLET BREECHING AND FAN OUTLET TRANSITION WITH FAN SUPPLIER.
9. MERRICK TO COORDINATE THE LOCATION OF THE OPACITY, CEM AND TEST PORTS WITH CEM SYSTEM SUPPLIER.
10. FLY ASH SYSTEM SUPPLIER TO COORDINATE CONNECTION TO ASH HOPPERS WITH MERRICK.

KEY NOTES:

1. FURNISHED AND INSTALLED BY STACK SUPPLIER.
2. FURNISHED AND INSTALLED BY MERRICK.
3. FURNISHED BY ID FAN SUPPLIER AND INSTALLED BY CONTRACTOR.
4. FURNISHED BY FLY ASH SYSTEM SUPPLIER AND INSTALLED BY CONTRACTOR. CONTRACTOR TO FURNISH AND INSTALL INSULATION BLANKETS ON THE EXTERIOR OF EACH TRANSITION HOPPER.
5. FURNISHED AND INSTALLED BY CONTRACTOR.



PIPE AND CABLE TRAY SUPPORT DETAIL A
N.T.S.



SECTION 1 (M-1)
1/8" = 1'-0"

1/8" = 1'-0"
4 2 0 4 8

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. LoRe
DRAWN BY: G. ZMEJKO
SHEET CHK'D BY: A. LoRe
CROSS CHK'D BY: R. GAUDES
APPROVED BY: A. LoRe
DATE: MARCH 2004

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
701 Jenks Avenue, Panama City, Florida 32401, Tel: 850-785-3599, Cert. of Authorization No. 20

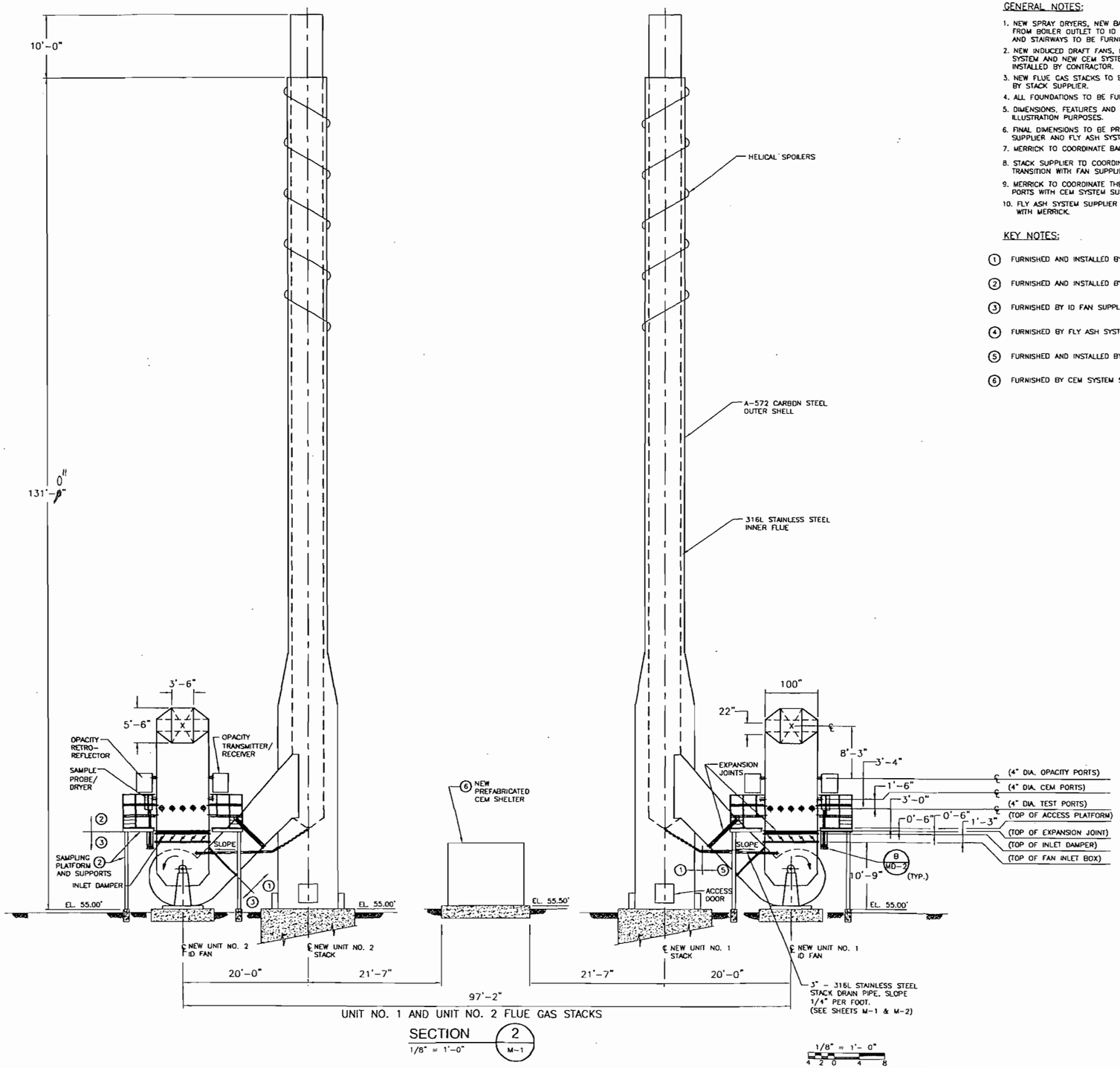
BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS GENERAL ARRANGEMENT SECTION

ANTHONY M. LoRe
P.E. NO. 60373

PROJECT NO. 6348-35783
FILE NAME: MSGA001F.DWG

SHEET NO.
M-2



UNIT NO. 1 AND UNIT NO. 2 FLUE GAS STACKS

SECTION 2 M-1
1/8" = 1'-0"

1/8" = 1'-0"
4 2 0 4 8

GENERAL NOTES:

1. NEW SPRAY DRYERS, NEW BAGHOUSES, NEW INTERCONNECTING DUCT WORK FROM BOILER OUTLET TO ID FAN INLET AND ASSOCIATED ACCESS PLATFORMS AND STAIRWAYS TO BE FURNISHED AND INSTALLED BY MERRICK.
2. NEW INDUCED DRAFT FANS, NEW COMPRESSED AIR SYSTEM, NEW FLY ASH SYSTEM AND NEW CEM SYSTEM TO BE PURCHASED BY MONTENAY AND INSTALLED BY CONTRACTOR.
3. NEW FLUE GAS STACKS TO BE PURCHASED BY MONTENAY AND INSTALLED BY STACK SUPPLIER.
4. ALL FOUNDATIONS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.
5. DIMENSIONS, FEATURES AND DETAILS TYPICAL OF EACH UNIT AND SHOWN FOR ILLUSTRATION PURPOSES.
6. FINAL DIMENSIONS TO BE PROVIDED BY MERRICK, FAN SUPPLIER, STACK SUPPLIER AND FLY ASH SYSTEM SUPPLIER.
7. MERRICK TO COORDINATE BAGHOUSE OUTLET DUCT WITH FAN SUPPLIER.
8. STACK SUPPLIER TO COORDINATE INLET BREECHING AND FAN OUTLET TRANSITION WITH FAN SUPPLIER.
9. MERRICK TO COORDINATE THE LOCATION OF THE OPACITY, CEM AND TEST PORTS WITH CEM SYSTEM SUPPLIER.
10. FLY ASH SYSTEM SUPPLIER TO COORDINATE CONNECTION TO ASH HOPPERS WITH MERRICK.

KEY NOTES:

1. FURNISHED AND INSTALLED BY STACK SUPPLIER.
2. FURNISHED AND INSTALLED BY MERRICK.
3. FURNISHED BY ID FAN SUPPLIER AND INSTALLED BY CONTRACTOR.
4. FURNISHED BY FLY ASH SYSTEM SUPPLIER AND INSTALLED BY CONTRACTOR.
5. FURNISHED AND INSTALLED BY CONTRACTOR.
6. FURNISHED BY CEM SYSTEM SUPPLIER AND INSTALLED BY CONTRACTOR.

REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: A. LoRe
DRAWN BY: G. ZMIEJKO
SHEET CHK'D BY: A. LoRe
CROSS CHK'D BY: R. GAUDES
APPROVED BY: A. LoRe
DATE: MARCH 2004

CDM Camp Dresser & McKee Inc.
consulting engineering construction operations
701 Jones Avenue
Panama City, Florida 32401
Tel: 850-785-5999
Cert. of Authorization No. 20

BAY COUNTY RESOURCE RECOVERY FACILITY
BAY COUNTY, FLORIDA
AIR POLLUTION CONTROL RETROFIT PROJECT

PROCESS GENERAL ARRANGEMENT SECTION

ANTHONY M. LoRe
P.E. NO. 60373

PROJECT NO. 6348-35783
FILE NAME: MSCA002F.DWG

SHEET NO.
M-3

Attachment 3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

Rule 62-296.320(4)(c) of the FAC states that these unconfined particulate matter emissions must be identified and precautions that will be taken to prevent or control such emissions must be described.

The following areas have been identified as potential sources of fugitive particulate matter emissions along with the precautions used to prevent these emissions.

- Paved and Unpaved Roads. Trucks delivering MSW, trucks removing ash, passenger vehicles, and other plant equipment use 0.112 miles of paved roads and 0.08 miles of unpaved roads at the facility. To minimize emissions from the paved roadways, a road sweeper shall be utilized to clean the areas twice per month. The unpaved areas shall be used infrequently by vehicles traveling from the tipping floor to the rear of the facility without exiting plant property. No unpaved roads onsite.

- Residue Handling. The residual material (ash) remaining after the solid waste is combusted shall be conveyed to a totally enclosed ash storage building, where it shall be loaded into trucks and hauled to the landfill. The ash shall be handled wet in order to minimize emissions. All ash shall be combined inside the boiler building and sent to the quench tank where it shall be submerged in water. A drag conveyor shall lift the material from the quench tank up an incline to allow standing water to drain. The material shall be then discharged into a bunker inside the ash building for temporary storage. The ash shall be periodically loaded into trucks and hauled to the County's ash landfill. The trucks shall be covered before the trucks exit the site (See following pages for more details).

Section 3
Ash Residue Management Practices

3.1 Current Ash Management Practices

Fly ash and bottom ash are collected from the several locations within the Facility and combined into one ash stream. Therefore, separate weights are not available for fly ash and bottom ash. Based on the type of air pollution control equipment currently employed at the Facility, it is estimated that fly ash constitutes less than 10 percent of the total ash residue by weight. This percentage will increase somewhat after the planned air pollution control (APC) retrofit is completed.

Fly ash is currently collected from three ash hoppers located beneath each electrostatic precipitator (ESP) and one ash hopper located below each combustion air preheater that are associated with each combustion train and pneumatically conveyed to a dedicated receiving bin located inside the boiler building. The fly ash receiving bins discharge the fly ash through a bifurcated chute and into one of two submerged drag chain conveyors where it is combined with bottom ash that is discharged from the end of the combustor. One drag chain conveyor is operated at a time and the second serves as a back-up. The quench bath serves to cool the ash residue and to wet the ash thereby controlling fugitive dust. Separate fly ash collection systems are provided for each combustor unit.

The fly ash collection hoppers, pneumatic fly ash transport systems and the bifurcated ash chutes are all totally enclosed, thus preventing the fly ash from becoming airborne prior to quenching. This bifurcated feature of the chute allows for the ash residue to be discharged into either of the submerged drag chain conveyor systems. These conveyors, which are common to both combustion units, run perpendicular to the flow of waste through the combustor and exit the boiler building on the south side. From this point, the ash residue conveyor transports the ash residue on an incline to allow dewatering of the material, and to provide sufficient elevation prior to discharge of the ash residue into bunkers inside the ash management building.

The ash management building consists of a totally enclosed structure specifically designed for the discharge, storage, and loading of ash residue. Ash residue is dropped from the head end of each inclined drain chain conveyor into separate concrete walled bunkers. Each of these bunkers is sized to hold approximately two days of ash output for a total ash storage capacity of four days.

While in this bunker, any excess moisture is allowed to drain from the ash residue onto a reinforced concrete floor that is sloped to a drainage sump. Free moisture is collected in the sump and returned to the submerged drag chain conveyors for re-use in ash quenching. The concrete floor and wall joints are sealed to prevent water from seeping out at the construction joints. All entrances to the building are constructed to prevent water from escaping the building during periodic cleanings or wash down of the floor surface.

A truck loading aisle is provided at the south end of the ash management building opposite the ash bunkers. Ash trucks enter the building from the southwest corner and are loaded inside the building. The trucks used to transport the ash residue to the landfill have leak-proof bodies and can haul up to 25 tons of ash residue per load.

Ash residue is removed from the bunkers and loaded into the ash trucks using a front-end loader. When sufficient ash has been deposited, the truck exits the ash management building via an exit in the southeast corner. Facilities are provided for truck wash down if that becomes necessary. The truck exits the Facility site via the weigh scales for recording of their contents. During transport to the landfill, the trailers remain covered for control of fugitive emissions. The front-end loader has a fully enclosed operator cab complete with a high efficiency air filtering system to prevent the operator from potential exposure to airborne ash residues. The truck entrance doors are closed when ash load out operations are not occurring.

3.2 Future Changes to the Fly Ash Collection Systems

The existing pneumatic fly ash conveying system on each combustion unit will be removed as part of the APC upgrade and replaced in kind with a new pneumatic fly ash conveying system. The new system for each combustion train will consist of two pneumatic transport lines. One transport line will collect fly ash from the five ash hoppers beneath the new fabric filter baghouse. The second transport line will collect fly ash from the ash hopper beneath the new scrubber and the ash hopper beneath the existing combustion air preheater. Both transport lines will discharge the fly ash into the existing fly ash receiving bin for that unit. The fly ash will continue to be combined with the bottom ash in the submerged drag chain system. This minor modification to the fly ash system configuration will not materially change the manner in which fly and bottom ash are currently managed at the Facility.

Construction of the APC retrofit is expected to begin by the summer of 2004 and be completed by the summer of 2005. The new APC equipment will be constructed to the north and south of the existing APC equipment. This will allow the existing APC equipment and fly ash systems to remain in normal operation during the construction period. A short outage will be undertaken on each unit to disconnect the existing equipment and connect the new equipment.

3.3 Health and Safety Provisions

After quenching and draining of free water from the residual materials, the ash contains approximately 35 to 40 percent moisture by weight with which remains through the period of short-term storage and disposal. The mechanized nature of the ash handling and disposal operations, combined with the relatively high moisture content of the residue, minimizes the potential for inhalation, ingestion or body contact with the residue material.

Furthermore, Montenay has a detailed employee safety training program. This program provides equipment, as necessary, to promote a high degree of protection to Facility personnel who may come in contact with the ash material. The program is periodically updated to assure ongoing compliance with all OSHA standards and FDEP requirements.

Attachment 4.

List of Insignificant Emissions Units and/or Activities

	Brief Description of Emissions Units and/or Activities
1	Plant Grounds Maintenance (small engines)
2	Maintenance and Repair Activities (cleaning, painting, etc.)
3	Main Steam Pressure Relief Valves
4	Office Activities (vacuum cleaning, refrigerators, etc.)
5	Chemical Storage Tanks (sulfuric acid: 3000 & 1200 gal., caustic: 1200 gal., etc.)
6	Testing and Monitoring Equipment (CEMs, stack sampling calibration gases, etc.)
7	Fire/Safety Diesel Pump
8	HVAC Equipment
9	Various Vent/Exhaust (boiler feed pump relief valve, etc.)
10	Air Compressors
11	Waste Accumulation (10 gallon closed containers)
12	Fuel Oil Storage Tanks (4000 gallon and 250 gallon)
13	Laboratory Vents
14	Air Dryer
15	Cooling Tower
16	Transportation/Conveyor and Hauling of Waste and Ash
17	Road Emissions
18	SDA's (Scrubber Dryer Atomizers)
19	Baghouses
20	Chemical Silo's (Lime and Carbon)
21	Slakers (lime slurry injection)

Attachment 5.

MONTENAY BAY LLC

ONYX

MBLLC/DEP-05-007-0118-SOC

January 18, 2005

Ms. Sandra Veazey
Florida DEP
160 Governmental Center
Pensacola, Florida 32501-5794
VIA CERTIFIED MAIL

Dear Ms. Veazey:

Ref: Air Permits AO03-165754 and AO03-165755
Title V Final Permit Number: 0050031-002-AV

Enclosed, please find the STATEMENT OF COMPLIANCE-TITLE V SOURCE for the year 2004. If I may be of any further service, please do not hesitate to call 850-785-7933x206.

Thank you,

C. Chalmous Beechem
Safety Manager

cc Anetha Lue, MIC
cc R.M. Hunt, BCSW
cc U.S. EPA Region 4
cc Richard Brookins, FLDEP

Department of Environmental Protection

Division of Air Resource Management

STATEMENT OF COMPLIANCE - TITLE V SOURCE

REASON FOR SUBMISSION (Check one to indicate why this statement of compliance is being submitted)

X **Annual Requirement**	☐ **Transfer of Permit**	☐ **Permanent Facility Shutdown**

REPORTING PERIOD*	REPORT DEADLINE**
January 1 through December 31 of 2004 (year)	March 1, 2005

*The statement of compliance must cover all conditions that were in effect during the indicated reporting period, including any conditions that were added, deleted, or changed through permit revision.

**See Rule 62-213.440(3)(a)2., F.A.C.

Facility Owner/Company Name: BAY COUNTY/MONTENAY BAY LLC

Site Name: BAY RESOURCE MAN CTR Facility ID No. 0050031 County: BAY

COMPLIANCE STATEMENT (Check only one of the following three options)

X **A.** This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, and there were no reportable incidents of deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above.

____ **B.** This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part; however, there were one or more reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each incident of deviation, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.
2. Description of the incident.

____ **C.** This facility was in compliance with all terms and conditions of the Title V Air Operation Permit and, if applicable, the Acid Rain Part, EXCEPT those identified in the pages attached to this report and any reportable incidents of deviations from applicable requirements associated with malfunctions or breakdowns of process, fuel burning or emission control equipment, or monitoring systems during the reporting period identified above, which were reported to the Department. For each item of noncompliance, the following information is included:

1. Emissions unit identification number.
2. Specific permit condition number (note whether the permit condition has been added, deleted, or changed during certification period).
3. Description of the requirement of the permit condition.
4. Basis for the determination of noncompliance (for monitored parameters, indicate whether monitoring was continuous, i.e., recorded at least every 15 minutes, or intermittent).
5. Beginning and ending dates of periods of noncompliance.
6. Identification of the probable cause of noncompliance and description of corrective action or preventative measures implemented.
7. Dates of any reports previously submitted identifying this incident of noncompliance.

For each incident of deviation, as described in paragraph **B.** above, the following information is included:

1. Date of report previously submitted identifying the incident of deviation.

STATEMENT OF COMPLIANCE - TITLE V SOURCE

RESPONSIBLE OFFICIAL CERTIFICATION

I, the undersigned, am a responsible official (Title V air permit application or responsible official notification form on file with the Department) of the Title V source for which this document is being submitted. With respect to all matters other than Acid Rain program requirements, I hereby certify, based on the information and belief formed after reasonable inquiry, that the statements made and data contained in this document are true, accurate, and complete.

Thomas T. Crandall — 1/21/05

(Signature of Title V Source Responsible Official) *(Date)*

Name: Thomas T. Crandall Title: Bay County Utility Services Department Director

DESIGNATED REPRESENTATIVE CERTIFICATION (only applicable to Acid Rain source)

I, the undersigned, am authorized to make this submission on behalf of the owners and operators of the Acid Rain source or Acid Rain units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

NOT APPLICABLE

(Signature of Acid Rain Source Designated Representative) *(Date)*

Name: Title:

{Note: Attachments, if required, are created by a responsible official or designated representative, as appropriate, and should consist of the information specified and any supporting records. Additional information may also be attached by a responsible official or designated representative when elaboration is required for clarity. This report is to be submitted to both the compliance authority (DEP district or local air program) and the U.S. Environmental Protection Agency(EPA) (U.S. EPA Region 4, Air and EPCRA Enforcement Branch, 61 Forsyth Street, Atlanta GA 30303).}

Attachment 6.

List of Equipment / Activities Regulated under Title VI :

The following equipment has been identified as being regulated under Title VI:

AIR-1 Control Room Air Conditioner manufactured by Liebert, model number UH114AUA10.

AIR-2 Control Room Backup Air Conditioner manufactured by Marvair, model number WHP57HPA.

AIR-3 Back Stairwell Air Conditioner manufactured by Lennox, model number HS18-653.

SLF-1 Chem Lab Air Conditioner manufactured by Miller / Nortek, model number MSC-30E-C3.

HPR-1 Office Building Heat Pump manufactured by Lennox, model number CHP1113535.

HPR-2 MCC Room Air Conditioner, Unit 2, manufactured by Trane, model number BTA180D400.

HPR-3 MCC Room Air Conditioner, Unit 3, manufactured by Trane, model number BWV180B400.

Attachment 7.

Montenay Bay LLC

AIR POLLUTION CONTROL SYSTEM DESCRIPTION

AIR POLLUTION CONTROL (APC) SYSTEM DESCRIPTION

INTRODUCTION

The APC System is designed to neutralize acidic chemical compounds (sulfur dioxide (SO_2) and hydrogen chloride (HCl), reduce mercury emissions and remove particulate from the effluent gas of the refuse-burning steam generators.

The APC System is comprised of four subsystems: Pebble lime/slurry, Spray Dryer Absorber (SDA), Carbon injection and Pulsjet Fabric Filter (Baghouse). These systems perform the following functions:

LIME: The lime system prepares lime slurry for use in the sulfur dioxide and acid neutralization process in a sufficient quantity and concentration to maintain continuous flue gas treatment in the SDA. The system has been designed for batch mixing to provide this service.

SPRAY DRYER ABSORBER: Untreated flue gas and reagent lime slurry combine in the SDA, resulting in the neutralization and removal of the acid components contained in the gas stream. The two streams, lime slurry and steam generator exhaust gas, combine, and result in a dry product and scrubbed gas exiting the absorber chamber. The absorber and its support equipment are designed to maintain the reaction between lime slurry and flue gas necessary for acid neutralization, and for moisture evaporation. The result of maintaining this balance between slurry and gas is the desired absorber exit flue gas conditions.

PULSJET Fabric Filter: The Pulsjet fabric filter (also referred to as the baghouse) is used to remove entrained particulate matter (flyash, acid gas reaction products, calcium salts, etc.) from the flue gas prior to exhausting to the atmosphere. The particulate matter is filtered from the flue gas as it passes through the fiberglass filter bags. In addition, some un-reacted lime accumulates on the filter bags where the lime provides additional acid gas removal.

LIME

FUNCTION

The lime slurry preparation system prepares lime slurry for use in the spray dryer absorber to neutralize any acid gases in the exhaust flue gases from the combustor/boilers. The lime slurry preparation system begins at the truck unloading station, continues through the slaking process and ends at the outlet of the slurry pumps.

FLOW PATH

Pebble-size lime (CaO) is delivered to the plant via self-contained pneumatic truck trailers. The lime is unloaded from the truck trailer to the lime silo, above the lime preparation area. The silo is sized to hold enough lime to maintain several days of system operation of each flue gas cleaning train at the maximum combustion rate of the steam generators. Normal operation requires that 60 tons/week of lime be unloaded to the storage silos to maintain APC System operation. The silo can hold 70 tons of lime. The maximum design operation requires 104 tons/week of lime.

The lime silo has two conical discharges. Lime is discharged through a silo conical discharge to a slaking train. Two slaking trains are supplied. Normally, only one slaking train, and therefore, one silo discharge, is operational to supply the APC System. However, both slaking trains may be operated simultaneously during periods of high slurry demand. Knifegates are installed in the chute beneath the lime silo (feed bin) to select whichever slaking train is operational.

The flow of the material from each silo discharge is aided by a Electric vibrators. Variable speed screw feeders are used to meter lime to the slakers in the proportions required for slaking.

The pebble-sized lime flows by gravity from the screw feeders to paste-type slakers where it is slaked to a slurry of hydrated lime and water. The slakers mix and slake the lime, using abrasion resistant counter rotating intermeshing paddles, and provide a vessel for the slaking reaction to occur. Approximately 2.8 lbs of water are required to slake each pound of quicklime.

Six to nine gallons per minute of slaked lime slurry, with a solids content of approximately 20%, flows by gravity from the paste slakers to the slurry grit screens.

Water is sprayed onto the surface of the grit screens at a rate of approximately 3 gpm to remove grit and large particles of lime that will not pass the #20-mesh screens. Wet grit is discharged from each screen for disposal. Lime slurry passing the grit screen flows by gravity to the lime slurry tank.

The water sprayed onto the grit screen is mixed with the lime slurry as it passes through the screen before entering the lime slurry storage tank. The rate that water is added to the lime slurry may be varied so that a desired 20% lime solids concentration can be achieved in the slurry tank. An agitator, in the slurry tank, incorporates and mixes the slaked lime slurry and added water to maintain the suspension of lime solids.

Lime feed slurry is pumped from the lime slurry tank at 25 gpm through a recirculation loop to the nozzles. The recirculation loop prevents the separation of the water and lime and sustains a liquid head to

the slurry injection pumps which regulating the flow from the recirculation loop to the nozzles. Only 20% of the slurry entering the recirculation loop is delivered to the nozzles. The remaining 80% of the slurry entering the recirculation loop is returned to the slurry tank. The actual flow of slurry to the nozzles is dependent upon the sulfur dioxide (SO_2) and hydrogen chloride (HCL) concentrations of the gas exiting the APC System.

The liquid head in each recirculation loop is maintained by one of two slurry feed pumps. One pump serves both SDA's while the other pump remains on standby.

A total of approximately 5.4 lbs of water must be mixed with each pound of lime at the slakers and grit screen to obtain the required lime slurry feed concentration at the discharge of the slurry tank. The variable feed adjustments of the screw feeder and the manual water control valves at the grit screens and slakers allow water and lime to be combined at a rate that will maintain a batch mode of mixing.

COMPONENTS

The lime system has been designed as a complete package. The system, including the silo (feed bin), silo vent filter, silo vibrators, lime silo knifegates, screw feeders, paste slakers, slurry grit screens, reagent (slurry) tank, slurry tank agitator, and feed pumps, is located in a separate structure alongside the APC System.

The entire lime system is housed within a block enclosure. The enclosure includes ventilation, lighting, and an emergency shower/eyewash station in addition to the lime system equipment.

Lime Silo

The lime silo on the top floor of the lime system enclosure. The silo is a mass flow vessel used for the storage of pebble lime.

The 2,600 cubic feet capacity silo has an inside diameter of 14'0" and an overall height of 17' 0". Twin silo discharges are located at the bottom of a 60 degree conical hopper. The silo is constructed of carbon steel. The silo is also equipped with a vacuum/pressure relief valve to relieve excess pressure or vacuum that may occur within the silo. The relief valve is part of the roof-mounted manway access cover.

Pebble-lime is delivered to the plant via pneumatic self-contained truck trailers. The lime is conveyed vertically from grade to the top of the lime silo through 4"-diameter piping.

Lime Silo Vent Filter

Conveying air, vented from the lime silo during lime unloading, passes through the lime silo vent filter before exhausting to the atmosphere. The lime silo vent filter utilizes a fabric media to remove entrained lime from the vented air.

The silo vent filter is activated only when the silo is being refilled with product. When activated, the filter has an automatic cleaning system which prevents the individual filter bags from becoming choked with an accumulation of dust. An air header injects short pulses (about 1/20s duration) of compressed air backwards through the filters at regular intervals; the length of time between pulses can be varied by adjusting the "Off-Time" potentiometer on the timer.

Lime Silo Impactors

The lime silo incorporates electric vibrators to facilitate the discharge of lime to downstream components of the lime system.

Lime Silo Knifegate

A 10"-diameter hand wheel operated knifegate is fitted to each of the silo discharges. Internal parts of the knifegate are constructed of 304 stainless steel. The knifegate is used to isolate the flow of lime from the storage silo during maintenance and service of downstream system components.

Screw Feeder

The screw feeder is a variable speed rotary airlock used to regulate the flow of lime to the paste slaker. The volumetric airlock is equipped with a 1/2 HP direct current electric motor. Lime feed rate is remotely controlled using a SCR motor controller with a proportional range of 0 – 100%.

The feeder is shaft-driven screw type conveyor with inlet and outlet openings of the feeder being 6" square. The inlet opening is transitioned to accommodate the connection from the knifegate valve.

Lime Slaker

Pebble-sized lime must be reduced in size and hydrated for use in the absorption process. Sizing and hydration of the lime occurs in the lime slaker. Two model 7101 paste-type slakers manufactured by Merrick are supplied with the lime system.

Each paste-type-slaker is rated at 1,000 lbs/hr and consists of a slaking compartment containing two sets of counter-rotating, intermeshing paddles for mixing; a dilution chamber. The slaker is made of heavy gauge steel; the paddles are abrasion resistant. Dust and vapor arrester is included. The PLC controlled water inlet valve has a bypass assembly that is a manual valve which admits water to the slaking compartment for wash-out at any time.

Slurry Grit Screen

Slaked lime slurry flows by gravity from the slakers to a slurry grit screen located beneath each slaker. The grit screens, manufactured by Midwestern, are oscillating, replaceable, stainless steel wire 20-mesh screens. Slurry, deposited to the grit screens, is washed with water to cleanse the slurry of grit particles. Grit free slurry passes through each screen, and flows by gravity into the lime slurry tank associated with the screen.

Each grit screen is sized to handle 150 gpm of lime slurry. The size #20 mesh screens are 48" in diameter. Oscillation of the screens is maintained by a 2.5 HP electric motor.

The vibrating grit screens are controlled using "Hand-Off-Auto" switches on the lime system control panel.

Water flow to the grit sprays is controlled via a hand valve in series with a solenoid-operated cutoff valve. Grit is deposited into a portable dumpster and disposed of in the ash building when full.

Slurry Tank

The slaked lime is mixed, stored, and kept in suspension within the slurry tank, until required for feed to the SDA.

The 10' 0"-diameter by 11'3" high slurry tank includes openings for lime feed, a slurry recirculation loop, an agitator, a level probe, an overflow, two slurry outlets, and the tank drain. The slurry tank is constructed of high carbon steel with a capacity of 6'000 gallons.

An ultrasonic level detector senses the slurry level in the tank. A single impeller agitator for mixing and suspending the slurry solids is also supplied.

Slurry Tank Mixer

The slurry tank mixer is mounted on top of the slurry tank. The shaft of the mixer passes through the top of the slurry tank. A 46"-diameter impeller agitates the slurry, blending and maintaining the solids suspended in water.

Slurry Feed Pumps

Two slurry pumps, one operating and one standby, are used to pump lime slurry to the slurry injection pumps located within the SDA penthouse. Each slurry pump is a centrifugal type pump with erosion-resistant hi-chrome impeller and scroll liner. Each slurry pump is rated for 45 gpm at 280' total dynamic head.

CONTROLS

The following summary is a list of controls used for slurry preparation.

City Feedwater Regulator

Purpose: Main feedwater supply

Control: Self-activated

Slaker #1 Water Supply Regulator

Slaker #2 Water Supply Regulator

Purpose: Supply feedwater to appropriate slaker

Control: Torque signal from drive on twin paddle shaft

Slaker #1 Ancillary Water Supplies

Slaker #2 Ancillary Water Supplies

Purpose: Supplies water to dust arrestor, jet sprays and gate wash

Control: From slaker PLC

Slaker #1 Grit Wash

Slaker #2 Grit Wash

Purpose: Clean the grit screen

Control: From slaker PLC

Lime Silo Vibrators

Purpose: Promote flow of lime from silo to feeders

Control: From slaker PLC

Silo Vent Bag Blow Back

Purpose: Pulse air to clean silo vent bags

Control: Manually-activated when filling lime silo

CONTROL FUNCTIONS

The lime fill controls are housed in a NEMA 4 enclosure, and include controls for the lime silo vent filter. The lime fill control panel includes a "Power On-Off" switch to start the silo vent filter, indicating lamps, an alarm horn, and a push-button for silencing alarms of high or low bin levels.

The lime system control panel, for control of all other lime system components is located inside the lime system enclosure and allows operation and monitoring of the lime system components housed within the enclosure. Each system component in each slaking train may be operated manually or automatically from the lime system control panel.

In addition to the control switches that will be described in the following subsections, the lime system control panel includes a "Power On-Off" switch and indicator lamp, an Alarm Reset switch to clear faults after their cause has been corrected, and "Hand-Off-Auto" switches to select the desired mode of operation for the associated slaking system component. Selecting "Hand" on any switch requires that all equipment within the associated slaking system be operated manually. The "Auto" position on any switch will permit the associated system to start automatically whenever a low slurry tank liquid level is detected. The "Off" position removes the associated system from service.

A low level alarm on the silo in the pebble lime storage section indicates when the silo needs to be refilled. Upon delivery of pebble lime, the truck operator connects the truck unloading hose to the fill pipe coupling and then switches "on" power to the truck fill panel to begin transferring lime to the silo. This activates the cleaning mechanism on the silo vent filer. There is a high level alarm that will sound to prevent overfilling of the silo.

There are two identical slaking systems that operate in batch cycles to prepare concentrated lime slurry. Slakers can be operated together or alternated whenever needed.

In response to a low level signal from the slurry tank (or when system reset button is pressed) a batch cycle is started. Vibrators on the conical discharge chutes are automatically activated from the local control panel. The screw feeder(s), cutting water jet spray across the weir plates and grit water jet spray are also activated. A PLC automatically controls the amount of dilution water (city water) added for proper slaking. The batch cycle stops upon detection of a high level in the slurry tank. At this point the vibrators, feeder and jet water sprays stop operation.

A number of conditions that will sound alarms and/or start equipment shutdown sequences.

1. Low Water Pressure - The screw feeder and the vibrators of the related system are stopped and an alarm sounds based on a signal for the low pressure switch on the city water supply. Feeders resume operation as pressure is restored.

2. Slurry High Level - A general shutdown sequence is started based on a signal from the slurry tank high level switch. The related feeder and vibrators stop immediately. The slaker dilution valve opens for 10 minutes to dilute the slurry to prevent the paste from hardening. During this time the paddle shaft and grit spray wash water are also on. The dilution water is shut after the 10 minutes, but the grit spray water operates for 3 more minutes to clean the screens of overflow from the slaker.

3. Paddle Shaft Alarm – A motion sensor gives an alarm if paddle shaft stops while in the slaking mode.

4. Feed Screw Alarm - A motion sensor gives an alarm if feed screw stops while in the slaking mode.

5. Lime System Trouble Alarm
   - Low slaking water pressure
   - Low low slurry tank level

SPRAY DRYER ABSORBER

FUNCTION

The function of the SDA is to provide a reaction vessel in which the lime slurry can be in contact with the hot flue gases to neutralize any acid gases produced from the combustion process. The SDA system begins at the flue gas inlet to the absorber vessel and ends at the SDA outlet duct (inlet to the fabric filter).

FLOW PATH

Slurry flow to each SDA mixing tee is metered by a slurry injection pump to obtain the proper feed concentration to the SDA nozzles. Automatic adjustment to the flow is made as a function of the output from an SO_2 analyzers monitoring the gas discharge from the fabric filter. The quantity of slurry metered to the mixing tee is proportional to the concentration of SO_2 monitored.

Temperature control water mixes with slurry prior to entering the nozzle feed pipe. The flow of water is metered by a flow control valve. The flow through the control valve is increased or decreased based on the temperature of the flue gas exiting the SDA. The slurry and water enters the injection nozzle where it is atomized using compressed air. The design of the nozzles, and the discharge velocity of the slurry creates a cloud of finely divided droplets around the periphery of nozzles.

Flue gas enters from the top of the SDA through a one of five roof gas disperser. The disperser directs the flue gas into the zone filled by the atomized slurry cloud where violent mixing of the flue gas and slurry and most of the chemical absorption occurs.

The absorption efficiency and the amount of lime used in the absorption process are a function of the flue gas humidity. The closer the outlet temperature is to the adiabatic saturation temperature (dewpoint), the lower the stoichiometry or lime usage. This means that at lower temperatures the humidity will be greater, absorption efficiency will increase, and lime utilization will be optimized. However, low temperature operation presents the risk of condensation, plugging, and deposit formations. An outlet operating temperature of approx. 315°F at the SDA outlet ensures safe operation and adequate lime utilization. A lower temperature will improve lime consumption but may also present the risks mentioned previously.

Product discharge, dried spent chemicals and ash entrained in the flue gas, is carried from the module through the gas outlet in the side of the discharge cone.

COMPONENTS

Slurry Injection Pump

The slurry injection pump, located in the penthouse above the SDA chamber, varies the amount of slurry entering the SDA based on the SO2 concentration.

The slurry injection pumps has a variable speed controller that is used to control the amount of lime pumped to the nozzles.

Nozzles

Five nozzles are used to atomize a slurry/water mixture in the SDA. Atomization is achieved by forcing the mixture through the nozzle with compressed air.

SDA Module

The SDA modules are mixing chambers for the process exhaust gas and the atomized lime slurry. Each module includes an inlet gas disperser, a mixing chamber for the slurry and flue gas, a penthouse, and a powder discharge cone.

Untreated flue gas enters the SDA module through the inlet gas disperser. The gas disperser is a set of five 2'6" tubes located at the top of the SDA chamber. As the gas enters the SDA chamber, it comes in contact with the atomized slurry sprayed from the nozzles.

The SDA chambers and roof gas dispersers are constructed of A36 carbon steel. The chamber diameters are 24' 0". The cylindrical height of each chamber is 46' 0".

Above each absorber chamber is a penthouse weather enclosure. The weather enclosure houses the slurry injection pump, temperature control valve, and other equipment necessary to support the operation of the SDA.

A powder discharge cone is at the bottom of the SDA. This 23' 0"-high inverted cone-shaped hopper directs spent chemicals and ash to a discharge duct in the lower section of the cone.

A 24"-manway, with a quick-opening access door, is located in the lower cylindrical portion of each SDA chamber and at the lower extremity of each powder discharge cone to provide access to the SDA chamber interior during maintenance and service.

Treated flue gas exits the SDA chamber horizontally through a square discharge opening centered in the powder discharge cone. Flue gas ducting carries the treated flue gas from the chamber's gas discharge point to the respective fabric filter of each APC System.

The outlet duct temperature of each SDA is monitored by a thermocouple. A temperature signal is transmitted by a temperature transmitter to the SDA serial interface module DCS where it is used as a feedback signal to control outlet SDA temperature via the temperature control valve located in the penthouse.

SDA Water Tank

The SDA water tank is a surge tank that hold the water used for temperature control in the SDA. The tank is 14'7" tall and 7' in diameter with a capacity of 1,100, it has two outlet connections, located at the bottom, for the SDA water pumps and two inlet connection, at the top for city water and circulating water. The tank also has a SDA Water Pump recirculation connection, a drain and vent connection. Normal make up for the tank is from the circulating water connection. A level transmitter monitors the tank level and modulates the normal level control valve to maintain the proper level. Should the tank reach a low level the City water valve will open.

SDA Water Pumps

Two SDA Water pumps, one operating and one standby, are used to pump water to the SDA nozzles located within the SDA penthouse. Each SDA water pump is a centrifugal type pump with erosion-resistant hi-chrome impeller. Each pump is rated for 50 gpm at 280' total dynamic head. The pumps are equipped with a recirculation control valve which will maintain a minimum flow through the pumps by opening when the temperature control valves located in the SDA penthouse close down.

CONTROLS

The following summary is a list of the controls for the SDA.

Slurry Injection Pump

Purpose: To control the flow of lime slurry to the nozzles based on acid gas removal requirements.

Control Signal: SO_2 ppm level out

Temperature Control

Purpose: To control outlet SDA temperature

Control Signal: Outlet Temperature of SDA Temperature Controller

CONTROL FUNCTIONS

There are two basic control logic loops associated with operation of the SDA system; temperature control, and acid gas concentration control.

Temperature of the economizer exhaust gases are cooled from approximately 400°F-500°F to approximately 315°F to enhance acid gas removal efficiencies. Temperature control is mainly achieved by injecting city water or circulating water, from the SDA water tank, into the gas stream through the nozzles.

The outlet temperature of the absorber is used as a feedback signal to the temperature controller.

The acid gas control loop is used to meter the addition of lime slurry to the nozzles. This loop utilizes the SO_2 outlet ppm reading from the CEM

The SO_2 concentration controller receives the signal from the SO_2 outlet analyzer. The SO_2 controller is configured to hold the last analyzer ppm value whenever the analyzer is updating and/or calibrating, thereby maintaining the output signal to prevent excessive cycling.

FABRIC FILTER

FUNCTION

The fabric filter (also referred to as a baghouse) is used to remove entrained particulate matter (fly ash, acid gas reaction products, calcium salts, etc.) from the flue gas prior to exhausting to the atmosphere. The particulate matter is filtered from the flue gas as it passes through the fiberglass filter bags. In addition, some un-reacted lime accumulates on the filter bags where the lime provides additional acid gas removal.

FLOW PATH

Gas exhausted from the SDA is distributed by a manifold duct to the fabric filter. A fabric filter unit is comprised of five individual modules, also called cells or compartments. Within each filter module the gas is passed through filter bags. The gas passes from the outside to the inside of the filter bags. Particulate, entrained within the flue gas stream, is deposited on the outside surface of the filter bags as the flue gas passes through the cloth. The cleaned flue gas then passes into a common manifold and is exhausted to the stack.

Particulate matter is continuously deposited on the outside surface of the filter bags, and will eventually result in an increase in pressure loss (drop) across each module. To protect the fabric bags from "blinding", which results from increased accumulations of particulate matter (dust) on the bags and a high differential pressure, the bags are periodically cleaned. Blinding is the loss of air moving through the bags and the particles are imbedded in the bag and can not be removed by the usual bag cleaning technique (blasts of pulse jet air).

The filter cleaning mechanism utilizes a pulsed jet of compressed air (at a pressure of 30-65 psig) directed into the bags clean side to flex and clean the filter bags. The sequence is either started at the end of a timed cycle, or when the differential pressure across the filter reached a predetermined setpoint of approximately ops changes on regular basis.

The dust cleaned from the filter bags, falls into the base of the hopper where it is discharged into the Ash Handling System.

The inlet and outlet of each of the six modules is connected to a common inlet and outlet manifold. Dampers in the duct connecting the modules to the manifolds allow each module to be isolated from gas flow for bag cleaning or maintenance. The inlet dampers are butterfly type damperss and the outlet dampers are poppet type.

COMPONENTS

Tube Sheet

The tube sheet provides the structural support for the bags and forms the barrier between the dirty and clean flue gas . The tube sheet is a steel plate with holes sized to accommodate the filter bags and cages. The holes are arranged in 15 parallel rows of 16.

Filter Bags

The filter bags are treated with a protective coating. The bags are 6 inches in diameter and 14 feet long. There are 240 bags per module, five modules per baghouse (1,200 total bags per unit). The upper bag cuff incorporates a one-inch wide snap ring behind parallel 3/16 inch diameter cords. The cords are positioned above and below the tube sheet and with the force of the snap ring, make a positive seal.

Bag Cages

Bag cages are used to support the bag material as the dirty gas passes through the bags, thus preventing bag collapse during the filtering operation. The cages are made of carbon steel, 14 feet in length and fit down inside the bag.

Pulse Valves and Blow Pipes

Compressed air is utilized to clean the bags. Compressed air is sequentially injected to each module's blow pipe through a pilot controlled pulse valve to clean a row of bags. The pulse valve is a triple chamber spring sealed double diaphragm valve.

Compressed air travels to the center of the top opening of each bag through the blow pipe. A blow pipe is provided for each row of filter bags. The blow pipes have a hole on the bottom which is positioned over the center of each bag. The size of the blow pipe holes decrease as the distance from the air header increases in order to provide the proper cleaning air to clean the bags.

Gas Inlet Manifold and Dampers

A manifold duct transports untreated gases to each baghouse system module. Manifold transitions are sized to maintain gas velocity and minimize dust dropout.

Located at the manifold connection to the inlet of each module is a rotary-driven butterfly damper. Operation of the dampers is manual, using a looped chain. Closing associated inlet and outlet module dampers allows maintenance to be performed on individual modules while other modules are on-line.

Module Inlet

Untreated gas enters the baghouse module below the filter bags through an inlet near the top of the ash hopper.

Baffling deflects gas to the opposite side of the module and imparts a slight downward trajectory to the gas as it enters the module. Baffling reduces bag wear by slowing the velocity of the gas rising around and through the filter bags. The distribution of gas over the module cross section is also improved by this baffle.

Gas Outlet Manifold and Damper

Treated gases exit the baghouse modules into the outlet manifold. Transitions in the manifold maintain duct velocity.

Each filter module connects to the outlet manifold through a pneumatically-operated poppet damper. The module outlet damper is automatically closed by the baghouse controller when its associated filter module is in a bag cleaning sequence. The damper may also be closed from the baghouse controller for on-line filter module maintenance.

Ash Hopper

Collected dust settles in a hopper at the bottom of the baghouse module. The steep slope of the hopper walls directs the collected dust toward the hopper throat where the ash conveying system is located. The collected dust is then discharged to the Ash Handling System.

Level sensors are provided to monitor the buildup of ash in the hoppers.

Each hopper includes the following standard equipment.

a) Manhole
b) Discharge Flange
c) Poke tubes (4" diameter) with caps
d) Strike plate

Baghouse Casing

The baghouse module casing confines untreated gas to the area surrounding the filter bags. Supported below and seal welded to the hopper, the casing supports the tube sheet assembly, the clean air walk-in plenum and the module gas outlet. The gas tight connection of the tube sheet assembly to the casing restricts the flow of untreated gas so that it must travel through the filter bags.

Stiffeners are included in the casing design to accommodate operating pressures up to the maximum design pressure (± 25 inches wc).

Clean Air Plenum

The plenum is located above the tube sheet assembly. During operation, the plenum directs cleaned gases to the module outlet. During an outage the plenum roof can be removed to provides working room to service blowpipes, bag cages, and filter bags.

Hopper Heaters

Dust buildup and corrosion are diminished using hopper heaters. Heaters are installed on the exterior walls of each baghouse hopper such that the lower portion of the hopper is heated to one-third of its vertical height.

Prefabricated rigid heater modules are attached to the walls of the hopper. Each heater module includes a flexible heating element, insulation, and a metal backing plate. Heater installation is such that interior hopper surfaces, including corner areas, are sufficiently heated.

Hopper heaters are thermostatically controlled. Temperature is monitored through a liquid filled capillary attached to the hopper wall with heat transfer cement. Contacts within the thermostat close on decreasing temperature, energizing a magnetic contactor. The contactor completes the voltage supply circuit to the heater. The contactor is mounted in a hopper heater control enclosure mounted near the hopper. The control enclosure is equipped with a disconnect switch to energize or de-energize the hopper heater system.

Compressed Air

Compressed air supplied to the baghouse air accumulator, and to other system components, is provided by two air compressors (one is a standby) equipped with filters and dryers.

The air is supplied free from oil and dirt. The dewpoint of the air is maintained less than 3°F below the minimum ambient temperature expected at the pulse valves. Unfiltered and undried plant air should never be supplied through the pulse valves.

CONTROLS

The following summary is a list of controls used for the baghouse system.

Baghouse Inlet Damper

Purpose: Used to isolate compartment for off-line bag cleaning.

Control: DCS

Baghouse Outlet Damper

Purpose: Used to isolate compartment for off-line bag cleaning

Control: DCS

CONTROL FUNCTIONS

The controls associated with operation of the baghouse center around removal (cleaning) of the captured flyash from the bags. Cleaning of the flyash from the bags can be initiated automatically (using the delta P/timer mode) or manually. In the delta P/timer mode, the bag cleaning cycle is automatically initiated by the PLC in the local control panel when the delta P reading from the field located pressure drop transmitter reaches the desired setpoint or when an interval programmed timer runs out.

The timer is started when a cleaning cycle is completed. If the delta P value reaches the setpoint, a new cleaning cycle is initiated; however, if the delta P value is below the setpoint and the timer times-out, a new cleaning cycle is started. The cleaning timer interval is adjusted in the local pulse flow control panel. A manual cycle may be initiated once all modules are cleaned the sequence stops.

The baghouse has the capability to be cleaned either off-line or on-line. In the off-line mode, bags are cleaned while the module is off-line (i.e., outlet damper is closed). The off-line mode is the normal cleaning mode. The on-line mode is selected manually; in this mode, the bags are cleaned while the module is on-line (i.e., the outlet damper is open).

The "off-line" cleaning sequence is initiated either by the pressure differential across the pulsejet filter exceeding the HI delta P setpoint, the cleaning timer reaching the end of its timing period, or manually. The cleaning sequence is as follows:

- Module number 1 outlet damper (or the first in service module outlet damper) immediately closes and timer #1 in the pulsejet controller begins a timing period (first settling) upon the initiation of the off-line cleaning sequence.

- The pulse timer for module number 1 is activated at the end of the timer #1 programmed time period. Upon activation, the pulse timer manages the air supply to each of the module blowpipes by activating, in sequential order, the controlling solenoid of each pulse valve.

- Pulsjet controller timer #2 is started (second settling) after air has been supplied to the last blowpipe managed by the activated pulse timer.

- At the end of timer #2 preprogrammed time period, the outlet damper opens on the module that has completed cleaning, and timer #3 is started (full flow period).

- The end of the timer #3 time period marks the completion of off-line cleaning for one module. The cleaning cycle is repeated for each in service module in the pulsejet system.

- The off-line cleaning sequence stops after all system pulsejet modules have been cleaned. Timer #0, the cleaning timer, resets at the end of the cleaning sequence. Bag cleaning will not occur until the sequence is again initiated by exceeding the HI delta P setpoint, timer #0 reaching the end of its timing period, or by momentarily turning the bag cleaning (manual)/(deltaP/timer) switch to "MANUAL."

The control sequence of "on-line" cleaning is similar to that for "off-line" cleaning except that process gas remain flowing through the module undergoing cleaning, and all other in service modules during the cleaning cycle.

Each module can also be put into a "skip mode". If the skip switch related to a module is in the skip position, the system will proceed to the next module. An interlock allows only two modules per unit to be put into the skip mode at one time.

There are a number of times and counters associated with the baghouse cleaning cycle.

When the temperature drops below the high temperature setpoint (300°F), the heater contactor closes, energizing the heater. If the temperature drops below the low temperature setpoint (250°F), an alarm is triggered in the Distributed Control System (DCS).

In addition, each hopper is equipped with a capacitance type level detector. Each triggers an alarm in the DCS.

CARBON INJECTION SYSTEM

FUNCTION

The Carbon injection system injects power activated carbon into the flue gas stream to remove heavy metals and volatile organic compounds before the gas is released. The system consists of three separate injection system, one for each unit and a standby system.

FLOW PATH

When the system is started the rotary blower will activate. Activated carbon flows from the carbon silo through a rotary feeder into a weighing hopper. A screw feeder moves the carbon from the weighing hopper in the suction of a pneumatic eductor powered by a rotary blower. Carbon entrained in air from the

rotary blower moves from the eductor through 2" piping up to the SDA penthouse where it is injected into the flue gas duct prior to the gas entering the SDA

COMPONENTS

Carbon silo

The silo is a mass flow vessel used for the storage of activated carbon power.

The 2,100 cubic feet capacity silo has an inside diameter of 12'0" and an overall height of 18'6". Three silo discharges are located at the bottom of a 60 degree conical hopper. The silo is constructed of carbon steel. The silo is also equipped with a vacuum/pressure relief valve to relieve excess pressure or vacuum that may occur within the silo. The relief valve is part of the roof-mounted manway access cover.

Carbon is delivered to the plant via pneumatic self-contained truck trailers. The carbon is conveyed vertically from grade to the top of the carbon silo through 4"-diameter piping.

Rotary feeders

?

Weighing Hoppers/Screw Feeders

The weighing hopper and screw feeder if manufactured by Merrick and is model number 100-V2. The screw feeder is a variable speed rotary airlock used to regulate the flow of carbon to the pneumatic eductor. The volumetric airlock is equipped with a 1/2 HP direct current electric motor. screw feed rate is controlled using a SCR motor controller based on a signal for the Gravimetric scales.

Gravimetric scales

The gravimetric scale is a loss in weight scale manufactured by Merrick and is model number 520.

Pneumatic eductors

The pneumatic eductor is a carbon steel compressed air activated eductor

Rotary Blowers

The rotary blower are manufactured by AmTek and is equipped with a suction filter/muffler as well as a discharge pressure regulator. The Blower has a maximum discharge pressure of 9.5 psi.

CONTROLS

The following summary is a list of controls used for the baghouse system.

Rotary Feeders

Purpose: Used to control the lever in the weighing hopper.

Control: Weighing hoppers level switches

Screw Feeders

Purpose: Used to control the amount of carbon injected into the flue gas

Control: Gravimetric scales

CONTROL FUNCTIONS

The carbon feed rate setpoint is entered into the DCS in pounds of carbon per hour. The carbon system PLC will increase or decrease the screw feeders to maintain this feed rate as measured by the gravimetric scales located under the weighing hopper. As the level in the weighing hopper drops to the level of the low level switch the rotary feeder will start, moving carbon from the silo into the weighing hopper. The rotary feeder will continue to operate until the level in the weighing hopper reaches the high level switch.

STANDARD OPERATING PROCEDURES (SOP)

The following SOPs describe operations actions related to the Air Pollution Control System and are included in the MBLLC Standard Operating Procedures Manual:

- **Lime Slurry Preparation System**
- **Spray Dryer Absorber (SDA) System**

- **Fabric Filter (Baghouse) System**
- **High SO_2 Procedure**
- **Visalite Test**
- **Lime Unloading**

EMERGENCY OPERATING PROCEDURES (EOP)

The following EOP describes emergency actions related to the failure of the Air Pollution Control System and is included in the MBLLC Environmental Procedures Manual:

- **High Opacity Operating Procedure and Bag Replacement**

PREVENTIVE MAINTENANCE PROCEDURES (PM)

Maintenance activities for the Air Pollution Control System are provided by MP2.

Attachment 8

MONTENAY BAY LLC

COMBUSTOR/BOILER START UP PROCEDURE

ONYX

DATE:____/____/____ CRO:_____ SHIFT:_____

RELIEVING CRO:_____ SHIFT:_____

BOILER NO._____ TIME OF RELIEF:_____

STEP NO:	DESCRIPTION	TIME	INITIALS
1	CLEAR ALL SAFETY TAGS AND LOCKS on selected boiler.		
2	COMPLETE THE FOLLOWING PROCEDURE FORMS AND ATTACH: **A.** DCS/CONTROL ROOM PRE START UP (SU-11A) **B.** BOILER PRE START UP INSPECTION (SU-11C) **C.** BOILER VALVE LINE UP CHECKLIST (SU-11B)		
3	START ASH SYSTEM IN ACCORDANCE WITH PROCEDURE NO.9 HAVE AUX OPER. VERIFY PROPER OPERATION OF SYSTEM		
4	START PRECIPITATOR IN ACCORDANCE WITH PROCEDURE NO. 9		
5	ADJUST STEAM DRUM WATER LEVEL TO 0.0 INWC. FOR START UP		
6	HAVE AUX OPER. DOUBLE DOSE CHEMICALS IN APPROPIATE BFS TANK AND START BFS TANK PUMP		
7	START MOTOR DRIVEN FORCED CIRC PUMP HAVE AUX OPER VERIFY PROPER OPERATION		
8	START RAM/COMBUSTOR HYDRAULIC SYSTEM		
9	START ID FAN: **A.** CLOSE ID FAN DAMPER MAN 0% **B.** SET ID FAN SPEED TO MAN 0% **C.** START ID FAN **D.** HAVE AUX OPER. VERIFY OPERATION		
10	IN MANUAL MODE, SET ID FAN DAMPER AND SPEED TO 40% **NOTE: THIS IS DONE TO PREVENT OVERLOADING THE ID FAN MOTOR WHEN FLOWING COLD AIR THROUGH THE BOILER WITH FEED CHUTE EMPTY FEEDCHUTE OR OPEN RESISTANCE DOOR**		
11	TEST RAM/COMBUSTOR HYD. SYSTEM HAVE AUX OPER VERIFY OPERATION **A.** CYCLE THE RESISTANCE DOOR AND THEN CLOSE **B.** CYCLE RAMS **C.** START COMBUSTOR AND SET TO ROTATE AT 2 RPH'S		
12	MAINTAIN STEAM DRUM WATER LEVEL DURING HEAT UP BETWEEN -2 & +2		

MONTENAY BAY LLC

COMBUSTOR/BOILER START UP PROCEDURE

ONYX

STEP NO:	DESCRIPTION	TIME	INITIALS
13	START FD FAN: **A.** CLOSE FD FAN DAMPER MANUAL 0% **B.** SET FD FAN SPEED MANUAL 0% **C.** START FD FAN HAVE AUX OPER VERIFY OPERATION		
14	ADJUST ID FAN DAMPER AND SPEED TO MAINTAIN A DRAFT OF **-.45**		
15	ADJUST FD FAN DAMPER, SPEED, AND ZONE AIR ENOUGH TO RESET FURNACE BURNER LIMITS BY PROVIDING COMBUSTOR AIR FLOW		
16	ENSURE NATURAL GAS IS LINED UP TO THE FURNACE BURNER AND ALL LIMITS ARE MET AND ALARMS ON BURNER ARE RESET		
17	START FURNACE BURNER BY TURNING SWITCH TO THE **"ON"** POSITION		
18	ADJUST FURNACE BURNER AS NECESSARY TO MAINTAIN THE HEAT UP RATE OF 100 DEGREES / HOUR OR LESS		
19	STOP THE FD FAN AND CLOSE ALL DAMPERS **NOTE:** IF BURNER TRIPS OFF, REPEAT STEPS 13 THRU 18		
20	WHEN DRUM PRESSURE REACHES 15 PSI CLOSE STEAM DRUM VENTS		
21	PLACE SUPERHEAT TEMP. CONTROLLER (ATTEMPERATOR) IN AUTOMATIC AND ADJUST SET POINT TO 750 DEGREES. F		
22	WHEN THE COMBUSTOR WATER OUTLET TEMP REACHES 400 DEG. F START AN ELECTRIC DRIVEN BOILER FEED PUMP IN ACCORDANCE WITH PROCEDURE NO. SU-5a		
23	OPEN SEAL WATER SUPPLY TO COMBUSTOR ROTARY JOINT		
24	HAVE THE **F.E.L.** OPERATOR BEGIN FEEDING MSW TO THE CONVEYOR SYSTEM UNTIL IT IS TO THE TOP OF THE INCLINE CONVEYOR		
25	WHEN THE FLUE GAS TEMP AT THE EXIT OF THE PRECITATOR REACHES 350 DEGREES F, RAM ENOUGH MSW IN THE COMBUSTOR TO START A FIRE. (FILL FEED CHUTE, STOP INCLINE, AND RAM) TWO TIMES.		
26	STOP RAMS AND STOP COMBUSTOR ROLL		
27	OPEN RESISTANCE DOOR		
28	HAVE A QUALIFIED OPERATOR IGNITE MSW WITH A FLARE		
29	CLOSE RESISTANCE DOOR		
30	**WHEN FIRE IS ESTABLISHED:** START FD FAN: **A.** CLOSE FD FAN DAMPER MANUAL 0% **B.** SET FD FAN SPEED MANUAL 0% **C.** START FD FAN HAVE AUX OPER VERIFY OPERATION		
31	PLACE ID FAN DAMPER AND SPEED IN AUTOMATIC		
32	START COMBUSTOR AND ROLL AT 2 RPH'S		
33	FILL THE FEED CHUTE AND PUT INCLINE CONVEYOR IN AUTOMATIC		

STEP NO:	DESCRIPTION	TIME	INITIALS
34	WHEN MSW FIRE IS ESTABLISHED AND EMISSIONS ARE WITHIN LIMITS STOP THE FURNACE BURNER BY TURNING SWITCH ON BURNER TO **"OFF"**		
35	START RAMS IN AUTOMATIC AT A RATE TO MAINTAIN COMBUSTION		
36	SET FD FAN SPEED IN AUTO WITH SET POINT OF 80% SET FD FAN DAMPER IN AUTO WITH SET POINT OF 15 INWC		
37	PLACE ZONE DAMPERS IN AUTO AND ADJUST AS NECESSARY TO STABILIZE THE COMBUSTION		
38	ADJUST RAM SPEED AND COMBUSTOR ROLL AS NECESSARY TO BRING LINIT ONLINE		
39	WHEN STEAM FLOW REACHES 20 K LBS/HR CLOSE SUPERHEATER VENTS		
40	WHEN THE STEAM DRUM WATER LEVEL BEGINS TO DECREASE AND REQUIRES WATER HAVE THE AUX OPER OPEN THE KNOCKER VLV AND ADD WATER AS NECESSARY TO MAINTAIN WATER LEVEL		
41	WHEN STEAM FLOW RISES ABOVE 30,000 LBS/HR PUT STEAM DRUM LEVEL CONTROLLER IN AUTO WITH A SET POINT OF 0.0 INWC		
42	PLACE ZONE DAMPERS IN CASCADE MODE		
43	PLACE STEAM FLOW CONTROLLER IN AUTOMATIC AT SET POINT OF **65.0**		
44	PLACE OXYGEN CONTROLLER IN AUTO SET POINT OF 5%		
45	PLACE MACAWBER SYSTEM IN AUTO. ENERGIZE REMAINING PRECIP.FIELDS AND RAPPERS. HAVE AUX OPER. VERIFY THAT HOPPERS ARE CLEAR		
46	HAVE AUX OPER VERIFY BOILER CHEMISTRY AND ADJUST CONTINUOUS BLOWDOWN AS NECESSARY		
47	BOILER IS ON LINE AT FULL POWER AND STABLE		

NOTES:_____

_____

_____

CRO:_____ **SM:**_____

MONTENAY BAY LLC

COMBUSTOR/BOILER SHUT DOWN PROCEDURE

ONYX

DATE:___/___/___ CRO:_____ SHIFT:_____

RELIEVING CRO:_____ SHIFT:_____

BOILER NO._____ TIME OF RELIEF:_____

STEP NO:	DESCRIPTION	TIME	INITIALS
1	NOTIFY THE ENTIRE OPERATING SHIFT, AND MANAGEMENT THAT THE BOILER IS BEING TAKEN OFF LINE.		
2	NOTIFY GULF POWER THAT THE BOILER IS COMING OFF LINE AND WHY AND REQUEST THE NEW SCHEDULED POWER PRODUCTION		
3	STOP FEEDING FUEL TO THE CONVEYOR SYSTEM SUPPLING THE BOILER THAT IS COMING OFFLINE		
4	WHEN ALL THE FUEL ON THE CONVEYOR HAS BEEN FED INTO THE FEED CHUTE, PLACE THE FEED CHUTE LEVEL IN MANUAL AND STOP THE LOADING AND INCLINE CONVEYORS.		
5	WHEN ALL THE FUEL HAS BEEN FED INTO THE COMBUSTOR AND THE FEED CHUTE IS EMPTY STOP THE RAMS.		
6	PUT ALL THE COMBUSTER AIR FLOW CONTROLLERS IN THE AUTOMATIC MODE AND DECREASE THE AIR FLOW AS THE FUEL BURNS OUT.		
7	STOP THE OVERFIRE AIR FAN AND CLOSE THE DAMPER		
8	WHEN STEAM FLOW DECREASES TO 20K LBS/HR, OPEN SUPERHEAT VENTS		
9	WHEN ALL THE FUEL IN THE COMBUSTOR IS BURNED OUT: **A.** PUT THE STEAM FLOW CONTROLLER IN MANUAL 0% **B.**PUT THE FD FAN SPEED IN MANUAL 0% **C.** PUT THE FD FAN DAMPER IN MANUAL 0% **D.** STOP THE FD FAN **NOTE:** THE COOL DOWN RATE SHOULD NOT BE GREATER THEN 100 DEG/HR		
10	INCREASE THE COMBUSTOR ROLL TO 10 RPH UNTIL ALL THE ASH IS OUT OF THE COMBUSTOR THEN REDUCE THE SETPOINT TO 2 RPH AND CONTINUE TO ROTATE THE COMBUSTOR UNTIL THE COMBUSTOR WATER OUTLET TEMP. COOLS TO 250 DEGREES F.		
11	CLOSE THE CONTINUOUS BLOWDOWN VALVE		
12	PUT ALL THE COMBUSTER AIR FLOW CONTROLLERS IN THE MANUAL MODE, AND CLOSE ALL ZONE DAMPERS.		
13	WHEN THE BOILER PRESSURE REACHES 15 PSIG OPEN STEAM DRUM VENTS DE-ENERGIZE FIELD ONE(1) & TWO (2) OF THE ELECTROSTATIC PRECIPITATOR. LEAVE FIELD THREE(3) ENERGIZED TO PREVENT DUST FROM DISCHARGING FROM THE STACK . **ONLY DE-ENERGIZE FIELD THREE FOR MAINTENANCE/SAFETY REQUIREMENTS.**		
14	WHEN THE COMBUSTOR WATER OUTLET TEMP. COOLS TO 250 DEGREES STOP THE COMBUSTOR ROTATION.		
15	CLOSE THE SEAL WATER SUPPLY TO ROTARY JOINT.		
16	OPEN THE RESISTANCE DOOR AND INSTALL THE SAFETY PIN.		
17	STOP THE RAM/COMBUSTOR HYDRAULIC PUMP SYSTEM.		
18	STOP THE COMBUSTOR FORCED CIRCULATION PUMP		

MONTENAY BAY LLC

COMBUSTOR/BOILER SHUT DOWN PROCEDURE ONYX

STEP NO:	DESCRIPTION	TIME	INITIALS
19	PLACE THE FEED WATER REGULATOR IN MANUAL 0%		
20	CLOSE THE INLET TO ATTEMPERATOR FCV151		
21	CLOSE THE FEED WATER STOP VALVE (KNOCKER VALVE)		
22	STOP THE WET SIFTINGS.		
23	STOP THE RAPPING SEQUENCE ON THE PRECIPITATOR.		
24	MANUALLY BLOW THE MACAWBER SYSTEM UNTIL ALL HOPPERS ARE EMPTY AND BLOW LINE IS CLEAR BY CHECKING HOPPER DRAFT AND BLOW CYCLE GAUGE.		
25	PLACE MACAWBER IN OFF POSITION		
26	STOP THE SCREW CONVEYOR AND ROTORY VALVE		
27	PLACE THE ID FAN SPEED AND DAMPER IN THE MANUAL MODE AT 40% TO MAINTAIN A DRAFT. **NOTE:** THIS IS DOWN TO KEEP VENTILATION IN UNIT, BUT NOT TRIP FD FAN DUE TO COLD FLUE GAS		
28	IF NECESSARY FOR MAINTENANCE/SAFETY REASONS: STOP ID FAN **A.** PLACE ID FAN SPEED AT MANUAL 0% **B.** STOP ID FAN **C.** PLACE ID FAN DAMPER AT MANUAL 50%		
29	NOTIFY THE SHIFT MANAGER THAT THE BOILER IS DOWN AND COOLED OFF		

NOTES: _____

_____

_____

CRO: _____ **SM:** _____

BAY COUNTY RESOURCE RECOVERY
APC SYSTEM HOT START UP PROCEDURE

- ☐ Check ID fan housing for debris.
- ☐ Check fabric filter doors.
- ☐ Check SDA doors
- ☐ Ensure that lances are properly installed in SDA.
- ☐ Check hose connections to lances. (leave lance isolation valves closed)
- ☐ Check air supply at lances.
- ☐ Check temperature at SDA outlet thermocouples for proper operation.
- ☐ Start up ID fan.
- ☐ Turn on all hopper heaters.
- ☐ Pull fabric filter pre-coat material into filter modules. (150# per module)
- ☐ Fill scrubber water tank to 80%.
- ☐ Start up scrubber water pumps and trim to provide 85psi at scrubber roof area. (approximately 125-130 psi at pump)
- ☐ Ensure that tank level control is working.
- ☐ Drop slurry tank level to 15%.
- ☐ Start up slaker at full load.
- ☐ Slake lime till slurry tank is at 40%.
- ☐ Start up agitator in tank.
- ☐ Continue to slake until tank is at 60%.
- ☐ Place slaking system in automatic with a 65% tank set point.
- ☐ Walk down slurry lines. Make sure scrubber feed pumps are isolated from recycle.
- ☐ Place cover over vent pipe at top of scrubbers.

BAY COUNTY RESOURCE RECOVERY
APC SYSTEM HOT START UP PROCEDURE

- ☐ Start up slurry recycle loop.
- ☐ Trim loop to provide 5psi at scrubber area.
- ☐ Begin warming boiler on gas.
- ☐ Once the SDA outlet thermocouples are over 350F, open the air supply to one scrubber lance.
- ☐ Check stack temperature (needs to be over 325F) Check air flow meter operation.
- ☐ Check temperature set-point. (295F)
- ☐ Crack water flow valve.
- ☐ Check water flow meter operation. (at 350F the automatic valve should be working in auto)
- ☐ If automatic valve is working properly, open ball valve VERY slowly. (It should take about 2 minutes to open fully so the automatic valve can keep up. As you open this valve the automatic valve should be closing)
- ☐ Check scrubber outlet temperature.
- ☐ Move to second lance and open air valve, then water valve. Check that temperature control is maintained while doing this.
- ☐ Repeat until all lances are in operation on water and temperature control is stabilized.
- ☐ Open the slurry line valves to the metering pump.
- ☐ Check water flow to nozzles. (Wait until the water flow is above 4 gpm.)
- ☐ Set lime slurry pump to lowest setting and open valves to mixing chamber.
- ☐ Check outlet temperature (ensure that water valve is closing to maintain temperature at 295F)
- ☐ Slowly raise scrubber feed pump speed until flow is 2 gpm.
- ☐ Burn some trash.

BAY COUNTY RESOURCE RECOVERY
APC SYSTEM HOT START UP PROCEDURE

- ☐ Monitor the scrubber outlet temperature very carefully at this point. When starting up the main fuel feed the boiler outlet temperature can decrease rapidly at times. The system should be hot enough at this point that the water valve can modulate to maintain a constant SDA outlet temperature at 295F.

- ☐ Once SO2 begins to register above 50ppm on the CEM system, place the metering pump in automatic operation.

- ☐ Monitor pressure drop in baghouse and tune pulsing system.

- ☐ Monitor operation of ash handling system.

- ☐ Monitor SDA and stack temperatures.

Attachment 9

LIST OF APPLICABLE REGULATIONS
BAY COUNTY RESOURCE RECOVERY FACILITY
TITLE V OPERATION PERMIT RENEWAL APPLICATION

Facility Applicable Regulations

Florida Title V "Core List" regulations (dated 03/01/02) applicable to the facility and any other regulations applicable to the facility or specific emissions units are given below.

Federal:

40 CFR 51, Subpart I: Prevention of Significant Deterioration.
40 CFR 60, Subpart A: New Source Performance Standards - General Provisions
40 CFR 60, Subpart E: Standards of Performance for Incinerators.
40 CFR 60, Subpart BBBB: Emissions Guidelines for Small Existing Municipal Waste Combustors.

40 CFR 61, Subpart C: NESHAP for Beryllium.
40 CFR 63 Subpart B: Requirements for MACT Determinations for Major Sources in Accordance with Clean Air Act Sections 112(g) and 112(j).

40 CFR 64: Compliance Assurance Monitoring Rule.
40 CFR 70: State Operating Permits.

State:

Chapter 62-4, F.A.C.: Permits
62-4.030, F.A.C.: General Prohibition.
62-4.040, F.A.C.: Exemptions.
62-4.050, F.A.C.: Procedure to Obtain Permits; Application.
62-4.060, F.A.C.: Consultation.
62-4.070, F.A.C.: Standards for Issuing or Denying Permits; Issuance; Denial.
62-4.080, F.A.C.: Modification of Permit Conditions.
62-4.090, F.A.C.: Renewals.
62-4.100, F.A.C.: Suspension and Revocation.
62-4.110, F.A.C.: Financial Responsibility.
62-4.120, F.A.C.: Transfer of Permits.
62-4.130, F.A.C.: Plant Operation - Problems.
62-4.150, F.A.C.: Review.
62-4.160, F.A.C.: Permit Conditions.
62-4.210, F.A.C.: Construction Permits.
62-4.220, F.A.C.: Operation Permit for New Sources.

Chapter 62-204, F.A.C.: Air Pollution Control - General Provisions
62-204.800(8)(e): Small Municipal Waste Combustion Units.

Chapter 62-210, F.A.C.: Stationary Sources - General Requirements
62-210.200, F.A.C.:
62-210.300, F.A.C.: Permits Required.
62-210.300(1), F.A.C.: Air Construction Permits.
62-210.300(2), F.A.C.: Air Operation Permits.
62-210.300(3), F.A.C.: Exemptions.
62-210.300(5), F.A.C.: Notification of Startup.
62-210.300(6), F.A.C.: Emissions Unit Reclassification.
62-210.300(7), F.A.C.: Transfer of Air Permits.
62-210.350, F.A.C.: Public Notice and Comment.
62-210.350(1), F.A.C.: Public Notice of Proposed Agency Action.

62-210.350(2), F.A.C.: Additional Public Notice Requirements for Emissions Units Subject to Prevention of Significant Deterioration or Nonattainment-Area Preconstruction Review.

62-210.350(3), F.A.C.: Additional Public Notice Requirements for Sources Subject to Operation Permits for Title V Sources.

62-210.360, F.A.C.: Administrative Permit Corrections.
62-210.370(3), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility.
62-210.400, F.A.C.: Emission Estimates.
62-210.650, F.A.C.: Circumvention.
62-210.700, F.A.C.: Excess Emissions.
62-210.900, F.A.C.: Forms and Instructions.
62-210.900(1), F.A.C.: Application for Air Permit - Title V Source, Form and Instructions.

62-210.900(5), F.A.C.: Annual Operating Report for Air Pollutant Emitting Facility, Form and Instructions.

62-210.900(7), F.A.C.: Application for Transfer of Air Permit - Title V and Non-Title V Source.

Chapter 62-212, F.A.C.: Stationary Sources - Preconstruction Review

Chapter 62-213, F.A.C.: Operation Permits for Major Sources of Air Pollution
62-213.205, F.A.C.: Annual Emissions Fee.
62-213.400, F.A.C.: Permits and Permit Revisions Required.
62-213.410, F.A.C.: Changes Without Permit Revision.
62-213.412, F.A.C.: Immediate Implementation Pending Revision Process.
62-213.415, F.A.C.: Trading of Emissions Within a Source.
62-213.420, F.A.C.: Permit Applications.
62-213.430, F.A.C.: Permit Issuance, Renewal, and Revision.
62-213.440, F.A.C.: Permit Content.
62-213.450, F.A.C.: Permit Review by EPA and Affected States

62-213.460, F.A.C.: Permit Shield.
62-213.900, F.A.C.: Forms and Instructions.
62-213.900(1), F.A.C.: Major Air Pollution Source Annual Emissions Fee Form.
62-213.900(7), F.A.C.: Statement of Compliance Form.

Chapter 62-296, F.A.C.: Stationary Sources - Emissions Standards
62-296.320(4)(c), F.A.C.: Unconfined Emissions of Particulate Matter.
62-296.320(2), F.A.C.: Objectionable Odor Prohibited.
62-296.416, F.A.C.: Waste-to-Energy Facilities

Chapter 62-297, F.A.C.: Stationary Sources - Emissions Monitoring
62-297.310, F.A.C.: General Test Requirements.
62-297.330, F.A.C.: Applicable Test Procedures.
62-297.340, F.A.C.: Frequency of Compliance Tests.
62-297.345, F.A.C.: Stack Sampling Facilities Provided by the Owner of an Emissions Unit.

62-297.350, F.A.C.: Determination of Process Variables.
62-297.401, F.A.C.: Compliance Test Methods
62-297.570, F.A.C.: Test Report.
62-297.620, F.A.C.: Exceptions and Approval of Alternate Procedures and Requirements.

<u>Miscellaneous</u>:

CHAPTER 62-110, F.A.C.: Exception to the Uniform Rules of Procedure

CHAPTER 62-256, F.A.C.: Open Burning and Frost Protection Fires

Attachment 10

COMPLIANCE DEMONSTRATION:

Tie ins for the new pollution control equipment are tentatively scheduled during the first week of May05 for unit one and the third week of May05 for unit two.

Performance tests will be conducted within sixty days of the tie ins.

The Initial stack test will be performed in accordance with B.38.0. of 0050031-008-AV.

Attachment 4.

Bay County Resource Recovery Facility
Estimated Emission Rates for the Each MWC Unit

Flue gas flow at stack exit	25,515	dscfm, with	7% O_2 conc.	
PM/PM10 Concentration [1]	27	mg/dscm	7% O_2 conc.	
NO_x Concentration [1]	170	ppmv, corrected to	7% O_2 conc.	
CO Concentration [1]	250	ppmv, corrected to	7% O_2 conc.	
SO_2 Concentration [1]	141	ppmv, corrected to	7% O_2 conc.	(uncontrolled)
HCl Concentration [1]	31	ppmv, corrected to	7% O_2 conc.	
HF Concentration [2]	0.15	lb/hr		
SAM Concentration [2]	1.5	lb/hr		
PCDD/PCDF Concentration [1]	30	ng/dscm, corrrected to	7% O_2 conc.	
Hg Concentration [1]	1.99	mg/dscm, corrrected to	7% O_2 conc.	(uncontrolled)
Cd Concentration [1]	0.04	mg/dscm, corrrected to	7% O_2 conc.	
Pb Concentration [1]	0.49	mg/dscm, corrrected to	7% O_2 conc.	
Be Concentration [2]	5.00E-06	lb/hr		
VOC Concentration [2]	7.1	lb/hr		

PM Emissions

Calculate PM emission rate:

$$\frac{27\ \text{mg}}{1\ \text{dscm}} \cdot \frac{25{,}515\ \text{dscf}}{1\ \text{min}} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} \cdot \frac{1\ \text{g}}{1.E{+}03\ \text{mg}} = 3.3E{-}01\ \frac{\text{g}}{\text{sec}}$$

Calculated PM annual emission rate:

$$\frac{3.3E{-}01\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{11.30\ \frac{\text{ton}}{\text{year}}}$$

Nitrogen Oxide Emissions

Dry volumetric flow rate:

$$25{,}515\ \text{dscfm @ 7\% } O_2 \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} = \frac{12.04\ \text{dscm}}{1\ \text{sec}}$$

Calculated NO_x emission rate:

$$\frac{170.00\ \text{mol } NO_2}{1.E{+}06\ \text{moles}} \cdot \frac{41.57\ \text{moles}}{1\ \text{dscm}} \cdot \frac{46.01\ \text{g}}{1\ \text{mole}} = \frac{0.325\ \text{g}}{\text{dscm}}$$

$$\frac{0.325\ \text{g}}{\text{dscm}} \cdot \frac{12.04\ \text{dscm}}{1\ \text{sec}} = 3.92\ \frac{\text{g}}{\text{sec}}$$

Calculated NO_x annual emission rate:

$$\frac{3.92\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{136.12\ \frac{\text{ton}}{\text{year}}}$$

Carbon Monoxide Emissions

Dry volumetric flow rate:

$$25{,}515\ \text{dscfm @ 7\% } O_2 \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} = \frac{12.04\ \text{dscm}}{1\ \text{sec}}$$

Calculated CO emission rate:

$$\frac{250.00\ \text{mol CO}}{1.E{+}06\ \text{moles}} \cdot \frac{41.57\ \text{moles}}{1\ \text{dscm}} \cdot \frac{28.01\ \text{g}}{1\ \text{mole}} = \frac{0.291\ \text{g}}{\text{dscm}}$$

$$\frac{0.291\ \text{g}}{\text{dscm}} \cdot \frac{12.04\ \text{dscm}}{1\ \text{sec}} = 3.51\ \frac{\text{g}}{\text{sec}}$$

Calculated CO annual emission rate:

$$\frac{3.51\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{121.87\ \frac{\text{ton}}{\text{year}}}$$

Bay County Resource Recovery Facility
Estimated Emission Rates for the Each MWC Unit

Sulfur Dioxide Emissions

Dry volumetric flow rate:

$$\frac{25{,}515\ \text{dscfm @ 7\% } O_2}{} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} = \frac{12.04\ \text{dscm}}{1\ \text{sec}}$$

Calculated SO_2 emission rate:

$$\frac{140.64\ \text{mol } SO_2}{1.E{+}06\ \text{moles}} \cdot \frac{41.57\ \text{moles}}{1\ \text{dscm}} \cdot \frac{64.07\ \text{g}}{1\ \text{mole}} = \frac{0.375\ \text{g}}{\text{dscm}}$$

$$\frac{0.375\ \text{g}}{\text{dscm}} \cdot \frac{12.04\ \text{dscm}}{1\ \text{sec}} \cdot (100\%\text{-}75\%) = \frac{1.13\ \text{g}}{\text{sec}}$$

Calculated SO_2 annual emission rate:

$$\frac{1.13\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{\frac{39.20\ \text{ton}}{\text{year}}}$$

Hydrogen Chloride Emissions

Dry volumetric flow rate:

$$\frac{25{,}515\ \text{dscfm @ 7\% } O_2}{} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} = \frac{12.04\ \text{dscm}}{1\ \text{sec}}$$

Calculated HCl emission rate:

$$\frac{31.00\ \text{mol HCl}}{1.E{+}06\ \text{moles}} \cdot \frac{41.57\ \text{moles}}{1\ \text{dscm}} \cdot \frac{36.46\ \text{g}}{1\ \text{mole}} = \frac{0.047\ \text{g}}{\text{dscm}}$$

$$\frac{0.047\ \text{g}}{\text{dscm}} \cdot \frac{12.04\ \text{dscm}}{1\ \text{sec}} = \frac{0.57\ \text{g}}{\text{sec}}$$

Calculated HCl annual emission rate:

$$\frac{0.57\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{\frac{19.67\ \text{ton}}{\text{year}}}$$

Hydrogen Flouride Emissions

Calculated HF annual emission rate:

$$\frac{0.15\ \text{lbs}}{\text{hr}} \cdot \frac{1\ \text{tons}}{2000\ \text{lbs}} \cdot \frac{8760\ \text{hrs}}{1\ \text{year}} = \boxed{\frac{0.66\ \text{ton}}{\text{year}}}$$

Sulfuric Acid Mist (SAM) Emissions

Calculated SAM annual emission rate:

$$\frac{1.50\ \text{lbs}}{\text{hr}} \cdot \frac{1\ \text{tons}}{2000\ \text{lbs}} \cdot \frac{8760\ \text{hrs}}{1\ \text{year}} = \boxed{\frac{6.57\ \text{ton}}{\text{year}}}$$

Dioxins/Furans (PCDD/PCDF) Emissions

Calculated PCDD/PCDF emission rate:

$$\frac{30\ \text{ng}}{1\ \text{dscm}} \cdot \frac{25{,}515\ \text{dscf}}{1\ \text{min}} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} \cdot \frac{1\ \text{g}}{1.E{+}09\ \text{ng}} = \frac{3.6E\text{-}07\ \text{g}}{\text{sec}}$$

Calculated PCDD/PCDF annual emission rate:

$$\frac{3.6E\text{-}07\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{\frac{1.26E\text{-}05\ \text{ton}}{\text{year}}}$$

Mercury Emissions

Calculated Hg emission rate:

$$\frac{1.986\ \text{mg}}{1\ \text{dscm}} \cdot \frac{25{,}515\ \text{dscf}}{1\ \text{min}} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} \cdot \frac{1\ \text{g}}{1.E{+}03\ \text{mg}} \cdot (100\%\text{-}85\%) = \frac{3.6E\text{-}03\ \text{g}}{\text{sec}}$$

Calculated Hg annual emission rate:

$$\frac{3.6E\text{-}03\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{\frac{1.25E\text{-}01\ \text{ton}}{\text{year}}}$$

Bay County Resource Recovery Facility
Estimated Emission Rates for the Each MWC Unit

Cadmium Emissions

Calculated Cd emission rate:

$$\frac{0.04\ \text{mg}}{1\ \text{dscm}} \cdot \frac{25{,}515\ \text{dscf}}{1\ \text{min}} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} \cdot \frac{1\ \text{g}}{1.E{+}03\ \text{mg}} = 4.8E\text{-}04\ \frac{\text{g}}{\text{sec}}$$

Calculated Cd annual emission rate:

$$\frac{4.8E\text{-}04\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{\mathbf{1.67E\text{-}02\ \frac{ton}{year}}}$$

Lead Emissions

Calculated Pb emission rate:

$$\frac{0.49\ \text{mg}}{1\ \text{dscm}} \cdot \frac{25{,}515\ \text{dscf}}{1\ \text{min}} \cdot \frac{1\ \text{dscm}}{35.31\ \text{dscf}} \cdot \frac{1\ \text{min}}{60\ \text{sec}} \cdot \frac{1\ \text{g}}{1.E{+}03\ \text{mg}} = 5.9E\text{-}03\ \frac{\text{g}}{\text{sec}}$$

Calculated Pb annual emission rate:

$$\frac{5.9E\text{-}03\ \text{g}}{\text{sec}} \cdot \frac{1\ \text{ton}}{907200\ \text{g}} \cdot \frac{60\ \text{sec}}{1\ \text{min}} \cdot \frac{60\ \text{min}}{1\ \text{hour}} \cdot \frac{24\ \text{hour}}{1\ \text{day}} \cdot \frac{365\ \text{days}}{1\ \text{year}} = \boxed{\mathbf{2.05E\text{-}01\ \frac{ton}{year}}}$$

Beryllium Emissions

Calculated Be emission rate:

$$\frac{5.00E\text{-}06\ \text{lbs}}{\text{hr}} \cdot \frac{1\ \text{tons}}{2000\ \text{lbs}} \cdot \frac{8760\ \text{hrs}}{1\ \text{year}} = \boxed{\mathbf{2.2E\text{-}05\ \frac{ton}{year}}}$$

VOC Emissions

Calculated VOC annual emission rate:

$$\frac{7.10\ \text{lbs}}{\text{hr}} \cdot \frac{1\ \text{tons}}{2000\ \text{lbs}} \cdot \frac{8760\ \text{hrs}}{1\ \text{year}} = \boxed{\mathbf{31.10\ \frac{ton}{year}}}$$

Source: [1] Emission limit based on 40 CFR 60, Subpart BBBB.
[2] Emission limit based on PSD-FL-129.

Attachment 12

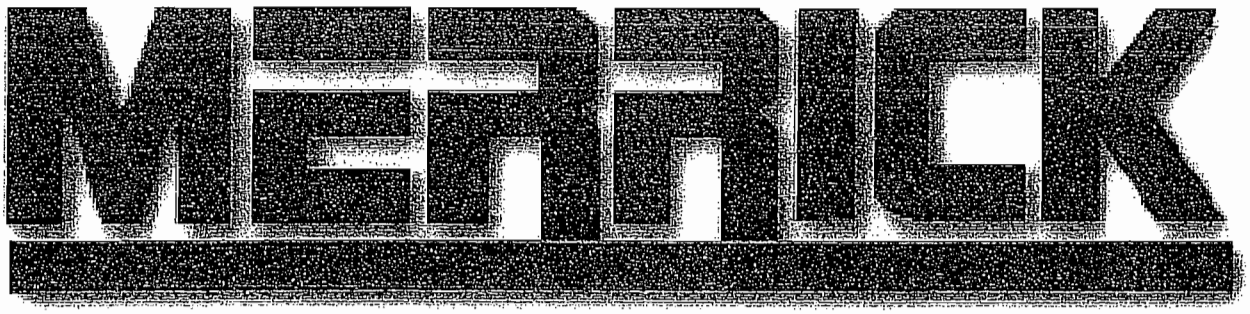
AVERAGE COMPOSITION OF ACCEPTABLE SOLID WASTES

	Percent by Weight
Carbon	25.10
Hydrogen	3.70
Oxygen	21.70
Nitrogen	0.60
Sulfur	0.20
Water	27.00
Inerts	21.70
	100.00

Higher Heating Value: 4,500 Btu/lb (average)
4,300 – 4,700 (normal range)

Source: Appendix D to Resource Recovery Management Agreement between Bay County, FL and Montenay Bay, LLC.

Attachment 13



Model 700
Paste Slaker

Operation and Maintenance Manual

Installation

Unpacking

When unpacking the system check for damages that may have been caused by shipping and mishandling. Advise your carrier immediately of any damage.

The factory wiring and piping of the system has been done in accordance with the planned position of the system components, advise MERRICK of any deviations.

Observe all labeled instructions on gear boxes, motors, etc. for proper lubrication, installation and operating instructions.

The grit remover and feeder are typically pre-assembled for shipment; however, if dis-assembled, then re-assemble. Limitations, if any, or the surrounding space will determine which should be installed first.

Location

Ensure that the slaker installation allows sufficient space to permit access for inspection and service. A source of power, water and provisions for venting are required as detailed below and if applicable as appears on specifying documents or MERRICK drawings.

Mounting Slaker

Mount the slaker on concrete supports or structural steel as illustrated in the general arrangement drawing provided by MERRICK.

Installation of Feeder

Install the feeder inlet to the lime supply as shown on drawings supplied.

Installation of Grit Conveyor

(If Required)

The grit conveyor is to be positioned in the pre-determined position. Reconnect water piping as shown on the drawings supplied.

IMPORTANT

If the grit conveyor is to be assembled to the slaker in the field or if the grit conveyor is removed and re-assembled to the slaker, please apply FDA approved silicone sealant to all mating surfaces that have a gasket between them. (i.e. grit discharge chute to slaker body and discharge chute to grit conveyor body.)

Water Lines

Connect a water supply line with a minimum pressure of 40 psi to the slaker water manifold inlet strainer as indicated on the drawings supplied.

Overflow and Drain

Run a line from the overflow connection to a suitable drain.

In cases where minimum variations in slurry concentration are desirable, especially batch processes, disconnect the water discharge from the vapor and dust arrestor from the slurry discharge section and run directly to a drain.

Vapor Vent

Run a duct from the dust and vapor arrestor discharge inside the room (only warm, humid air is discharged. The duct may be run outside making provisions to protect the exit from direct exposure to drafts. Drafts may decrease the efficiency of the vapor and dust arrestor. Ducts should be kept as short as possible for best performance. Duct size should be three (3") inches.

NOTE

Field wiring must conform to local electrical codes.

Run field wiring in accordance with the applicable wiring drawing supplied. When a control panel has been ordered for installation at a remote location, field wiring includes wiring between the control panel and the junction box on the slaker.

If the feeder and grit remover are removed for shipment, factory wiring must be reconnected as part of the installation procedure. All wiring from the feeder is in a single flexible connection, which must be reconnected to the control panel or junction box if the control panel is remote. All wires are labeled. The grit conveyor motor leads are disconnected at the motor and the grit conveyor alarm switch leads are connected at the switch. These wires must be re-connected as labeled.

MERRICK Model 700

Paste Type Lime Slaker
Water Requirements

Slaker Capacity	Water Supply	Pressure	Slaking Water Required	Cut Off Jets[4]		Dust & Vapor Arrestor[2]		Grit Remover Water	Total Water[2]	
Lbs./Hr.	Min	Max	GPM[1]	Min	Max	Min	Max	GPM[2,3]	Min	Max
1000	40 PSI	75 PSI	6.0	6.0	8.0	1.5	2.0	14	27.5	30.0
2000	40 PSI	75 PSI	12.0	9.0	12.5	1.5	2.0	28	50.5	54.5
4000	40 PSI	75 PSI	24.0	18.0	25.0	1.5	2.0	56	99.5	107.0
8000										

NOTE 1: Is calculated at 3.0: 1 for and average lime of 90% CaO and initial water temperature of 50oF. Actual water consumption maybe affected by outside factors and variable lime feed rates. Water rates will fluctuate between 2.0 and 3.0 to 1.

NOTE 2: Will fluctuate based on water pressure

NOTE 3: Assumes 3.0:1 water to lime ratio and 12% desired concentration, additional requirements will result in different values

NOTE 4: If separate water supply is used for cutoff jets, minimum pressure required is 40 PSI.

Controls and Theory of Operation

NOTE:

Slaker systems have several custom features...always refer to your specific drawing

The MERRICK Slaking Systems are supplied with one of the following control panel options:

- Standard one (1) panel system where power and control logic are complete in one (1) panel.
- Standard two (2) panel system where power and control logic are in separate panels.
- Custom controls per the customers' specifications.

Front Panel Controls – See Drawing Number _____

Definitions

Flanged Mounted Disconnect Switch:
Controls all power to the cabinet. It should be shut off and padlocked when working on the system

Feeder Hand/Off/ Auto Three Position Selector
Switches the unit to either manual mode or automatic mode. In manual mode, the feeder shall be controlled by a manual potentiometer located on the front of the control cabinet. In automatic mode, a 4-20 mA signal supplied by others shall control the feeder.

Slaker On/Off Two Position Selector Switch:
When in the ON position, the slaker paddle shafts rotate. When in the OFF position, the grit separator stops.

Grit Remover ON/OFF Two Position Selector Switch:
When in the ON position, the grit remover runs
When in the OFF position, the grit remover stops

Feeder (Green/Red) Illuminated Run Light:
Indicates the feeder is running

Slaker (Green/Red) Illuminated Run Light:
Indicates the slaker is running.

Grit Remover (Green/Red) Illuminated Run Light:
Indicates the grit remover is running.

Manual Feed Potentiometer:
Manually select the speed of the feeder.

Slaker (Red/ Amber) Illuminated Alarm Light:
Indicates a motor overload condition for the slaker Motor.

Grit Remover (Red/ Amber) Illuminated Alarm Light:
Indicates a motor overload condition for the Grit Remover Motor.

Feeder (Red/Amber) Illuminated Alarm Light:
Indicates a motor overload condition for the Feeder motor.

Low Water Pressure (Red/Amber) Illuminated Alarm Light:
Indicates a low water pressure condition

Variable in Range (Green/ Amber) Illuminated Light
Indicates that the unit is within the set-point range

System Hand-Off-Auto Three Position Selector Switch:
Runs system continuously in hand or with a dry-contact supplied by others (ex. Slurry tank low) in automatic mode. Once placed in the OFF position, an orderly shut-down procedure shall occur. (See Section III, Operation for Details)

Feed rate button potentiometer:
Controls feed rate in feeder local mode

Water Control

A water pressure regulator is supplied prior to the inlet of the piping system to keep the pressure at a constant 40 psi-minimum – 75 psi maximum.

A manually operated gate valve is supplied to shut off all water to the slaker

A water pressure switch is supplied on the slaking water supply line and is set to stop the lime feeder if the pressure drops below 40 psi. The amber low water pressure light in the control panel will illuminate to indicate low water pressure.

A pressure gauge is supplied on the slaking water supply line.

An electronically actuated motor operated control valve is supplied on the slaking water supply line. This valve controls the amount of water added to the slaking chamber based on a signal from a PID loop controller to control lime paste viscosity.

A normally open water solenoid valve is provided as a bypass of the electronically actuated control valve. This solenoid valve is energized to close and open on any of the following three (3) conditions to flood the slaker and prevent accidental lime hardening in the slaker chamber:

Condition 1:	Power loss
Condition 2:	Slaker paddle motor overload
Condition 3:	Water will flood the chamber for approximately ten (10) minutes after turning the slaker system switch to the OFF position.

A normally closed water solenoid valve is provided for the dilution water, both for paste cut off and for the grit removal device. This solenoid valve is energized to open and close upon power failure or after a certain time based on shut down requirements. A slaking flow meter is provided. If required, an optional dilution water flow meter is available for close monitoring of slurry concentration.

Manually operated throttle valves are provided for flow control bypass, cut off spray jets, dust and vapor remover, and grit wash at the separator.

Operation

Theory

A gravimetric or volumetric feeder is provided to feed quicklime or pebble lime to the lime chamber. Quicklime enters the slaking chamber through a vertical chute. Hydrated lime slurry is gravity-discharged through the slurry discharge section on the bottom of the opposite end of the slaker.

Quicklime and water are fed continuously through the inlet end of the slaking section in a ratio of approximately 2:1 water to quicklime by weight. The lime water mixture is mixed thoroughly and moved to the discharge end of the slaking section by two (2) sets of counter rotating intermeshing paddles. The mixing paddles are driven by a gear reduction system.

Water added to the slaking chamber is controlled electronically through a flow control valve (FCV). The FCV receives a signal based on the viscosity of the mixture in the slaking chamber to open and close accordingly. The viscosity of the lime paste can be varied by adjusting the PID loop controller parameters. The consistency of the paste is maintained viscous enough to carry grit and insoluble material through the slaking section into a grit remover device.

As a ribbon of paste moves over the weir at the discharge end of the slaking section, it is broken by water jet sprays and drops into the grit removal section as a lime slurry. Either a vibrating screen separator and an inclined grit screw conveyor separator are available as a grit removal device. Fresh water is added to the grit separator device to wash the grit and keep the lime loss to a minimum.

A venture dust and vapor arrestor keeps steam from entering the quicklime feeder discharge. The operating water can be controlled and can be discharged either into the grit removal device or to waste.

Manual Mode

A system HAND-OFF-AUTO selector switch has been provided for manual controls of the slaker as well as automatic batching control and long-term shut down. When the switch is placed in HAND, operation of the slaker, grit remover and feeder is manually controlled. The slaker and grit remover can be turned on and off manually using their respective selector switches. The feeder has

a three-position selector switch for control with a LOCAL potentiometer or by a remote demand signal from an outside source.

Manual mode is normally used for testing equipment operation and initial start-up.

Short Term or Long Term System Shutdown

Short Term Shutdown

Once the initial start up of the slaker is performed with the system in HAND mode, the system HAND-OFF-AUTO selector switch is placed in the AUTO position. In this mode, the slaker system can be started and stopped automatically based on a response to high and low level probes in a slurry holding tank or in response to a low flow switch in a water system.

When an automatic run contact (supplied by others) is disengaged, the feeder will stop immediately and after a programmable time in the PLC (default setting is five (5) minutes), the jet spray water and grit remover water will shut off. The paddle shafts shall continue to run throughout the short-term period to prevent paste solidification in the slaking chamber. Water is added by the ETV as needed to replace evaporative losses.

Once the automatic run contact is engaged, the feeder will run and dilution water will flow. The FCV will add water as required for viscosity changes in the slaking chamber. Normally, in automatic batching mode, the dust and vapor arrestor remains on constantly and is piped to drain. If desired, this solenoid valve can be closed after a programmable time in the PLC (default setting is open continuous).

Long Term Shutdown

When it is desired to shut down the slaking system HAND-OFF-AUTO selector switch is placed in the OFF from either HAND or AUTO positions. Once this is performed, the feeder will stop and TCV bypass solenoid valve will open to flood the chamber for a programmable time in the PLC (default setting is ten (10) minutes). After this time, the TCV bypass and dilution water solenoid valve will close. The dust and vapor arrestor solenoid valve can be adjusted as described in the Short Term Shutdown.

Alarms

Alarm conditions are as follows:

- A slaker motor overload condition.
- A grit remover motor overload condition.
- A feeder motor overload condition.
- A low water pressure condition.
- Slaker Zero Speed Switch

An alarm trouble shooting sequence would be as follows:

1. Check the inlet water pressure of the system for proper level

2. Open the control cabinet and determine if any motor overloads have tipped.

Customer Contacts

One (1) set of "C" contact from the alarm relay is available for customer connection.

One (1) normally open contact is available for customer connection which closes when the feeder is running.

Calibration Procedure

1. Visually check that all electrical and piping connections are made per the certified installation drawings and instructions.

2. Adjust Water pressure switch and Water Pressure regulator

    a. Adjust water pressure regulator until the pressure indicator indicates twenty-five (25) psi.

    b. Remove cover plate from pressure switch and adjust dial until switch contact closes.

    c. With the switch contacts closed, verify correct field wiring to transmit signal through switch contacts to the control system alarm light.

    d. Adjust water pressure regulator until it indicates thirty-five (35) psi.

    e. Verify pressure switch contacts are open and replace cover plate.

    f. Close all manual and solenoid valves to cease water flow.

3. Verify operation of Dust Arrestor Solenoid and Cut Off Spray/ Dilution Water Solenoid valves.

    a. Energize Dust Arrestor Solenoid. This valve is "normally closed" and will open when power is applied to the coil.

    b. Fully open Dust Arrestor manual valve. Check for clear flow of water into the Dust Arrestor when coil is energized.

    c. De-energize to close the Dust Arrestor Solenoid Valve.

    d. Energize Cutoff Spray/ Dilution Water Solenoid. This valve is "normally closed" and will open when power is applied to the coil.

    e. Fully open cutoff spray manual valve.

f. Adjust each spray nozzle as shown on XXXX to impact paste after passing over weir.

DO NOT ALLOW WATER TO SPRAY UPSTREAM
(ON THE PADDLE SIDE) OF THE WEIR.

g. De-energize to close Dilution Water Solenoid.

4. Verify operation of TCV bypass solenoid valve. Paddle shaft rotation and paddle shaft zero speed switch.

a. The Bypass Solenoid Valve is "normally open" therefore closes when the coil is energized. Verify correct open/closed operation and clear flow of water into the slaking chamber when the coil is de-energized.

b. Remove drive cover and ensure face of speed switch is not more than ¼" from the spoke surface of the paddle shaft drive gear. Replace the drive cover.

c. Ensure that all personnel are clear of the slaker.

d. Energize paddle shaft and check rotation. Paddles should be traveling toward the outside edge of the slaker tub when viewed from above.

e. During paddle shaft operation, check speed switch output contacts are open.

f. De-Energize paddle shaft and check speed switch output contacts are closed.

5. Verify system paddle shaft failure logic.

a. Energize paddle shaft drive motor and stimulate zero speed switch contact closure.

b. Upon contact closure verify that the following occurs:

1. Bypass solenoid valve is de-energized (opens) to admit water into the slaking chamber.

2. Lime feeder is de-energized.

3. Paddle shaft drive motor is de-energized.

4. The slaker zero speed alarm indicator is energized at the Main Control Panel.

NOTE: When paddle shaft motor starter is de-energized, zero speed

switch should not affect status solenoid valve, lime feeder or alarm outputs.

6. Check operating setpoint for lime slaking

CAUTION:
THE FOLLOWING OPERATING PROCEDURE SHOULD BE PERFORMED WITH ALL COVERS IN PLACE. PERSONNEL IN THE VICINITY OF THE LIME SLAKER MUST WEAR SUITABLE PROTECTIVE CLOTHING INCLUDING GLOVES AND FULL FACE PROTECTION.

NOTE:
The following procedures are to be performed by authorized personnel only. Any attempt to change or modify system operating procedures or parameters by unauthorized persons may cause bodily harm, void warranty or damage equipment.

a. Calibrate lime feeder per Feeder calibration procedure of the Operation and Maintenance Manual.

b. Verify the position of the following manual valves:

1. a, b, c must be fully open.

2. d must be fully closed.

c. Energize the paddle shaft drive motor and verify the following conditions before proceeding further:

1. _____ Solenoid Valve must be open (energized)

2. _____ Solenoid Valve must be open (energized)

3. _____ Solenoid Valve must be closed (energized)

4. _____ Valve must be closed and flowmeter should read 0 GPM.

5. Water pressure reading at ____ is not less than 25 PSIG.

d. Open _____ Bypass Valve to admit water into the slaking chamber until paddle shaft are submerged approximately one (1") inch.

e. Ensure all covers are in place and fit tightly.

f. Start Lime Feeder at approximately 50% of maximum slaker capacity.

g. At intervals of approximately thirty (30) seconds, open slaking chamber cover and examine visual appearance of lime/ water mixture in the slaking chamber at the discharge (weir) end.

NOTE:

The consistency should gradually thicken over a period of five(5) to ten (10) minutes, until the mixture appears paste-like, similar to whipping cream or shaving cream when viewed at the discharge end. This condition occurs when viewed at the discharge end. This condition occurs when the water flow rate into the slaking chamber is approximately one (1) GPM per 200 pounds per hour of lime feed rate. In its ideal state, the mixture must be thick enough for the paddles at the discharge end to leave a smooth window of about three (3) inches trailing the paddle.

h. As the mixture approaches the consistency noted above, verify that the Flow Control Valve begins to open. If the Flow Control Valve does not begin opening as the paste consistency reaches the desired level, open the Flow Control Bypass Manual Valve. Consult MERRICK Industries, Inc. for additional assistance and/or adjustment of the operating point.

i. If the Flow Control Valve opens fully before the paste consistency approaches the desired level, Contact MERRICK Industries, Inc. for additional assistance.

j. Once the desired paste consistency has been achieved, allow the system to operate at fifty (50%) percent lime feed capacity for approximately thirty (30) minutes. During this time period, observe the action of the Flow Control Valve to verify stable operation of the slaker.

k. Gradually increase the lime feed rate in increments of approximately ten (10) percent at ten (10) minute intervals until the slaker is operating at its rated lime feed capacity. Verify the action of the Flow Control Valve which must gradually open as lime feed rate is increased to maintain stable paste consistency.

l. De-energize the lime feeder. Verify the action of the Flow Control valve, which must close approximately two (2) minutes of stoppage of lime feed.

Lime Feed and Slaking System Operator Checklist

MERRICK Model 700X Lime Slaker

Spray Nozzles

- Paste Cut Off Nozzles: Verify spray pattern. Jets should be spraying in an inverted "v" pattern across the weir.
- Dust and Vapor Nozzle: Verify nozzle is spraying in a conical pattern, Was-down nozzles with hose to eliminate lime build-up.

Paste Weir Overflow

- Wash down with hose to remove excess lime build up to maintain proper slop of lime discharge.
- Wash down discharge chamber with hose including shafts to remove excess lime build up.

Slaking Chamber

- Wash down with hose to remove lime build up in non-paste areas.

Access Doors

- Clean doors as required to maintain flush fit with the body of the slaker. The doors must lay flat in order for the Dust and Vapor to function properly.

Feeder to Slaker Chute

- Remove any excess lime build up to prevent bridging or plugging. Make sure the door is closed and the latch is tight to maintain the seal for the Dust and Vapor Operation.

960 Weigh Belt Feeder

- Verify Feeder Belt is tracking properly.
- Check for lime build up on the belt
- Check skirt boards to make sure they are properly positioned.
- Inspect belt scrapers for proper position

NOTE:

Anytime an adjustment is made to the belt take-ups for tracking purposes, this changes the tare and calibration by changing the belt tension. If any adjustment is made, the machine must have a new tare test and calibration test run to ensure accuracy. Make sure belt is completely tracked before performing the tare and calibration tests.

Remember every time a belt is replaced, a new tare calibration must be performed on the machine. Allow the new belt to run on the machine for as long as possible to allow all creases to smooth out and to allow the belt to limber up. If this is not done, belt will loosen and lengthen affecting accuracy.

Model 700X Paste Slaker Regular Maintenance Schedule

Monthly

- Check motor drive gears for wear and grease as required.
- Grease flange bearings on motor drive end.
- Check oil level in drive end gear motor.
- Check and adjust packing gland seals on non-drive end for one (1) to two (2) drips per minute.
- Replace packing material if excessive leakage occurs with no adjustment left.
- Remove and clean spray nozzles. Re-align cut-off jet nozzles upon re-installation for proper spray pattern and paste cut-off.

NOTE: Adjustments to be made only when slaker is not running.

- Inspect Dust and Vapor piping for build-up and paste cut off.
- Check paddles for wear.

Model 960 Gravimetric Belt Feeder Regular Maintenance Schedule

Monthly

- Clean out feeder compartment, make sure area around load cell is free of build up.
- Check feeder belt for wear and/or damage.
- Grease feeder drive sprockets and chain, check tension and adjust as necessary.
- Grease the four (4) two (2)-bolt flange bearing on head and tail pulley.

Lubrication Chart:

Note: As required. Lubricate the slaker components per lubrication schedule below and per detailed manufacturer information found in Operation and Maintenance Manual.

Component	Lubrication Interval	Lubricant	Quantity	Comments
Lime Slaker Motor	See Motor Nameplate	See Motor Nameplate	As needed	See Motor Nameplate
Lime Slaker Speed Reducer	Initial change after 250 hours; regular changes every 1500 hours or six (6) months	+15oF - +110oF: Gulf EP140 Mobil Oil SHC629 AGMA#7 gear oil	As Needed	Check oil level regularly – DO not mix oil types
Lime Slaker Spur Gears	One (1) week	Litium Base Grease	Small Amount	
Grit Remover Motor	See Motor Nameplate	See Motor Nameplate	See Motor Nameplate	See Motor Nameplate
Grit Remover Gear Reducer (oil)	Initial change after 250 hours; regular changes every 2500 hours or six (6) months	+16oF - +50oF: AGMA #7 Gear Oil +51oF - +110oF: AGMA #8 gear oil	As Needed	Check Oil level regularly – DO not mix oil types
Grit Remover Gear Reducer (grease)	Initial change after 250 hours; regular changes every 2500 hours or six (6) months	Lithium Grease	As Needed	

Water Requirements for Slaking

Desired Concentration: 12 %

Water to Lime Ratio: 3.00

Pounds CaO	Stoliometric K	Dry CaOH	Pounds/ Slurry	Pounds H2O	GPM Total	GPM Slaking
500	1.32	660	5500	5000	10	3.0
1000	1.32	1320	11000	10000	20	6.0
1500	1.32	1980	16500	15000	30	9.0
2000	1.32	2640	22000	20000	40	12.0
2500	1.32	3300	27500	25000	50	15.0
3000	1.32	3960	33000	30000	60	18.0
3500	1.32	460	38500	35000	70	21.0
4000	1.32	5280	44000	40000	80	24.0
5000	1.32	6600	55000	50000	100	30.0
8000	1.32	10560	88000	80000	160	47.9
10000	1.32	13200	110000	100000	200	59.9

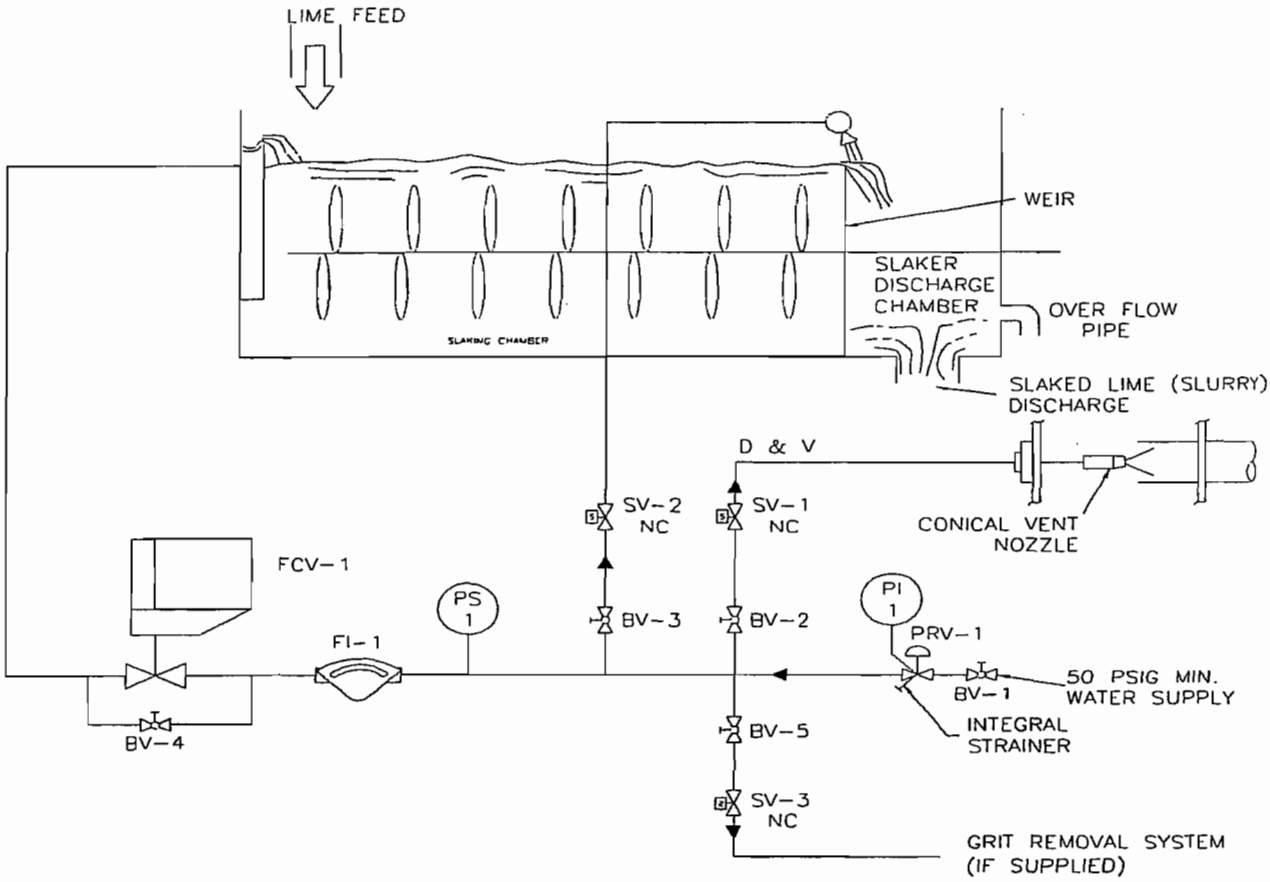
(Dry CaOH = Lbs. of CaO x 1.32

Lbs. of Slurry = Dry CaOH / Concentration

Lbs. of H2O = Lbs. of Slurry – Lbs. of CaO

GPM Total = Lbs. of H2O/ 8.345/60

GPM Slaking = ((Pounds CaO x Water to Lime Ratio)/ 8.345)/60



MERRICK ENVIRONMENTAL TECHNOLOGY, INC.

SLAKER FLOW DIAGRAM

FIGURE 1

LEGEND	
BV-1	BALL VALVE (SHUT OFF)
BV-2	BALL VALVE (VENT NOZZLE FLOW CONTROL)
BV-3	BALL VALVE (CUT OFF NOZZLES FLOW CONTROL)
BV-4	BALL VALVE (MANUAL BY-PASS)
BV-5	BALL VALVE (GRIT REMOVAL SYSTEM)
SV-1	SOLENOID VALVE (VENT NOZZLE)
SV-2	SOLENOID VALVE (CUT OFF NOZZLES)
SV-3	SOLENOID VALVE (GRIT REMOVAL SYSTEM)
PRV-1	PRESSURE REDUCING VALVE
FCV-1	FLOW CONTROL VALVE
PI-1	PRESSURE INDICATOR
FI-1	FLOW INDICATOR
PS-1	PRESSURE SWITCH

Task Report (Full List)

Task No. SDA-NOZZLE CHANGE
Description CHANGE SDA NOZZLE ONCE PER SHIFT
Assigned To OPERATIONS

Craft	Crew Size	Estimated Labor Hours
PO	1.00	3.00

Equipment No. SDA NOZZLE-1
Equipment Description SDA NOZZLE UNIT 1
Location SDA

Perform Every 1.00 Day(s)

Task Instructions

Instruction Code SDA DAILEY

* NOTE: THIS PM IS TO BE COMPLETED PER SHIFT. NOTIFY THE SHIFT MANAGER THAT YOU ARE ABOUT TO PERFORM THIS PM.
1. SHUT OFF LMI PUMP FOR THE SPARE NOZZLE.
2. DISCONNECT LMI PUMP DISCHARGE CONNECTION TO SPARE NOZZLE.
3. ISOLATE NOZZLE IDENTIFIED FOR REMOVAL.
4. REMOVE NOZZLE HOLD DOWN BOLTS AND REMOVE NOZZLE.
5. REMOVE SPARE NOZZLE FROM THE VET TANK & INSTALL IN SDA.
6. RETURN SDA NOZZLE BACK IN SERVICE.
6. INSTALL THE NOZZLE THAT WAS REMOVED IN VET TANK.
7. PLACE LMI PUMP BACK IN SERVICE.
8. NOTIFY THE SHIFT MANAGER THAT THE PM IS COMPLETE.

MONDAY	TUESDAY	WED	THUR	FRIDAY	SAT	SUN
D_____	D_____	D_____	D_____	D_____	D_____	D_____
N_____	N_____	N_____	N_____	N_____	N_____	N_____

Task Report (Full List)

Task No. CARBON-WKLY/INSP
Description PERFORM WEEKLY INSPECTION ON THE CARBON SYSTEM
Assigned To OPERATIONS

Craft	Crew Size	Estimated Labor Hours
PO	1.00	2.50

Equipment No. CARBON SYSTEM
Equipment Description CARBON SYSTEM
Location CARBON BLD

Perform Every 1.00 Week(s)

Date Last Performed
Next Due Date

Task Instructions

Instruction Code CARBON-WKLY

1. INSPECT CARBON SYSTEM FOR PROPER OPERATION.
2. IF SYSTEM IS NOT OPERATING PROPERLY, SWITCH TO STAND-BY SYSTEM AND NOTIFY SUPERVISOR.

Task No. INS-33
Description 3 MO SLAKING SYSTEM INSPECTION
Assigned To MAINTENANCE
WO Type PM
Expense Class

Priority 3.00
Multitask No
In-service Task Yes

Craft	Crew Size	Estimated Labor Hours
MB	1.00	2.00

Equipment No. LH-SLK-1
Equipment Description SLAKER LIME 1
Location LIME
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 3/ 7/2005
Next Due Date 6/ 7/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 60.00
Down Time
Must Be Down No

Equipment No. LH-SLK-2
Equipment Description SLAKER LIME 2
Location LIME
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 2/ 3/2005
Next Due Date 5/ 3/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 11.00
Down Time
Must Be Down Yes

Equipment No.	Meter Name	Last Performed At

Task Instructions

Instruction Code INS-33
MONTHLY INSPECTION

Date Last Edited 12/15/2001

WARNING: USE EXTREME CAUTION WHEN WORKING AROUND ROTATING PADDLES AND FEEDER SCREW, AVOID INHALING OF LIME DUST/ VAPORS, USE PROPER RESPIRATOR WHEN REQUIRED, SLAKED LIME IS HOT, WEAR PROPER EYE/FACE PROTECTION AND TYVEK SUIT.

NOTE: VALVE OUT CITY WATER TO SLAKER AND RECORD LOW WATER PRESSURE ALARM AND RESET PRESSURES. PRESSURE SWITCH SHOULD STOP ROTORY FEED VALVE AT 20 PSI AND RESTART AT 28 PSI. VERIFY WITH CONTROL ROOM THAT ALARMS DID ACTIVATE ON ALARM SCREEN. MINIMUM WATER PRESSURE WITH SLAKERS ON-LINE IS 40 PSI. IF NEEDED, ADJUST SYSTEM PRESSURE BY ADJUSTING REGULATOR ON MAIN CITY WATER SUPPLY HEADER LOCATED IN SLAKER BUILDING.

ALARM PRESSURE_____ ROTORY VALVE STOP

RESET PRESSURE_____ ROTORY VALVE START

2. _____ CHECK SLURRY SYSTEM HOSES FOR LEAKS, DAMAGE, AND THAT HOSE CLAMPS AND CONNECTIONS ARE SECURE.

3. _____ CYCLE LIME STORAGE BIN IMPACTORS TO CHECK PROPER OPERATION AND ALSO OBSERVE AUTOMATIC OPERATION.

4. _____ AT EACH ATOMIZER HEADTANK, HOLD DOWN FLOAT TO GET A HIGH WATER LEVEL TO ACTIVATE HIGH HEADTANK LEVEL ALARM. VERIFY WITH CONTROL ROOM THAT ALARM DID COME IN. ALLOW HEADTANK LEVEL TO DECREASE AND VERIFY WITH CONTROL ROOM THAT ALARM CLEARED.

PREVENTIVE MAINTENANCE.

SLAKER MUST BE CLEANED OUT AND SECURED BEFORE STARTING THIS PROCEDURE.

TOOLS: 9/16" AND A 5/8" WRENCH
12" ADJUSTABLE
14" PIPE WRENCH
GREASE GUN
WATER RESISTANT/MULTI-PURPOSE GREASE
EP 230 OR MOBIL 630 TYPE OIL
HYDROTEX GREASE
ANTI-FREEZE MIXTURE
RAGS

1.____ CHECK SCREEN HOUSING CLAMP RINGS FOR TIGHTNESS.

2.____ GREASE UPPER AND LOWER MOTION GENERATOR BEARINGS WITH WATER RESISTANT GREASE.

3.____ GREASE BEARINGS ON BOTH ENDS OF ROTORY FEEDER SCREW.

4.____ GREASE KNIFE GATE VALVE.

5.____ CHECK OIL LEVEL IN PADDLE DRIVE GEAR BOX. IF NEEDED ADD OIL, TYPE EP 220 OR MOBIL 630. REMOVE OVERFILL PLUG ON SIDE OF GEAR BOX HOUSING AND FILL PLUG ON TOP OF HOUSING. ADD OIL UNTIL A SMALL AMOUNT OF OIL FLOWS FROM THE SIDE OPENING, REPLACE BOTH PLUGS SECURELY.

6.____ CHECK DRIVE BELT FOR PROPER TENSION OR DAMAGE.

7.____ CHECK LEVEL IN TORQUE VALVE. IF NEEDED FILL TO PROPER LEVEL USING A 50%-50% MIXTURE OF ANTI-FREEZE AND WATER.

8.___ TURN OFF SLURRY TANK MIXER. CHECK OIL LEVEL IN GEAR BOX, IF NEEDED ADD OIL USING HYDROTEX TYPE. RESTART MIXER.

9.___ CHECK PADDLES FOR WEAR AND DAMAGE, REPAIR AS NEEDED.

10.___ CHECK CUTTING WATER AND EXHAUST SPRAY NOZZLES FOR BLOCKAGE AND PROPER ALIGNMENT. CLEAN AND/OR REPLACE AS NEEDED.

11.___ INSPECT RUBBER BOOTS AT BOTH ENDS OF SCREEN HOUSING TO PROPER FIT, ALIGNMENT, OR IF DAMAGED. REPLACE IF NEEDED WITH 8.25" I.D. HOSE.

12.___ GREASE GRIT CONVEYOR BEARINGS.
A.____ CHECK DRIVE BELTS FOR CRACKING OR EXCESSIVE WEAR
B.____ CHECK CARRIER BEARING FOR EXCESSIVE WEAR
C.____ CHECK SPEED REDUCER FOR EXCESSIVE NOISE OR VIBRATION.

NOTE: RETURN COMPLETED FORMS TO THE ENVIRONMENTAL MANAGER.

Task No. INS-39
Description 3 MO BAGHOUSE INSPECTION
Assigned To OPERATION
Priority 3.00
WO Type PM
Multitask No
Expense Class
In-service Task Yes

Craft	Crew Size	Estimated Labor Hours
AO	2.00	12.00

Equipment No. 1-BG-ASYS
Equipment Description BAGHOUSE #1
Location APC 1
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 10/ 3/2002
Next Due Date 1/ 2/2003
Tenant
Perform Every 3.00 Month(s)
Schedule Type Fixed
Task Duration
No. of Times Completed 24.00
Down Time
Must Be Down No

Equipment No. 2-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #2
Location APC 1
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 10/ 3/2002
Next Due Date 1/ 2/2003
Tenant
Perform Every 3.00 Month(s)
Schedule Type Fixed
Task Duration
No. of Times Completed 24.00
Down Time
Must Be Down No

Equipment No. 3-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #3
Location APC 3
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 10/ 3/2002
Next Due Date 1/ 2/2003
Tenant
Perform Every 3.00 Month(s)
Schedule Type Fixed
Task Duration
No. of Times Completed 24.00
Down Time
Must Be Down No

Equipment No.	Meter Name	Last Performed At

Task Instructions

Instruction Code INS-39 **Date Last Edited** 5/23/1997

WARNING: Entry into baghouse cell requires complaince with Plant Safety Procedures regarding all applicable lockout/tagout and confined entry procedures. Ensure that hopper heater breakers are open and locked out prior to entering cells.

* INSPECT CELLS #1, #2, #3, #4, #5, and #6.

NOTE: Persons working inside baghouse cells must have a safety watch at the door and be in radio contact with the control room at all times.

1. Contact the Control Room and verify that the cell is not in the cleaning cycle.

2. Pour one gallon of Visalite powder into the Baghouse cell inspection port using a funnel to minimize spillage.

3. Isolate each baghouse cell, one at a time if boiler is on-line, as per Baghouse Visulite procedure. Inspect for leaking bags, check tube sheet, casing walls, and door for holes, cracks, corrosion. Also inspect door gasket for proper sealing, replace as needed.

4. Replace bags, have all holes/cracks repaired and vacuum tube sheet as needed. Lubricate door hinges using multi-purpose grease, then close and secure access door. NOTE: Do not attach insulation door at this time.

5. Remove lower hopper keystone access doors and inspect for ash build-up and bridging. Clean ash off inlet duct cover and inlet damper area. Ensure hopper is clear of ash, planks, lights, etc. Reinstall keystone door. NOTE: Do not attach insulation door at this time.

6. Put cell on-line as per Baghouse Visulite procedure. Inspect inlet damper for smooth open/close operation and that pull chain is in good condition. Have Control Room operator cycle outlet damper and inspect for smooth open/close operation and proper indication on WDPF, also check valve operator for air leaks. Check upper and lower access doors for leakage with cell on-line, tighten down if needed. Install upper and lower insulation doors.

7. Inspect insulation on compartment and hopper areas. Report any areas that will need replaced.

8. Clean up ash and excess visulite in baghouse dike area.

9. Complete a bag replacement report for all cells and submit to the Environmental Manager and put a copy in Control Room binder.

NOTE:
Check proper box that indicates Visalite Test was done and submit report even if bags were not replaced (This is to document Visalite test was completed for PADER).

NOTE:
Remove tivac suits after completing work and despose of in plastic bag, place bag into the pit.

Use another plastic bag for transport of old bags, remove old bags and place on ash pile. Place plastic bag into the pit.

NOTE: SHOWER AFTER COMPLETION OF THIS PM, OSHA REQUIRED!

Forward original completed PM form to the Enviromental Manager and one copy to the Operations Manager.

References: Joy Technologies Inc., binder #249

Comments:_____

Task Report (Full List)

Task No. INS-32
Description 3 MO BAGHOUSE OPERATIONAL CHECK
Assigned To I&C
WO Type PM
Expense Class

Priority 3.00
Multitask No
In-service Task Yes

Craft	Crew Size	Estimated Labor Hours
IB	1.00	2.00

Equipment No. 1-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #1
Location APC 1
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 3/11/2005
Next Due Date 6/11/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 28.00
Down Time
Must Be Down No

Equipment No. 2-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #2
Location APC 1
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 12/ 3/2004
Next Due Date 3/ 3/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 27.00
Down Time
Must Be Down No

Equipment No. 3-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #3
Location APC 3
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 12/ 3/2004
Next Due Date 3/ 3/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 26.00
Down Time
Must Be Down No

Equipment No.	Meter Name	Last Performed At

Task Instructions

Instruction Code INS-32 Date Last Edited 2/21/2005

Perform the following electrical and operational checks:

Caution: Use extreme caution when working around live electrical systems. Use proper grounding equipment where applicable.

1. Check and record air pressure at accumulator, (65 psi max.). Inspect vessel, expansion joints, and valves for leaks and proper alignment. Accumulator pressure _____.

2. Watch each cell go through a cleaning cycle. Check pilot solenoid and pulse valves for proper operation. Inspect air hoses for damage and leaks.

3. Inspect for ash leakage around unit hoppers including SDA, make repairs as needed or ensure a work order is submitted to correct problem as soon as conditions permit.

4. Check setting of hopper heater thermostats, ensure settings are at 300 deg.f.

5. Check resistance of hopper heaters.

6. Ensure that all heater hopper breakers are in the closed position.

NOTE: RETURN COMPLETED FILLED OUT FORMS TO THE ENVIRONMENTAL MANAGER. TO BE FILED WITH THE EPA.

Task Report (Full List)

Task No. INS-39
Description 3 MO BAGHOUSE INSPECTION
Assigned To OPERATION
WO Type PM
Expense Class

Priority 3.00
Multitask No
In-service Task Yes

Craft	Crew Size	Estimated Labor Hours
AO	2.00	12.00

Equipment No. 1-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #1
Location APC 1
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 1/28/2005
Next Due Date 4/ 2/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Fixed
Task Duration
No. of Times Completed 33.00
Down Time
Must Be Down No

Equipment No. 2-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #2
Location APC 1
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 2/14/2005
Next Due Date 4/ 2/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Fixed
Task Duration
No. of Times Completed 33.00
Down Time
Must Be Down No

Equipment No. 3-BG-ASYS
Equipment Description SYSTEM BAGHOUSE #3
Location APC 3
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 1/ 7/2005
Next Due Date 4/ 2/2005
Tenant

Perform Every 3.00 Month(s)
Schedule Type Fixed
Task Duration
No. of Times Completed 33.00
Down Time
Must Be Down No

Equipment No.	Meter Name	Last Performed At

Task Instructions

Instruction Code INS-39 Date Last Edited 7/24/2004

WARNING: Entry into baghouse cell requires compleince with Plant Safety Procedures regarding all applicable lockout/tagout and confined entry procedures. Ensure that hopper heater breakers are open and locked out prior to entering cells.

* INSPECT CELLS #1, #2, #3, #4, #5, and #6.

WARNING: Entry into a cell is prohibited unless there is a second person in the immediate area. The cell access door must be locked open prior to entry and must have radio communications with the control room.

NOTE: Standard lockout/tagout for this evolution shall be the inlet damper shut, electrical disconnect close/off, outlet damper cylinder locked shut using attached chain and hopper heater open. Refer to associated JSA.

1. Contact the Control Room and verify that the cell is not in the cleaning cycle.

2. Pour 1 large scoop of Visalite powder into the Baghouse cell inspection port.

3. Isolate each baghouse cell, one at a time if boiler is on-line, as per Baghouse Visulite procedure. Inspect for leaking bags, check tube sheet, casing walls, and door for holes, cracks, corrosion. Also inspect door gasket for proper sealing, replace as needed. Inspect outlet damper linkage locking device for damage, cracks and/or wear, repair/replace as needed.

4. Replace bags, have all holes/cracks repaired and vacuum tube sheet as needed. Lubricate door hinges using multi-purpose grease, then close and secure access door. NOTE: Do not attach insulation door at this time.

5. Remove lower hopper keystone access doors and inspect for ash build-up and bridging. Clean ash off inlet duct cover and inlet damper area. Ensure hopper is clear of ash, planks, lights, etc. Reinstall keystone door. NOTE: Do not attach insulation door at this time.

6. Put cell on-line as per Baghouse Visulite procedure. Inspect inlet damper for smooth open/close operation and that pull chain is in good condition. Have Control Room operator cycle outlet damper and inspect for smooth open/close operation and proper indication on WDPF, also check valve operator for air leaks. Check upper and lower access doors for leakage with cell on-line, tighten down if needed. Install upper and lower insulation doors.

7. Inspect insulation on compartment and hopper areas. Report any areas that will need replaced.

8. Clean up ash and excess visulite in baghouse dike area.

9. Complete a bag replacement report for all cells and submit to the Environmental Manager and put a copy in Control Room binder.

NOTE:
Check proper box that indicates Visalite Test was done and submit report even if bags were not replaced (This is to document Visalite test was completed for PADER).

NOTE:
Remove tivac suits after completing work and despose of in plastic bag, place bag into the pit.

Use another plastic bag for transport of old bags, remove old bags and place on ash pile. Place plastic bag into the pit.

NOTE: SHOWER AFTER COMPLETION OF THIS PM, OSHA REQUIRED!

Forward original completed PM form to the Enviromental Manager and one copy to the Operations Manager.

References: Joy Technologies Inc., binder #249

Comments: _____

Task Report (Full List)

Task No. INS-04
Description MONTHLY SLURRY PUMP INSPECTION
Assigned To MAINTENANCE
WO Type PM
Expense Class

Priority 3.00
Multitask Yes
In-service Task Yes

Craft	Crew Size	Estimated Labor Hours
MC	1.00	4.00

Equipment No. LS-PMP-1
Equipment Description PUMP LIME SLURRY 1
Location LIME
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 3/ 7/2005
Next Due Date 4/ 7/2005
Tenant

Perform Every 1.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 82.00
Down Time
Must Be Down No

Equipment No. LS-PMP-2
Equipment Description PUMP LIME SLURRY 2
Location LIME
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 3/ 7/2005
Next Due Date 4/ 7/2005
Tenant

Perform Every 1.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 82.00
Down Time
Must Be Down No

Equipment No. LS-PMP-3
Equipment Description PUMP LIME SLURRY 3
Location LIME
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 3/ 7/2005
Next Due Date 4/ 7/2005
Tenant

Perform Every 1.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 82.00
Down Time
Must Be Down No

Equipment No. LS-PMP-4
Equipment Description PUMP LIME SLURRY 4
Location LIME
Sub-location 1 -
Sub-location 2 -
Sub-location 3 -
Date Last Performed 3/ 7/2005
Next Due Date 4/ 7/2005
Tenant

Perform Every 1.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed 82.00
Down Time
Must Be Down No

Equipment No.	Meter Name	Last Performed At

Task Instructions

Instruction Code INS-04 Date Last Edited 12/15/2001

WARNING: USE EXTREME CAUTION WHEN WORKING AROUND ROTATING EQUIPMENT. AVOID BREATHING LIME DUST. SLAKED LIME IS HOT. ALWAYS WEAR PROPER PROTECTIVE EQUIPMENT WHEN WORKING AROUND LIME AND SLURRY.

A. INSPECT PUMP. GREASE MOTOR BEARING. AND CHECK OIL LEVEL OR GREASE ZERKS WHERE APPLICABLE.

B.____ CHECK SUCTION AND DISCHARGE VALVES FOR PROPER ALIGNMENT. CLEAN AND CYCLE VALVES ONE TURN CLOSE AND BACK OPEN TO CHECK FREEDOM OF MOVEMENT.

C.____ NOTIFY CONTROL ROOM. STOP PUMP, CHECK BELT FOR WEAR AND PROPER TENSION. REPLACE AS NEEDED (LOTO REQUIRED). RESTART PUMP.

D.____ OBSERVE PACKING GLAND LEAK-OFF, SEAL WATER PRESSURE, AND PUMP CONNECTIONS HOSES AND HOSE CLAMPS FOR LEAKS.

E.____ CLEAN PUMP AND MOTOR. (SEE WARNING) STOP PUMP WHILE WORKING AROUND MOTOR AND PUMP SHAFTS. NOTIFY CONTROL ROOM PRIOR TO STOPPING PUMPS. (LOTO REQUIRED).

NOTE: RETURN COMPLETED FILLED OUT FORMS TO THE ENVIRONMENTAL MANAGER.

Task Report (Full List)

Task No. LU-014
Description
Assigned To
WO Type
Expense Class

Priority 3.00
Multitask No
In-service Task No

Craft	Crew Size	Estimated Labor Hours
MB	1.00	2.00

Equipment No. BG-COMP-1
Equipment Description COMPRESSOR APC NORTH 1
Location APC 1
Sub-location 1 NORTH #1
Sub-location 2 -
Sub-location 3 -
Date Last Performed 10/11/1996
Next Due Date 4/11/1997
Tenant

Perform Every 6.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed
Down Time
Must Be Down No

Equipment No. BG-COMP-2
Equipment Description COMPRESSOR APC SOUTH 2
Location APC 1
Sub-location 1 SOUTH #2
Sub-location 2 -
Sub-location 3 -
Date Last Performed 10/11/1996
Next Due Date 4/11/1997
Tenant

Perform Every 6.00 Month(s)
Schedule Type Floating
Task Duration
No. of Times Completed
Down Time
Must Be Down No

Equipment No.	Meter Name	Last Performed At

Task Instructions

Instruction Code LU-014 Date Last Edited 11/24/1996

*** CAUTION ***
THE FOLLOWING CHECKS MUST BE MADE WITH THE UNIT TAGGED OUT.

TOOLS: STRAP WRENCH
10" PIPE WRENCH
9/16 COMBINATION WRENCH
15/16 COMBINATION WRENCH (FOR SEPARATOR REMOVEL)

1.____ CHANGE THE OIL SEPARATOR WHEN THE DIFFERENTIAL REACHES 10PSI.

2.____ CHANGE OIL FILTER ELEMENT, PART # BG-27-0002

3.____ DRAIN AND REPLACE OIL. (AECO 800) NOTE: SUMP CAPACITY 6 GAL.

4.____ DRAIN THE MOISTURE TRAP.

5.____ CHECK FOR DIRT ACCUMULATION ON OIL COOLER, AFTERCOOLER CORE FACES AND ON THE COOLING FAN.

6.____ CHECK BELTS FOR CRACKS, EXCESSIVE WEAR, AND PROPER TENSION.

NOTE: PROPER TENSION 5/16" DEFLECTION AT 3.2 TO 4.6 FORCE POUNDS.

7.____ REMOVE AND CLEAN AIR FILTER. IF FILTER IS EXCESSIVELY CLOGGED REPLACE

8.____ CHECK DESICANT IN APC AIR DRYERS. IF FOULED REPLACE AS NEEDED.

COMMENTS:

Continuous Emissions Monitoring
Operational Procedures

High Opacity

Immediate Actions for High Opacity

If opacity is noted to be averaging 2% higher the normal or a spike of a magnitude grater than 5% is noted take the following actions.

Step No.	Description
1	Ensure affected baghouse is in the ONLINE cleaning mode
2	Start a ten minute trend of opacity on the affected unit
3	Take baghouse cell 1 out of service and close the inlet and outlet dampers
4	Observe the trend started in step 2 for three minuets. If opacity returns to normal tag out the isolated cell and generated work order to have cell inspected. If opacity does not return to normal proceed to step 5
5	Open inlet and outlet dampers of the isolated cell.
6	Repeat step 3,4,and 5 on each subsequent cell until malfunctioning cell is identified.
	Note: If more than 2 cells are isolated at the same time boiler load should be reduced to maintain a DP 7 inwc or less across the baghouse

High SO2

Immediate Actions for High SO2

If SO2 is noted to be averaging higher the normal or a spike of a magnitude grater than 30 PPM is noted take the following actions.

Step No.	Description
1	Ensure that lime concentration is between 15% and 20%
2	Manually increase output of the lime injection pump to 100%
3	Inspect each spray nozzle for even spray pattern and clean as necessary
4	Decrease SDA temperature control set point by 10 Deg.
5	Ensure Slurry circulation pump discharge pressure is greater than 90 PSI
	Note: If SO2 levels remain high decrease boiler load until SO2 level drop below 30 PPM

Attachment 14.

Compliance Assurance Monitoring (CAM) Rule
Applicability Analysis

40 CFR 64, known as the Compliance Assurance Monitoring (or, CAM) Rule requires Title V sources to determine applicability during the Title V permit renewal process. A CAM Plan is required if all of the following conditions exist for each pollutant-specific emission unit at a major facility:

(1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt;

(2) The unit uses a control device to achieve compliance with any such emission limitation or standard; and

(3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

40 FR 64.2(b) provides for the following exemptions from CAM applicability:

(i) Emission limitations or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.

(ii) Stratospheric ozone protection requirements under title VI of the Act.

(iii) Acid Rain Program requirements pursuant to sections 404, 405, 406, 407(a), 407(b), or 410 of the Act.

(iv) Emission limitations or standards or other applicable requirements that apply solely under an emissions trading program approved or promulgated by the Administrator under the Act that allows for trading emissions within a source or between sources.

(v) An emissions cap that meets the requirements specified in §70.4(b)(12) or §71.6(a)(13)(iii) of this chapter.

(vi) Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1. The exemption provided in this paragraph (b)(1)(vi) shall not apply if the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (such as a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).

Table 1 summarizes the above applicability criteria and appropriate exemptions for each pollutant specific emissions unit at the Bay County Resource Recovery Facility. As shown in Table 1, all pollutants, except for fluorides (Fl), beryllium (Be), sulfuric acid mist (SAM) and volatile organic compounds (VOCs) have post-1990 emissions standards and are exempt from the CAM rule. For the other pollutants, their pre-control potential annual emissions are less than major source thresholds; therefore, the CAM rule is not applicable. Therefore, CAM plan is not required for this Facility.

Table 1
Bay County Resource Recovery Facility
Compliance Assurance Monitoring (CAM) Rule Applicability Analysis

E.U. ID No.	Description	Pollutant Name	Emission Limitation	Equivalent Controlled Emissions[1] (TPY)	Equivalent Uncontrolled Emissions[2] (TPY)	Regulatory Citation	Subject to Emission Limitation?	Control Device	Precontrol Emissions > Major Source Treshold?	Post 1990 Standard?	Acid Rain Source	Municipal Peaking Unit?	CAM APPLICABLE?
001	MWC Unit 1	PM and PM_{10}	27 mg/dscm	9.0	901	40 CFR 60 Subpart BBBB	YES	Baghouse	YES	YES	NO	NO	NO
002	MWC Unit 2	NO_x	170 ppm	256	256	40 CFR 60 Subpart BBBB	YES	--	YES	YES	NO	NO	NO
		CO	250 ppm	97.2	97.2	40 CFR 60 Subpart BBBB	YES	--	NO	YES	NO	NO	NO
		Cd	0.040 mg/dscm	1.50E-02	1.50E-02	40 CFR 60 Subpart BBBB	YES	--	NO	YES	NO	NO	NO
		Hg	0.080 mg/dscm, 85% control	1.19E-01	0.79	40 CFR 60 Subpart BBBB	YES	Carbon Injection	NO	YES	NO	NO	NO
		Pb	0.49 mg/dscm	1.65E-01	1.65E-01	40 CFR 60 Subpart BBBB	YES	--	NO	YES	NO	NO	NO
		Fl	0.15 lb/hr	0.657	13.14	PSD-FL-129	YES	Spray Dryer Absorber	NO	NO	NO	NO	NO
		Be	0.000005 lb/hr	2.20E-05	2.20E-05	PSD-FL-129	YES	--	NO	NO	NO	NO	NO
		VOC	7.1 lb/hr	31.1	31.1	PSD-FL-129	YES	--	NO	NO	NO	NO	NO
		SO_2	44 ppm, 75% control	39.2	392	40 CFR 60 Subpart BBBB	YES	Spray Dryer Absorber	YES	YES	NO	NO	NO
		HCl	31 ppm, 95% control	15.7	314	40 CFR 60 Subpart BBBB	YES	Spray Dryer Absorber	YES	YES	NO	NO	NO
		PCDD/PCDF	30 ng/dscm	1.00E-05	1.00E-05	40 CFR 60 Subpart BBBB	YES	--	NO	YES	NO	NO	NO
		SAM	1.5 lb/hr	6.6	65.7	PSD-FL-129	YES	Spray Dryer Absorber	NO	NO	NO	NO	NO
		Opacity	10%	N/A	N/A	40 CFR 60 Subpart BBBB	YES	Baghouse	YES	YES	NO	NO	NO

Notes:
[1]Bay County Title V Permit No. 0050031-008-AV
[2]Assumed control efficiencies: Baghouse 99%, Scrubber: 90% for SO_2, HF and SAM and 95% for HCl, and carbon injection: 85%