AIRPROD

6D-188 8/7 Harper
Due 8/21

Air Products and Chemicals, Inc.
Escambia Plant
P.O. Box 467
Pensacola, FL 32592-0467
Telephone (904) 994-5511

AIR PRODUCTS

2 August 1996

EPA Region IV
Director, Air, Pesticides, and Toxics Division
345 Courtland Street, N.E.
Atlanta, Ga 30365

Dear Sir or Madame:

Re: Approval of Intended Construction

Enclosed please find a State of Florida construction permit application to construct a new Methylamines production facility at the Air Products and Chemicals, Inc. site located at 4575 US Highway 90 East in Pace, Florida.

The new Methylamines production facility will be subject to 40CFR63, Subparts F, G, and H commonly referred to as the Hazardous Organic NESHAP or the HON. Therefore, this request for approval of construction is submitted as required under 40CFR63.6(d)(5). The new Methylamines facility is not itself a major source of air pollution, however, the Air Products' Pace site as a whole is a major source. As a result of new state of the art cogeneration facilities being included as part of this project, there will be a net reduction in actual emissions of approximately 87,000 lb/yr as described in Attachment APCI 6, Supplemental Information for Construction Permit Application, due to removing one old boiler from service and minimizing the use of two others.

Included in the attached permit application are emission estimates for each emission unit, applicable regulations for each emission unit, a flow diagram (APCI 3), and a description of each potential hazardous air pollutant emission source and how it is being controlled (APCI 12).

Construction is scheduled to begin in November of 1996 and be complete by August 1998.

Since this project is extremely important to the economic viability of both the Air Products Pace site and the corporation as a whole, I will gladly meet with you to discuss this project in person if it will facilitate the approval of construction process. If you require further information or wish to discuss the project, please call me at 904-995-5357.

Sincerely,

T. R. Knepper
T. R. Knepper, P. E.
Principal Process Engineer

Enclosure

AIR PRODUCTS

ESCAMBIA PLANT
PACE, FL

#4 METHYLAMINES
CONSTRUCTION PERMIT
AUGUST 1996

John Slaney
904-488-0114

Air Products and Chemicals, Inc.

Application for Approval of Construction

#4 Methylamines

August 1996

8/2/96
1130004-006-AC
0072

Department of
Environmental Protection

DIVISION OF AIR RESOURCES MANAGEMENT

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Identification of Facility Addressed in This Application

1. Facility Owner/Company Name : Air Products and Chemicals, Inc.
2. Site Name : Escambia Plant
3. Facility Identification Number : 1130004 [ ] Unknown
4. Facility Location : Air Products and Chemicals Escambia Plant Street Address or Other Locator : 4575 HWY 90 East City : Pace County : Santa Rosa Zip Code : 32571-
5. Relocatable Facility? [ ] Yes [X] No 6. Existing Permitted Facility? [X] Yes [ ] No

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

Owner/Authorized Representative or Responsible Official

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

Name : Brian A. Gebbia
Title : Plant Manager

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

Organization/Firm : Air Products and Chemicals, Inc.
Street Address : 4575 HWY 90 East
City : Pace
State : FL Zip Code : 32571-____

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

Telephone : (904)995-5208 Fax : (904)995-5226

4. Owner/Authorized Representative or Responsible Official Statement :

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

Brian A. Gebbia
Signature

1 Aug 96
Date

* Attach letter of authorization if not currently on file.

Scope of Application

Emissions Unit ID	Description of Emissions Unit	Permit Type
005	Amines Flare	AC1F
No Id	#4 Amines Gas Fired Heater Stack	AC1E
No Id	#4 Methylamines Process Vents	AC1F
No Id	#4 Methylamines Env. Column Bottoms	AC1F
No Id	#4 Methyls HON Maintenance Water	AC1F
No Id	#4 Methyls HON Equipment Leaks	AC1F
No Id	#4 Methyls Non-HON Equipment Leaks	AC1E
No Id	#4 Methylamines Group 1 Storage	AC1F
No Id	#4 Methylamines NSPS Storage Tanks	AC1F
No Id	#4 Methyls HON Shutdown Losses	AC1F
No Id	Cogen 1, 2, &3	AC1F
No Id	#4 Methylamines Cooling Tower	AC1E
No Id	# 4 Methylamines Heat Exchangers	AC1F

Purpose of Application and Category

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

This Application for Air Permit is submitted to obtain :

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

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

Current construction permit number :

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

Operation permit to be renewed :

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

Current construction permit number :

Operation permit to be revised :

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

Operation permit to be revised/corrected :

[ ] Air operation permit revision for a Title V source for reasons other than construction or

modification of an emissions unit.

Operation permit to be revised :

Reason for revision :

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

This Application for Air Permit is submitted to obtain :

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

Current operation/construction permit number(s) :

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

Operation permit to be renewed :

[ ] Air operation permit revision for a synthetic non-Title V source.

Operation permit to be revised :

Reason for revision :

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

This Application for Air Permit is submitted to obtain :

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

Current operation permit number(s), if any :

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

Current operation permit number(s) :

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

Application Processing Fee

Check one :

[X] Attached - Amount : $5500.00 [ ] Not Applicable.

Construction/Modification Information

1. Description of Proposed Project or Alterations :

   This project constructs a new state of the art methylamines production facility. The facility will include a fired heater, reactor, distillation columns, heat exchangers, storage tanks, and a new cooling tower.

   Additionally, to supply the steam needs of the new facility, an old boiler will be replaced with three new combined cycle cogeneration units, resulting in a net reduction in actual NOx emissions of approximately 131,000 lb/yr and an overall emission reduction taking into account increases in VOC and particulate emissions from the new methylamines facility will be approximately 87,000 lb/yr.

2. Projected or Actual Date of Commencement of Construction : 01-Jan-1997

3. Projected Date of Completion of Construction : 01-Jan-1902

Professional Engineer Certification

1. Professional Engineer Name : Patrick L. Byrne
   Registration Number : 22751

2. Professional Engineer Mailing Address :

   Organization/Firm : Baskerville-Donovan Inc.
   Street Address : 316 S. Baylen Street
   City : Pensacola State : FL Zip Code :

3. Professional Engineer Telephone Numbers :
   Telephone : (904)438-9661 Fax : (904)433-6761

4. Professional Engineer Statement :

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

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

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

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

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

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ] if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions 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

8/2/96
Date

* Attach any exception to certification statement.

Application Contact

1. Name and Title of Application Contact :

Name : T. R. Knepper, P. E.
Title : Principal Process Engineer

2. Application Contact Mailing Address :

Organization/Firm : Air Poducts and Chemicals, Inc.
Street Address : 4575 HWY 90 East
City : Pace
State : FL Zip Code : 32571-____

3. Application Contact Telephone Numbers :

Telephone : (904)995-5357 Fax : (904)995-5363

Application Comment

This project will reduce actual NOx emissions by 131,000 lb/yr. A net reduction in actual air emissions of 87, 000 lb/yr will be realized, taking into account VOC and particulate emission increases from the new plant. No significant actual or potential emission increases will be realized for any pollutant.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility, Location, and Type

1. Facility UTM Coordinates : Zone : East (km) : North (km) :			
2. Facility Latitude/Longitude : Latitude (DD/MM/SS) : 30 34 5 Longitude (DD/MM/SS) : 87 9 5			
3. Governmental Facility Code : 0	4. Facility Status Code : A	5. Facility Major Group SIC Code : 28	6. Facility SIC(s) :
7. Facility Comment :			

Facility Contact

1. Name and Title of Facility Contact : R. H. Sroufe Environmental Superintendent
2. Facility Contact Mailing Address : Organization/Firm : Air Products and Chemicals, Inc. Street Address : 4575 HWY 90 East City : State : FL Zip Code : 32571-____
3. Facility Contact Telephone Numbers : Telephone : (904)995-5349 Fax : (904)995-5363

Facility Regulatory Classifications

1. Small Business Stationary Source?	N
2. Title V Source?	Y
3. Synthetic Non-Title V Source?	N
4. Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	Y
5. Synthetic Minor Source of Pollutants Other than HAPs?	N
6. Major Source of Hazardous Air Pollutants (HAPs)?	Y
7. Synthetic Minor Source of HAPs?	N
8. One or More Emissions Units Subject to NSPS?	Y
9. One or More Emission Units Subject to NESHAP?	Y
10. Title V Source by EPA Designation?	N
11. Facility Regulatory Classifications Comment : 10. "Part 70" source because major source subject to NESHAPS.	

B. FACILITY REGULATIONS

Rule Applicability Analysis

NA

NOTE: Facility regulations do not print correctly but start over and over again several times. Therefore, the set of facility regulations which was submitted with the Title V application is used.

B. FACILITY REGULATIONS

List of Applicable Regulations

~~FAC62-2.200, Air Pollution~~ Repealed

FAC62-4.001, Scope of Part 1

FAC62-4.020, Definitions

FAC62-4.021, Transferability of Definitions

FAC62-4.030, General Prohibitions (requirements)

FAC62-4.040, Exemptions

FAC62-4.050, Procedure to Obtain Permits (requirements)

FAC62-4.055, Permit Processing

FAC62-4.060, Consultation

FAC62-4.070, Standards for Issuing or Denying

FAC62-4.080, Modification of Permit Conditions

FAC62-4.090, Renewals (requirements)

FAC62-4.100, Suspension and Revocation

FAC62-4.110, Financial Responsibility

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-4.120, Transfer of Permits (requirements)

FAC62-4.130, Plant Operation--Problems (requirements)

FAC62-4.150, Review

FAC62-4.160, Permit Conditions (requirements)

FAC62-4.200, Other Types of Permits

FAC62-4.210, Construction Permits (requirements)

FAC62-4.220, Op. Permits for New Sources (requirements)

FAC62-103.150(2)(a), Public Notice (requirements)

FAC62-210.100, Purpose and Scope

FAC62-210.200, Definitions

FAC62-210.300, Permits Required (requirements)

FAC62-210.350, Public Notice and Comment (requirements)

FAC62-210.360, Administrative Permit Corrections (requirements)

FAC62-210.370, Reports (requirements)

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-210.500, Air Quality Models

FAC62-210.550, Stack Height Policy

FAC62-210.650, Circumvention (requirements)

FAC62-210.700, Excess Emissions (requirements)

FAC62-210.900, Forms and Instructions

FAC62-210.900(1), Long Form--Air Permit

FAC62-210.900(5), Annual Operating Report Form

FAC62-210.980, Severability

FAC62-212.100, Purpose and Scope

~~FAC62-212.200, Definitions~~ Renumbered - Combined w/210.200

FAC62-212.300, Gen. Preconstruction Review (requirements)

~~FAC62-212.700, Emission Unit Reclassification~~ Renumbered

FAC62-213.100, Op. Permits for Major Sources

~~FAC62-213.200, Definitions~~ Renumbered - Combined w/210.200

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-213.205, Annual Licensing Fee (requirements)

~~FAC62-213.210, Application Processing Fee~~ Combined with 213.205

~~FAC62-213.220, Operation License Fee Acct.~~ Repealed

FAC62-213.400, Permits and Revisions Required (requirements)

FAC62-213.410, Changes Without Permit Revision (requirements)

FAC62-213.412, Immediate Implementation (requirements)

FAC62-213.420, Permit Applications (requirements)

FAC62-213.430, Permit Issuance, Renewal, Revision (requirements)

FAC62-213.440, Permit Content (requirements)

FAC62-213.450, Permit Review by EPA

FAC62-213.460, Permit Shield

FAC62-213.900, Forms and Instructions

FAC62-256.100, Open Burning

FAC62-256.200, Definitions

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-256.300, Prohibitions (requirements)

FAC62-256.500, Land Clearing (requirements)

FAC62-256.600, Ind., Comm., Mun., and Research (requirements)

FAC62-256.700, Open Burning Allowed (requirements)

FAC62-256.800, Effective Date

FAC62-257.100, Asbestos Fee

FAC62-257.200, Definitions

~~FAC62-257.300, Applicability~~ Combined w/257.301

FAC62-257.301, Notification and Fee (requirements)

FAC62-257.350, Nat'l Emission Std. for Asbestos (requirements)

FAC62-257.400, Fee Schedule (requirements)

FAC62-257.401, Enforcement

FAC62-257.900, Form

FAC62-273.200, Air Pollution Episodes--Definitions

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-273.300, Air Pollution Episodes (requirements)

FAC62-273.400, Air Alert (requirements)

FAC62-273.500, Air Warning (requirements)

FAC62-273.600, Air Emergency (requirements)

FAC62-275.100-800, Air Quality Areas

FAC62-296.100, Stationary Sources--RACT

~~FAC62-296.200, Definitions~~ -- Combined w/210.200

FAC62-296.310, General Particulate Std. (requirements)

FAC62-296.320, Gen. Pollutant Limiting Stds. (requirements)

FAC62-296.400, Specific Emission Limiting Stds. (requirements)

~~FAC62-296.800, NSPS~~ Moved to 204.800

~~FAC62-296.820, New NESHAPs (requirements)~~ Moved to 204.800

FAC62-297.100, Monitoring

~~FAC62-297.200, Definitions~~ Combined w/210.200

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-297.310, General Test Requirements (requirements)

FAC62-297.400, EPA Methods Adopted

FAC62-297.401, EPA Test Methods

40CFR61 Sbpt A, General Requirements (requirements)

40CFR61.140, Asbestos Applicability

40CFR61.141, Definitions

40CFR61.145, Std. for Demolition/Renovation (requirements)

40CFR61.148, Std. for Insulation Matl's (requirements)

40CFR61.150, Asbestos Waste Disposal (requirements)

40CFR61.152, Air Cleaning (requirements)

40CFR61.153, Reporting (requirements)

40CFR61.154, Std. for Active Disposal Sites (requirements)

40CFR61.156, Cross Reference

40CFR61.157, Delegation of Authority

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR61.342, Benzene Waste Ops Applicability

40CFR61.341, Definitions

40CFR61.342, General Stds

40CFR61.355, Test Methods (requirements)

40CFR61.356, Recordkeeping (requirements)

40CFR61.357, Reporting (requirements)

40CFR63.1(a)(1)-(a)(3), Applicability

40CFR63.1(a)(12)-(a)(14), Postmark Requirements (requirements)

40CFR63.1(b)(2), Applicability

40CFR63.2, Definitions

40CFR63.5(a)(1), (a)(2), (b)(1); Construction/Reconstruction

40CFR63.5(b)(3)-(b)(6), Construction/Reconstruction (requirements)

40CFR63.5(d)(1)(ii), Construction/Reconstruction (requirements)

40CFR63.5(d)(3)-(d)(4), Construction/Reconstruction (requirements)

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR63.5(e)-(f), Construction/Reconstruction

40CFR63.6(b)(3), Compliance Dates (requirements)

40CFR63.6(i)(4)(i)(A), Extension of Compliance (requirements)

40CFR63.6(i)(6), Request for Compliance Extension (requirements)

40CFR63.6(i)(7)-(i)(14), Request for Compliance Extension

40CFR63.6(i)(16), Compliance Extensions

40CFR63.6(j), Exemption from Compliance

40CFR63.7(a)(3), Performance Testing

40CFR63.7(h)(5), Waiver Authority

40CFR63.8(f)(4)(ii), Request for Alternative Monitoring Method (requirements)

40CFR63.9(a), Notifications

40CFR63.9(b)(4), Initial Notifications (requirements)

40CFR63.9(b)(5), Notification of Construction or Reconstruction (requirements)

40CFR63.9(c), Request for Compliance Extension

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR63.9(d), Notification of Requirements (requirements)

40CFR63.9(i), Adjustment to Time Periods (requirements)

40CFR63.10(a), Recordkeeping and Reporting

40CFR63.10(d)(4), General Reporting Requirements (requirements)

40CFR63.10(f), Waiver of Recordkeeping and Reporting (requirements)

40CFR63.12, State Authority and Delegations (requirements)

40CFR63.13-63.15, More Information

40CFR63.50-63.69, MACT Hammer (requirements)

40CFR63.100, HON Applicability (requirements)

40CFR63.101, Definitions

40CFR63.102, General Stds. (requirements)

40CFR63.103, Gen Compliance, REcordkeeping and Reporting (requirements)

40CFR63.106, Delegation of Authority

40CFR63.110(a), Applicability

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR63.111, Definitions

40CFR63.112(a)-(e), Emission Std. (requirements)

40CFR63.121, Alternative Means (requirements)

40CFR63.123(b), Tanks Recordkeeping (requirements)

40CFR63.132(a), Waste Water at New Sources

40CFR63.151, Initial Notification and Implementation Plan (requirements)

40CFR63.152, Gen. Reporting and Continuous Records (requirements)

40CFR63.182, Reporting (requirements)

40CFR66.13, Duties of Source Owner (requirements)

40CFR66.21, Calculation of Penalty (requirements)

40CFR66.22, Contracting Out Calculation

40CFR66.23, Interim Recalculation

40CFR66.31, Exemptions Based On Order

40CFR66.32, De Minimus Exemptions

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR66.33, De Minimus Exemptions--Malfunction

40CFR66.34, Termination of Exemptions (requirements)

40CFR66.35, Revocation of Exemptions (requirements)

40CFR66.41, Decision on Petitions

40CFR66.42, Procedure for Hearings

40CFR66.43, Submission of Penalty Calculation (requirements)

40CFR66.51, Action on Receipt...

40CFR66.53, Decisions on Petitions

40CFR66.54, Procedures for Hearing

40CFR66.61, Duty to Pay (requirements)

40CFR66.62, Method of Payment (requirements)

40CFR66.63, Non-Payment Penalty (requirements)

40CFR66.71, Determination of Compliance (requirements)

40CFR66.72, Additional Payment (requirements)

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR66.73, Petition for Reconsideration

40CFR66.74, Payment or Reimbursement (requirements)

40CFR66.81, Final Action

40CFR66.91, Applicability of Supplemental Rules

40CFR66.92, Commencement of Hearings

40CFR66.93, Time Limits

40CFR66.94, Presentation of Evidence

40CFR66.95, Decisions of the Presiding

40CFR68.1, Chemical Accident Prevention

40CFR68.3, Definitions

40CFR68.100, Substances Regulated--Purpose

40CFR68.115, Threshold Determinations

40CFR68.120, Petition Process

40CFR68.125, Exemptions

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR68.130, List of Substances

40CFR70.1(b), Requirement to Have a Permit (requirements)

40CFR70.2, Definitions

40CFR70.3, Applicability

40CFR70.5(a)-(d), Duty to Apply (requirements)

40CFR70.6, Permit Content

40CFR81.68, Air Quality Control Regions

40CFR81.310, Attainment Status (Fl)

40CFR81.407, Visibility--Class I Areas (Fl)

40CFR82.30, Servicing MVAC's

40CFR82.32, Definitions

40CFR82.34, Prohibitions (requirements)

40CFR82.42, Certification, Recordkeeping (requirements)

40CFR82.100, Labeling of Products

B. FACILITY REGULATIONS

List of Applicable Regulations

40CFR82.102, Applicability

40CFR82.104, Definitions

40CFR82.106, Warning Statements for Containers (requirements)

40CFR82.108, Placement of Warning Label (requirements)

40CFR82.110, Form of Label (requirements)

40CFR82.150, Appliance Recycling/Disposal

40CFR82.152, Definitions

40CFR82.154, Prohibitions (requirements)

40CFR82.156, Req'd Practices (requirements)

40CFR82.158, Std's for Recovery/Recycling Equipment (requirements)

40CFR82.160, Approved Equipement Testing Org's.

40CFR82.161(a)(5), Technician Certification (requirements)

40CFR82.162(c), Certification by Owners of Recovery Equip., (requirements)

40CFR82.166(i),(k),(l),(m), Recordkeeping and Reporting (requirements)

B. FACILITY REGULATIONS

List of Applicable Regulations
40CFR82.170-172, SNAP

40CFR82.174, SNAP--Prohibitions on Substitutes (requirements)

40CFR82.176-184, SNAP

40CFR265.178, Air Emission Std. for Hazwaste (requirements)

40CFR265.1080, Applicability

40CFR265.1081, Definitions

40CFR265.1082(a), Implementation Schedule (requirements)

40CFR265.1083(b), Gen. Std's (requirements)

40CFR265.1087, Containers (requirements)

40CFR265.1090(d),(g), Recordkeeping (requirements)

40CFR63.6(a), Compliance w/Standards Applicability

40CFR63.8(f)(1)-(f)(3), (f)(4)(ii), (f)(5)(i), (f)(5)(iii), Alternative Monitoring Methods

B. FACILITY REGULATIONS

List of Applicable Regulations

FAC62-103.155	Administrative Hearings
40CFR60.1	NSPS Applicability
40CFR60.2	NSPS Definitions
40CFR60.3	NSPS Units and Abbreviations
40CFR60.4	NSPS Addresses for Reporting
40CFR60.5	NSPS
40CFR60.6	NSPS
40CFR60.7	NSPS Notifications and Recordkeeping
40CFR60.8	Performance Tests
40CFR60.9	NSPS Availability of Information
40CFR60.10	NSPS State Authority
40CFR60.11	NSPS Compliance w/Standards, Maintenance
40CFR60.12	NSPS Circumvention
40CFR60.13	NSPS Monitoring Requirements
40CFR60.14	NSPS Modification
40CFR60.15	NSPS Reconstruction
40CFR60.16	NSPS Priority List
40CFR60.17	NSPS Incorporation by Reference
40CFR60.19	NSPS General Notification and Reporting

C. FACILITY POLLUTANTS

Facility Pollutant Information

1. Pollutant Emitted	2. Pollutant Classification
H115	A
VOC	A
CO	A
NOX	A
PM10	A
H179	A
T006	A
H073	B

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 1

1. Pollutant Emitted : H115
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : Methanol is subject to work practice standards under the HON. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 2

1. Pollutant Emitted : VOC
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : This includes HAP's which should not be counted twice. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 3

1. Pollutant Emitted : CO
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : No synthetic limits or work practice standards. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 4

1. Pollutant Emitted : NOX
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : NOx is limited in the Nitric Acid plants. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 5

1. Pollutant Emitted : PM10
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : Particulate matter is not subject to any unit specific work practice standard--just the general standard. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant ____6____

1. Pollutant Emitted : H179
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : Triethylamine is subject to work practice standards under the HON. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 7

1. Pollutant Emitted : T006
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : Ammonia emissions are limited only in the ammonium nitrate solutions plant. Classification A--Major

D. FACILITY POLLUTANT DETAIL INFORMATION

Facility Pollutant Information Pollutant 8

1. Pollutant Emitted : H073
2. Requested Emissions Cap : (lbs/hour) (tons/year)
3. Basis for Emissions Cap Code :
4. Facility Pollutant Comment : Dimethylformamide is subject to work practice standards under the HON. Classification B--Regulated, not major

D. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements for All Applications

1. Area Map Showing Facility Location :	APCI1
2. Facility Plot Plan :	APCI2
3. Process Flow Diagram(s) :	APCI3
4. Precautions to Prevent Emissions of Unconfined Particulate Matter :	APCI4
5. Fugitive Emissions Identification :	APCI5
6. Supplemental Information for Construction Permit Application :	APCI6

Additional Supplemental Requirements for Category I Applications Only

7. List of Proposed Exempt Activities :
8. List of Equipment/Activities Regulated under Title VI :
9. Alternative Methods of Operation :
10. Alternative Modes of Operation (Emissions Trading) :
11. Identification of Additional Applicable Requirements :
12. Compliance Assurance Monitoring Plan :
13. Risk Management Plan Verification :
14. Compliance Report and Plan :
15. Compliance Certification (Hard-copy Required) :

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 1

#4 Amines Gas Fired Heater Stack

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 1

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Amines Gas Fired Heater Stack		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment :		

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

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment :			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Rule Applicability Analysis

There are no regulations which apply specifically to this emission unit.

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 1

#4 Amines Gas Fired Heater Stack

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram : F-67009		
2. Emission Point Type Code : 1		
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) The #4 Amines fired heater stack is the only emission point in this emission unit.		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : There are no other emission units with this emission point in common.		
5. Discharge Type Code :		
6. Stack Height :	25	feet
7. Exit Diameter :	0.8	feet
8. Exit Temperature :	557	°F
9. Actual Volumetric Flow Rate :	186	acfm
10. Percent Water Vapor :	12.30	%
11. Maximum Dry Standard Flow Rate :	79	dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment :		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 1

#4 Amines Gas Fired Heater Stack

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing-Fuel Fired Equipment--Process Heaters--2800--Natural Gas	
2. Source Classification Code (SCC) : 3-01-900-03	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate :	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Maximum hourly rate is .009756 MMcf/hr (the field above will not accept this number); assumes 1025 Btu/scf.	

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

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX			NS
2 - SO2			NS
3 - VOC			NS

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

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **NOX**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 1.40 lb/hour 5.98 tons/year
4. Synthetically Limited? [X] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 3
8. Calculations of Emissions : SCC factors for natural gas process heaters are used to estimate maximum potential emissions based on maximum heater firing rate: NOx=(140 lb NOx/MMcf burned)*(.009756 MMcf gas burned/hour)* *(8760 hr/yr)*(1 ton/2000 lb)=5.98 ton NOx/yr
9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **SO2**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 0.01 lb/hour 0.03 tons/year
4. Synthetically Limited? [X] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 3
8. Calculations of Emissions : SCC factors for natural gas process heaters are used to estimate SOx emissions: SOx=(.6 lb SOx/MMcf gas burned)*(.009756MMcf gas burned/hr)* (8760 hr/yr)*(1 ton/2000 lb)=.026
9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted : **VOC**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 0.03 lb/hour 0.12 tons/year
4. Synthetically Limited? [X] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 3
8. Calculations of Emissions : SCC factors for natural gas process heaters are used to estimate VOC emissions: VOC=(2.8 lb VOC/MMcf gas burned)*(.009756 MMcf gas burned/hr)* (8760 hr/yr)*(1 ton/2000 lb)= .12
9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Pollutant Information Section 3

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype : VE
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance : VE determinations will be made prior to permit renewal to ensure compliance with the general standard.
5. Visible Emissions Comment :

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 1
#4 Amines Gas Fired Heater Stack

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There are no continuous monitoring systems required for this emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 1

#4 Amines Gas Fired Heater Stack

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM : C	SO2 : C	NO2 : C
4. Baseline Emissions :		
PM :	lb/hour	0.0000 tons/year
SO2 :	lb/hour	0.0000 tons/year
NO2 :		0.0000 tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 1

#4 Amines Gas Fired Heater Stack

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	APCI7
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 2

Amines Flare

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 2

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Amines Flare		
2. Emissions Unit Identification Number : 005 [ ] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : This project will approximately double the flow of process vent gas to the flare and therefore will approximately double the actual emissions from the flare. The potential emissions from the flare are based on existing NSPS flow and heating value restrictions, therefore, the potential emissions will not be affected.		

Emissions Unit Information Section 2
Amines Flare

Emissions Unit Control Equipment 1

1. Description : This emission unit IS air pollution control equipment.
2. Control Device or Method Code : 23

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

Emissions Unit Information Section 2
Amines Flare

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1974	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer :		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :	1963	acfm
4. Maximum Production Rate :		
5. Operating Capacity Comment : The maximum throughput rate is based on the NSPS control device requirement that the maximum exit velocity not exceed 60 ft/sec.		

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Amines Flare

Rule Applicability Analysis

List of Applicable Regulations

FAC62-296.820 New NESHAPS

FAC62-296.800 NSPS

40CFR60.115b(d) NSPS Reporting

40CFR60.18 NSPS Control Device Requirements

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2)

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b),(c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv), (2)(v), (f)(3) HON non-Opacity Stds

40CFR63.6(i)(1) HON Extension of Compliance

Emissions Unit Information Section 2
Amines Flare

List of Applicable Regulations

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

40CFR63.8(a)(1), (a)(4),(b)(1), (3)(1)(ii), (c)(1)(iii), (c)(2), (c)(3), (f)(1)-(f)(3) HON Monitorin

40CFR63.11 HON Control Devices

40CFR63.114(a)(2),(e) HON Vent Control Devices

40CFR63.116(a) HON Vent Control Devices

40CFR63.117(a)(1)-(a)(3),(a)(5),(f) HON Vent Control Devices

40CFR63.118(a),(f) HON Vent Control Devices

40CFR265.1088(b) RCRA Control Devices

40CFR265.1089(d),(e) RCRA Control Devices

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 2

Amines Flare

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	L-67101	
2. Emission Point Type Code :	2	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) The flare has only one emission point.		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Emission units which are controled by the flare include HON Group 1 Process vents from the #1 Methylamines and the Higher Amines plants, NSPS storage tanks in the #1 Methylamines plant, HON Group 1 and Group 2 storage tanks in the #1 Methylamines and Higher Amines plants as well as unregulated storage tanks in both #1 Methylamines and Higher Amines plants, and HON Group 1 and Group 2 loading in the Higher Amines plant. This project will add additional process vents to the flare from tankage, distillation, and loading in the #4 Methylamines plant.		
5. Discharge Type Code :	V	
6. Stack Height :	36	feet
7. Exit Diameter :	0.8	feet
8. Exit Temperature :	700	°F
9. Actual Volumetric Flow Rate :	1963	acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :		feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		

14. Emission Point Comment :

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 2

Amines Flare

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing--Fuel Fired Equipment-Waste Gas Flares--2800	
2. Source Classification Code (SCC) : 3-01-900-99	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.12	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Maximum hourly rate is based on the maximum allowable exit velocity from the flare. Since no emission factors are given for NOx, CO, SOx, or PM for the Waste Gas Flare SCC, the SCC factors for External Combustion Boilers 10-100 MMBtu/hr are used (SCC# 1-02-006-02 to estimate emissions).	

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

Emissions Unit Information Section 2
Amines Flare

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX			NS
2 - SO2			NS
3 - CO			NS
4 - VOC	023		WP
5 - PM10			NS
6 - H115	023		WP
7 - H179	023		WP
8 - H073	023		WP

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **NOX**

2. Total Percent Efficiency of Control : %

3. Potential Emissions :
16.50 lb/hour 72.23 tons/year

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

5. Range of Estimated Fugitive/Other Emissions:
to tons/year

6. Emissions Factor :
Reference : See Below

7. Emissions Method Code : 4

8. Calculations of Emissions :

Since no emission factors are given for anything but VOC for the Waste Gas Flare (SCC# 3-01-900-99), the SCC factors for External Combustion Boilers 10-100MMBtu/hr are used (SCC# 1-02-006-02):

The maximum cubic feet of gas burned is found as follows:

(1963 ft^3/min)*(60 min/hr)*(1 MMcf/10^6 ft^3)= .1178 MMcf/hr

NOx=(140 lb NOx/MMcf gas burned)*(.1178 MMcf/hr)*(8760 hr/yr)*
(1 ton/2000 lb)=72.23 ton/yr

9. Pollutant Potential/Estimated Emissions Comment :

No change in potential emissions due to this project.

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

Emissions Unit Information Section 2
Amines Flare

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **SO2**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 0.07 lb/hour 0.31 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 4
8. Calculations of Emissions : Since no emission factors are given for anything but VOC for the Waste Gas Flare (SCC# 3-01-900-99), the SCC factors for External Combustion Boilers 10-100MMBtu/hr are used (SCC# 1-02-006-02): The maximum cubic feet of gas burned is found as follows: (1963 ft^3/min)*(60 min/hr)*(1 MMcf/10^6 ft^3)= .1178 MMcf/hr SOx=(.6 lb SOx/MMcf gas burned)*(.1178 MMcf/hr)*(8760 hr/yr)* (1 ton/2000 lb)=.31 ton/yr
9. Pollutant Potential/Estimated Emissions Comment : No change in potential emissions due to this project.

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

Emissions Unit Information Section 2
Amines Flare

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted : **CO**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 4.12 lb/hour 18.06 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 4
8. Calculations of Emissions : Since no emission factors are given for anything but VOC for the Waste Gas Flare (SCC# 3-01-900-99), the SCC factors for External Combustion Boilers 10-100MMBtu/hr are used (SCC# 1-02-006-02): The maximum cubic feet of gas burned is found as follows: (1963 ft^3/min)*(60 min/hr)*(1 MMcf/10^6 ft^3)= .1178 MMcf/hr CO=(35 lb CO/MMcf gas burned)*(.1178 MMcf/hr)*(8760 hr/yr)* (1 ton/2000 lb)=18.06 ton/yr
9. Pollutant Potential/Estimated Emissions Comment : No change in potential emissions due to this project.

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

Emissions Unit Information Section 2
Amines Flare

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 3

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 4

1. Pollutant Emitted : **VOC**

2. Total Percent Efficiency of Control : 98.00 %

3. Potential Emissions :
0.33 lb/hour 1.44 tons/year

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

5. Range of Estimated Fugitive/Other Emissions:
to tons/year

6. Emissions Factor :
Reference : See Below

7. Emissions Method Code : 4

8. Calculations of Emissions :

Since no emission factors are given for anything but VOC for the Waste Gas Flare (SCC# 3-01-900-99), the SCC factors for External Combustion Boilers 10-100MMBtu/hr are used (SCC# 1-02-006-02):

The maximum cubic feet of gas burned is found as follows:

(1963 ft^3/min)*(60 min/hr)*(1 MMcf/10^6 ft^3)= .1178 MMcf/hr

VOC=(2.8 lb VOC/MMcf gas burned)*(.1178 MMcf/hr)*(8760 hr/yr)*
(1 ton/2000 lb)=1.44 ton/yr

9. Pollutant Potential/Estimated Emissions Comment :

No change in potential emissions due to this project.

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 4

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 5

1. Pollutant Emitted : **PM10**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 0.35 lb/hour 1.55 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 4
8. Calculations of Emissions : Since no emission factors are given for anything but VOC for the Waste Gas Flare (SCC# 3-01-900-99), the SCC factors for External Combustion Boilers 10-100MMBtu/hr are used (SCC# 1-02-006-02): The maximum cubic feet of gas burned is found as follows: (1963 ft^3/min)*(60 min/hr)*(1 MMcf/10^6 ft^3)= .1178 MMcf/hr PM10=(3 lb PM10/MMcf gas burned)*(.1178 MMcf/hr)*(8760 hr/yr)* (1 ton/2000 lb)=1.55 ton/yr
9. Pollutant Potential/Estimated Emissions Comment : No change in potential emissions due to this project.

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

Emissions Unit Information Section 2
Amines Flare

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 5

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 6

1. Pollutant Emitted : **H115**
2. Total Percent Efficiency of Control : 98.00 %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 2
8. Calculations of Emissions : Emissions for HAP's were estimated using AP-42 Tank calculations and/or liquid vapor equilibrium calculations for loading operations and then assuming a flare efficiency of 98%. In all cases, maximum potential HAP emissions are well below the 1000 lb threshold.
9. Pollutant Potential/Estimated Emissions Comment : No change in potential emissions due to this project.

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 6

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The flare meets the technology-based requirements for a control device under the HON (effective date 4/22/97).
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 7

1. Pollutant Emitted : **H179**
2. Total Percent Efficiency of Control : 98.00 %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 2
8. Calculations of Emissions : Emissions for HAP's were estimated using AP-42 Tank calculations and/or liquid vapor equilibrium calculations for loading operations and then assuming a flare efficiency of 98%. In all cases, maximum potential HAP emissions are well below the 1000 lb threshold.
9. Pollutant Potential/Estimated Emissions Comment : There is no change in potential emissions due to this project.

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 7

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The flare meets the technology-based control requirements under the HON (effective date 4/22/97).
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 2
Amines Flare

Pollutant Potential/Estimated Emissions : Pollutant 8

1. Pollutant Emitted : **H073**
2. Total Percent Efficiency of Control : 98.00 %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 2
8. Calculations of Emissions : Emissions for HAP's were estimated using AP-42 Tank calculations and/or liquid vapor equilibrium calculations for loading operations and then assuming a flare efficiency of 98%. In all cases, maximum potential HAP emissions are well below the 1000 lb threshold.
9. Pollutant Potential/Estimated Emissions Comment : There is no change in potential emissions due to this project.

Emissions Unit Information Section 2
Amines Flare

Pollutant Information Section 8

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The flare meets the technology-based control requirements under the HON.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are so specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Amines Flare

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :	VEX
2. Basis for Allowable Opacity :	RULE
3. Requested Allowable Opacity :	
Normal Conditions :	5 %
Exceptional Conditions :	%
Maximum Period of Excess Opacity Allowed :	2 min/hour
4. Method of Compliance :	
VE determinations by Method 22 are required by NSPS. Florida's open burning regulations also preclude excessive visible emissions from the flare.	
5. Visible Emissions Comment :	
NSPS and Florida's open burning regulations prohibit visible emissions from the flare. (40CFR60.18 and FAC62-256.700)	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 2
Amines Flare

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code : TEMP	2. Pollutant :
3. CMS Requirement : RULE	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : NSPS and the HON require that the presence of a flame be monitored using a thermocouple and periods of flame outage must be reported.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 2

Amines Flare

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM : C	SO2 : C	NO2 : C
4. Baseline Emissions :		
PM :	lb/hour	0.0000 tons/year
SO2 :	lb/hour	0.0000 tons/year
NO2 :		0.0000 tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 2

Amines Flare

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	APCI7
3. Detailed Description of Control Equipment :	APCI10
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	APCI12

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 3

#4 Methylamines Process Vents

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 3

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methylamines Process Vents		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : This emission unit discharges through the Amines Flare or the Riley Stoker and B&W boilers.		

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Emissions Unit Control Equipment 1

1. Description : Scrubbed process vents are flared or fed to the boilers.
2. Control Device or Method Code : 23

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Emissions Unit Control Equipment 2

1. Description : Water scrubbers are used to recover products from vent streams prior to flaring or feeding the boilers.
2. Control Device or Method Code : 1

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

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer :		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment :			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Rule Applicability Analysis

List of Applicable Regulations

FAC62-296.820 New NESHAPS

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b), (c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds

40CFR63.6(f)(2)(iv),(2)(v),(f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

40CFR63.113(a)(1), (a)(2), (b), (h) HON Grp. 1 Vents

40CFR63.114(d) HON Grp. 1 Vents

Emissions Unit Information Section 3
#4 Methylamines Process Vents

List of Applicable Regulations
40CFR63.117(f) HON Grp. 1 Vents

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 3

#4 Methylamines Process Vents

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA
2. Emission Point Type Code :	4
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit discharges through the Amines Flare or the Riley Stoker or B&W boilers.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Emission units which are controlled by the Amines Flare or the boilers include HON Group 1 Process vents from the #1 Methylamines and the Higher Amines plants, NSPS storage tanks in the #1 Methylamines plant, HON Group 1 and Group 2 storage tanks in the #1 Methylamines and Higher Amines plants as well as unregulated storage tanks in both the #1 Methylamines and the Higher Amines plants, and HON Group 1 and Group 2 loading in the Higher Amines plant.	
5. Discharge Type Code :	
6. Stack Height :	feet
7. Exit Diameter :	feet
8. Exit Temperature :	°F
9. Actual Volumetric Flow Rate :	acfm
10. Percent Water Vapor :	%
11. Maximum Dry Standard Flow Rate :	dscfm
12. Nonstack Emission Point Height :	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :	
14. Emission Point Comment :	

See Amines Flare, Riley Stoker Boiler, and B&W Boiler for stack information.

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 3

#4 Methylamines Process Vents

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing--Fuel Fired Equipment--Waste Gas Flares--2800	
2. Source Classification Code (SCC) : 3-01-900-99	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.12	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Same as the Amines Flare. Emissions from process vents are reported under the flare.	

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

Emissions Unit Information Section 3
#4 Methylamines Process Vents

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - H115			WP
2 - VOC			NS

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

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **H115**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions : There are no direct emissions from process vents. They are controlled by the flare or the Riley Stoker or B&W boilers.
9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The Amines Flare and the Riley Stoker and B&W Boilers meet the technology-based control standards for HON Group 1 process vents.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as the #4 Methylamines fired heater.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

Rule Applicability Analysis

List of Applicable Regulations

FAC62-296.820 New NESHAPS

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b),(c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)9i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv),(2)(v),(f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

40CFR63.162-168 HON LDAR

40CFR63.171-172 HON LDAR

List of Applicable Regulations
40CFR63.174-177 HON LDAR

40CFR63.180-182 HON LDAR

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 6

#4 Methyls HON Equipment Leaks

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit is composed of equipment leaks from valves, flanges, pump seals, etc. which are in		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : There are no other emission units with these emission points in common.		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	85	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment :		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 6

#4 Methyls HON Equipment Leaks

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing--Major Group 28--Ethanolamines-2869--Fugitive Emissions	
2. Source Classification Code (SCC) : 3-01-034-14	
3. SCC Units : Process Unit-Yr	
4. Maximum Hourly Rate :	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

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

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - H115			WP

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

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted :	**H115**
2. Total Percent Efficiency of Control :	%
3. Potential Emissions :	0.84 lb/hour 3.60 tons/year
4. Synthetically Limited?	[ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions:	to tons/year
6. Emissions Factor : Reference :	See Below
7. Emissions Method Code :	5

8. Calculations of Emissions :

Fugitive emissions from the new methylamines plant are estimated to be approximately the same as the fugitive emissions from the existing methylamines plant. Although, in reality, the new plant will employ the latest in technology for containment of fugitive emissions.

Amines Number 1••(op hr)=•8760••
Uses screening range approach. ("Protocol for Equipment Leak Emission Estimates," EPA, November 1995)•••
Methanol Fugitives•••••
Light Liquid Valves•••••
comp•%MeOH••em fac•lk rate•
158•71.69••0.000364•0.041203•
•••emission=•360.9388•lb/yr
Gas Valves•••••
comp•%MeOH••em fac•lk rate•
34•41.32••0.000289•0.004057•

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

Emissions Unit Information Section 6

#4 Methyls HON Equipment Leaks

•••emission=•35.54221•lb/yr
Pumps•••••
#comp•%MeOH••em fac•lk rate•
3•29••0.004123•0.003587•
•••emission=•31.41917•lb/yr
Compressors•••••
None•••••
•••••
•••••
PSV's•••••
comp•%MeOH••em fac•lk rate•
7•79.71••0.098546•0.549855•
•••emission=•4816.73•lb/yr
Flanges•••••
#comp•%MeOH••em fac•lk rate•
202•65.56••0.000179•0.023649•
•••emission=•207.1616•lb/yr
Open-ended lines•••••
#comp•%MeOH••em fac•lk rate•
42•58.21••0.003307•0.080848•
•••emission=•708.2263•lb/yr
Sampling Connections•••••
#comp•%MeOH••em fac•lk rate•
4•100••0.033069•0.132276•
•••emission=•1158.738•lb/yr
•••••

9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The HON requires an LDAR program for these components.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : Fugitive emissions do not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 6
#4 Methyls HON Equipment Leaks

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : No continuous monitors are required for this emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 6

#4 Methyls HON Equipment Leaks

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 6

#4 Methyls HON Equipment Leaks

Supplemental Requirements for All Applications

1. Process Flow Diagram :	NA
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 7

#4 Methyls Non-HON Equipment Leaks

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 7

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methyls Non-HON Equipment Leaks		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment :		

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

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as for the #4 Methylamines fired heater.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

Rule Applicability Analysis

List of Applicable Regulations

40CFR60.482-1, NSPS Leaks General Standards

40CFR60.482-2, NSPS Pumps

40CFR60.482-3, NSPS Compressors

40CFR60.482-4, NSPS PSV's

40CFR60.482-5, NSPS Sampling Systems

40CFR60.482-6, NSPS Open Ended Lines

40CFR60.482-7, NSPS Valves in Light Liq. Vapor Svc.

40CFR60.482-8, NSPS PSV's in lt. liq. Svc, Connectors

40CFR60.482-9, NSPS Delay of Repair

40CFR60.482-10, NSPS Closed Vent Systems

40CFR60.483-1, NSPS Alt. Stds. for Valves

40CFR60.483-2, NSPS Alt. Stds. for Valves

40CFR60.484, NSPS Equivalent Means

40CFR60.485, NSPS Test Methods and Procedures

List of Applicable Regulations

40CFR60.486, NSPS Recordkeeping

40CFR60.487, NSPS Reporting

40CFR60.488, NSPS Reconstruction

40CFR60.489, NSPS List of Chemicals

40CFR60.480, NSPS for Leaks Applicability

40CFR60.481, NSPS Leaks Definitions

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 7

#4 Methyls Non-HON Equipment Leaks

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit is composed of equipment leaks from valves, flanges, pumps seals, etc which are in		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : There are no other emission units with these emission points in common.		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	85	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment :		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 7

#4 Methyls Non-HON Equipment Leaks

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing--Major Group 28--Ethanolamines-2869--Fugitive Emissions	
2. Source Classification Code (SCC) : 3-01-034-14	
3. SCC Units : Process Unit-Yr	
4. Maximum Hourly Rate :	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

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

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

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

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

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted :	**VOC**
2. Total Percent Efficiency of Control :	%
3. Potential Emissions :	1.90 lb/hour 8.40 tons/year
4. Synthetically Limited?	[ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions:	to tons/year
6. Emissions Factor :	Reference : See Below
7. Emissions Method Code :	5

8. Calculations of Emissions :

Fugitive emissions from the new methylamines plant are estimated to be approximately the same as fugitive emissions from the existing plant. Although, in actuality, the new plant will be built to the highest standards for fugitive emission control.

A "screening range" approach is used to calculate fugitive emissions of Methylamines ("Protocol for Equipment Leak Emission Estimates," EPA, November 1995)

MMA Fugitive Summary•••1993 Case•
Light Liquid Valves•••605.3509•lb/yr
Gas Valves•••67.48529•lb/yr
Pumps••• 7.165114 lb/yr
Compressors•••0•lb/yr
Flanges••• 439.0991 lb/yr
Open-ended Lines•••4884.369•lb/yr

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

Emissions Unit Information Section 7

#4 Methyls Non-HON Equipment Leaks

Sample Points•••8•lb/yr
PSV's••• 50.55985•lb/yr
Total••• 6062.03•lb/yr

DMA Fugitive Summary•••1993 Case•
Light Liquid Valves•••481.5993•lb/yr
Gas Valves•••50.1795•lb/yr
Pumps••• 33.13547•lb/yr
Compressors•••0•lb/yr
Flanges••• 376.5742 lb/yr
Open-ended Lines•••4225.048•lb/yr
Sample points•••4•lb/yr
PSV's••• 28.52166•lb/yr
Total••• 5199.06•lb/yr

TMA Fugitive Summary•••1993 Case•
Light Liquid Valves•••618.7399•lb/yr
Gas Valves•••37.17122•lb/yr
Pumps••• 69.9458•lb/yr
Compressors•••0•lb/yr
Flanges••• 2567.742•lb/yr
Open-ended Lines•••2256.352•lb/yr
Sample points•••2•lb/yr
PSV's••• 50.70611•lb/yr
Total••• 5602.66•lb/yr

9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : NSPS requires a formal Leak Detection and Repair Program in the new methyls plant.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits associated with this emission unit.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : Fugitive emissions do not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 7
#4 Methyls Non-HON Equipment Leaks

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There are no continuous monitors required for this emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 7

#4 Methyls Non-HON Equipment Leaks

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 7

#4 Methyls Non-HON Equipment Leaks

Supplemental Requirements for All Applications

1. Process Flow Diagram :	NA
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 8

#4 Methylamines NSPS Storage Tanks

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 8

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methylamines NSPS Storage Tanks		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : Includes D-67019, D-67024, and D-67025A/B check tanks. Also included are two more check tanks and six more storage tanks which have not been assigned numbers yet.		

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Emissions Unit Control Equipment 1

1. Description : The NSPS storage tanks vent to a scrubber which then vents to the Amines Flare.
2. Control Device or Method Code : 23

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Emissions Unit Control Equipment 2

1. Description : The Methylamines NSPS Storage tanks are painted white.
2. Control Device or Method Code : 95

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Emissions Unit Control Equipment 3

1. Description : Vents from the Methylamines NSPS Storage Tanks go to a water scrubber which vents to the flare.
2. Control Device or Method Code : 1

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Emissions Unit Control Equipment 4

1. Description : The new methylamines NSPS storage tanks are high pressure vessels, only needing to occasionally vent inerts.
2. Control Device or Method Code : 92

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

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as the #4 Methylamines Fired Heater.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Rule Applicability Analysis

List of Applicable Regulations

40CFR60.110b, NSPS Tanks Applicability

40CFR60.111b, NSPS Tanks Definitions

40CFR60.112b(b)(1), NSPS Tanks w/vp >76.6 kPa

40CFR60.113b(d), NSPS Tanks/closed vent system, flare

40CFR60.115b(d), NSPS Tanks SU Report

40CFR60.116b, NSPS Tanks, monitoring

40CFR60.117b, NSPS Tanks, Delegation of Authority

FAC62-296.800 NSPS

40CFR60.4 NSPS General Provisions

40CFR60.11(d) NSPS General

40CFR60.12 NSPS General

40CFR60.19 NSPS General

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

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **VOC**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions : There is no direct emission from the vents. They are controlled by the flare or the Riley Stoker or B&W boilers.
9. Pollutant Potential/Estimated Emissions Comment :

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The Flare and the boilers meet the HON technology-based control requirements for Group 1 process vents.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : This emission unit does not have a direct discharge point, and therefore, will not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 3
#4 Methylamines Process Vents

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : The HON requires that the flare be continuously monitored for the presence of a flame.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 3

#4 Methylamines Process Vents

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 3

#4 Methylamines Process Vents

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	APCI10
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	NA
9. Other Information Required by Rule or Statue :	APCI12

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 4

#4 Methylamines Env. Column Bottoms

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 4

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methylamines Env. Column Bottoms		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : Emissions associated with this emission unit are reported under the Waste Water Treatment emission unit information section.		

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

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer :		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as for the #4 Methylamines Fired Heater.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Rule Applicability Analysis

List of Applicable Regulations

FAC62-296.820 New NESHAPS

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b),(c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv),(2)(v),(f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

40CFR63.131 HON Waste Water

40CFR63.132(a),(b)(2),(g),(i) HON Waste Water

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

List of Applicable Regulations
40CFR63.144(a)(1),(b),(c) HON Waste Water

40CFR63.146(a)(2),(b)(2) HON Waste Water

40CFR63.147(a),(g) HON Waste Water

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 4

#4 Methylamines Env. Column Bottoms

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit is comprised of waste water from distillation column T-67022 which goes to the wa		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : There are no other emission units with this emission point in common.		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	85	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment : This is not a true emission point but results in fugitive emissions from the waste water treatment system.		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 4

#4 Methylamines Env. Column Bottoms

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing--Major Group 28--General Processes-2865, 2869--Waste Water Treatment	
2. Source Classification Code (SCC) : 3-01-820-02	
3. SCC Units : Thousand Gallons Processed	
4. Maximum Hourly Rate :	5. Maximum Annual Rate : 1,095,000.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Emissions for this emission unit are estimated under the emission unit called Waste Water Treatment. Emissions from Waste Water Treatment are combined for the site. The only reason this emission unit is treated separately is because it has unique Applicable Regulations.	

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

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - H115			WP
2 - VOC			NS

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

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **H115**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : Based on Radian Corporations model of the wastewater treatment system, .144% of organic material in the waste water will be emitted to the air. Since no more than 1000 ppm of total organic carbon will be in the water, a trivial emission way below the reporting threshold occurs.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The HON requires that this waste water stream be Group 2
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There is no specific numeric emission limit.

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

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **VOC**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : Based on Radian Corporations model of the wastewater treatment system, .144% of organic material in the waste water will be emitted to the air. Since no more than 1000 ppm of total organic carbon will be in the water, a trivial emission way below the reporting threshold occurs.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : There are no visible emissions associated with waste water.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 4
#4 Methylamines Env. Column Bottoms

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There is no continuous monitor required for this emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 4

#4 Methylamines Env. Column Bottoms

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 4

#4 Methylamines Env. Column Bottoms

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	APCI12

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 5

#4 Methyls HON Maintenance Water

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 5

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methyls HON Maintenance Water		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : This emission unit should be combined with the Methylamines HON Maintenance Waste Water emission unit in the Title V permit.		

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

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as for the #4 Methylamines fired heater.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Rule Applicability Analysis

List of Applicable Regulations

62-296.820 New NESHAPS

40CFR63.105 HON Maintenance Waste Water

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 5

#4 Methyls HON Maintenance Water

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit is composed of process fluids drained from equipment in order to prepare the equip		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : NA		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	85	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment : This is not a true emission unit. Emissions from waste water are calculated under the emission unit called Waste Water Treatment in the Title V permit application.		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 5

#4 Methyls HON Maintenance Water

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing-Major Group 28--General Processes-2865, 2869--Waste Water Treatment (See Waste Water Treatment emission unit)	
2. Source Classification Code (SCC) : 3-01-820-02	
3. SCC Units : Thousand Gallons Processed	
4. Maximum Hourly Rate :	5. Maximum Annual Rate : 1,095,000.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : Emissions from this source are calculated under the Waste Water Treatment emission unit in the Title V Permit Application.	

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

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - H115			WP
2 - VOC			NS

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

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **H115**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions : Emissions from all waste water sources are estimated in the emission unit called Waste Water Treatment in the Title V permit application. The Radian Corporation model for the waste water treatment system assumes that .144% of all organics in the waste water will volatilize and be emitted to the air. Thus, a negligible emission results from this source.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The HON requires that best management practices be used to minimize emissions to the air when preparing equipment for safe maintenance.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : The are no specific numeric emission limits.

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

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **VOC**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions : Emissions from all waste water sources are estimated in the emission unit called Waste Water Treatment in the Title V permit application. The Radian Corporation model for the waste water treatment system assumes that .144% of all organics in the waste water will volatilize and be emitted to the air. Thus, a negligible emission results from this source.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : There are no visible emissions from waste water.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 5
#4 Methyls HON Maintenance Water

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There are no continuous monitors required.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 5

#4 Methyls HON Maintenance Water

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 5

#4 Methyls HON Maintenance Water

Supplemental Requirements for All Applications

1. Process Flow Diagram :	NA
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 6

#4 Methyls HON Equipment Leaks

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 6

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methyls HON Equipment Leaks		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment :		

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 8

#4 Methylamines NSPS Storage Tanks

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	#4 Methyls Storage
2. Emission Point Type Code :	4
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit does not have it's own emission point but discharges through the Amines Flare.	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Emission units which are controled by the flare include HON Group 1 Process vents from the Methylamines and the Higher Amines plants, NSPS storage tanks in the Methylamines plant, HON Group 1 and Group 2 storage tanks in the Methylamines and Higher Amines plants as well as unregulated storage tanks in both amines plants, and HON Group 1 and Group 2 loading in the Higher Amines plant.	
5. Discharge Type Code :	P
6. Stack Height :	feet
7. Exit Diameter :	feet
8. Exit Temperature :	°F
9. Actual Volumetric Flow Rate :	acfm
10. Percent Water Vapor :	%
11. Maximum Dry Standard Flow Rate :	dscfm
12. Nonstack Emission Point Height :	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :	
14. Emission Point Comment :	

See Amines Flare for more information.

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 8

#4 Methylamines NSPS Storage Tanks

Segment Description and Rate : Segment 1

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

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

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - VOC	001	023	WP

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

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **VOC**
2. Total Percent Efficiency of Control : 99.99 %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : The new methylamines NSPS storage tanks will be designed as high pressure bullet tanks. The only time these tanks will vent is when nitrogen is inadvertently introduced during closed dome loading operations into railcars or trucks which have been nitrogen padded for safety in transportation. When the tanks DO vent, they will vent to the scrubber which vents to the flare. Therefore, emissions from this source will be essentially zero.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The flare meets the general control device requirements for storage tanks under NSPS (40CFR60.18).
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : This emission unit will not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 8
#4 Methylamines NSPS Storage Tanks

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : NSPS requires that the flare be continuously monitored for the presence of a flame. However, this is covered under the Amines Flare emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 8

#4 Methylamines NSPS Storage Tanks

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 8

#4 Methylamines NSPS Storage Tanks

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	APCI10
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 9

#4 Methyls HON Shutdown Losses

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 9

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methyls HON Shutdown Losses		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment :		

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

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as the #4 Methylamines air operation permit.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Rule Applicability Analysis

List of Applicable Regulations

FAC62-296.820 New NESHAPS

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3),(a)(5) HON Prohibited Acts

40CFR63.4(b),(c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/ Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv), (2)(v),(f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 9

#4 Methyls HON Shutdown Losses

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit is composed of emissions from process fluids drained from equipment in order to p		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : There are no other emission units with this emission point in common.		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	85	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment :		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 9

#4 Methyls HON Shutdown Losses

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing-Major Group 28--Ethanolamines-2869-Fugitive Emissions	
2. Source Classification Code (SCC) : 3-01-034-14	
3. SCC Units : Process Unit-Yr	
4. Maximum Hourly Rate :	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

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

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - H115			WP

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

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **H115**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : Emissions from clearing equipment during a shutdown can be estimated as follows: First the equipment is pumped out so that the minimal amount of liquid is left (in the methylamines plant there are only a few vessels which even contain methanol). Next the vapors are vented to the air (one can assume that the vapors are pure methanol at ambient temperature and pressure). Finally the vessel is washed out with water to prevent exposing maintenance workers to the chemical (one can assume one vessel volume with 1% methanol in water and assume that .144% of what's in the water gets emitted to the air, as we do in waste water treatment calculations.) The actual amount emitted will depend on which vessels are cleared but will be relatively small in the methylamines plant.
9. Pollutant Potential/Estimated Emissions Comment :

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

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : Best management practices are used to minimize emissions to the atmospere (as described in the emission calculation section) from preparing equipment for safe maintenance.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) :

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : Preparing equipment for maintenance will not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 9
#4 Methyls HON Shutdown Losses

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There are no continuous monitors required for this emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 9

#4 Methyls HON Shutdown Losses

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 9

#4 Methyls HON Shutdown Losses

Supplemental Requirements for All Applications

1. Process Flow Diagram :	NA
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	APCI12

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 10

Cogen 1, 2, &3

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 10

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : Cogen 1, 2, &3		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : This emission unit will replace the Riley Union Boiler (Emission Unit ID# 002) which will be permanently shutdown.		

Emissions Unit Information Section 10
Cogen 1, 2, &3

Emissions Unit Control Equipment 1

1. Description : Gas Turbine burners are modified to use "dry low NOx combustion" (lean premix). Premixing of the fuel and air prevents localized hot spots in the combustion zone which can result in higher NOx emissions.
2. Control Device or Method Code : 24

Emissions Unit Information Section 10
Cogen 1, 2, &3

Emissions Unit Control Equipment 2

1. Description : Offgas from the gas fired turbine in this combined cycle cogeneration unit will be catalytically oxidized to convert CO and some VOC to CO2 and water.
2. Control Device or Method Code : 80

Emissions Unit Information Section 10
Cogen 1, 2, &3

Emissions Unit Control Equipment 3

1. Description : The feed to the gas turbine is lean to reduce the flame temperature, reducing the formation of NOx.
2. Control Device or Method Code : 33

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer : Solar Turbines	Model Number : Taurus 60S
4. Generator Nameplate Rating : 5 MW	
5. Incinerator Information :	
Dwell Temperature :	Degrees Fahrenheit
Dwell Time :	Seconds
Incinerator Afterburner Temperature :	Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :		
4. Maximum Production Rate : 90000	lb 600# steam/h	
5. Operating Capacity Comment : This is on a per unit basis and there are three separate 5 MW cogeneration units. We would like the units to be permitted for a total of 270,000 lb/hr of 600 psig steam so that if one unit is down for maintenance, the other two units can make up the difference in steam. However, the average steam production from the combination of units will be approximately 150 lb/hr.		

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Cogen 1, 2, &3

Rule Applicability Analysis

List of Applicable Regulations

40CFR60.330, NSPS Gas Turbines Applicability

40CFR60.331, NSPS Gas Turbines Definitions

40CFR60.332(a)(2), NSPS Gas Turbines NOx Std.

40CFR60.332(c), NSPS Gas Turbines NOX Std.

40CFR60.332(k), NSPS Gas Turbines Emergency Fuels

40CFR60.333(b), NSPS Gas Turbines SO2 Std.

40CFR60.334(b)(2), NSPS Gas turbines Monitoring

40CFR60.334(c), NSPS Gas Turbines Excess Emission Reports

40CFR60.335, NSPS Gas Turbines Testing

40CFR60.8, NSPS Performance Tests (Gas Turbines)

40CFR60.40c, NSPS Small Steam Generators

40CFR60.41c, NSPS Sm. Stm. Generators Definitions

40CFR60.48c(a), (g), (i), NSPS Sm. Stm. Generators Reporting/Recordkeeping

40CFR63.1(a)(1)-(a)(4) HON General Provisions

List of Applicable Regulations

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b), (c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv), (2)(v), (f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

40CFR63.114(a)(3) HON Vent Control Device

40CFR63.116(b)(2) HON Vent Control Device

40CFR63.117(a)(1)-(a)(4), (f) HON Vent Control Device

40CFR63.118(a), (f) HON Vent Control Device

FAC62.210.700(3) Soot Blowing

List of Applicable Regulations

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 10

Cogen 1, 2, &3

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	Cogen 1, 2, &3
2. Emission Point Type Code :	3
3. Descriptions of Emission Points Comprising this Emissions Unit :	This emission unit consists of the exhaust stacks from 3- 5 MW combined cycle cogeneration units. Ea
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common :	There are no other emission units with this emission point in common.
5. Discharge Type Code :	V
6. Stack Height :	60 feet
7. Exit Diameter :	4.00 feet
8. Exit Temperature :	325 °F
9. Actual Volumetric Flow Rate :	41,058 acfm
10. Percent Water Vapor :	18.90 %
11. Maximum Dry Standard Flow Rate :	33,298 dscfm
12. Nonstack Emission Point Height :	feet
13. Emission Point UTM Coordinates :	Zone : 16 East (km) : 486.870 North (km) : 3,384.320
14. Emission Point Comment :	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 10

Cogen 1, 2, &3

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : External Combustion Boilers-Industrial--Natural Gas-1000-3999--< 100 MMBtu/hr	
2. Source Classification Code (SCC) : 1-02-006-02	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.22	5. Maximum Annual Rate : 1,959.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur : 0.00	8. Maximum Percent Ash :
9. Million Btu per SCC Unit : 939	

10. Segment Comment :

The maximum scf of gas fed is only for the supplemental fired heat recovery boiler and does not include the gas flow to the turbine. This SCC is used to calculate NOx and CO emissions from the heat recovery steam generator.

Note the gas lower heating value (939 btu/scf) is used to estimate the amount of gas needed.

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 10

Cogen 1, 2, &3

Segment Description and Rate : Segment 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : External Combustion Boilers--Industrial-Natural Gas--1000--3999--Cogeneration	
2. Source Classification Code (SCC) : 1-02-006-04	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.40	5. Maximum Annual Rate : 3,528.00
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur : 0.00	8. Maximum Percent Ash :
9. Million Btu per SCC Unit : 939	
10. Segment Comment : Note that this is the sum of the fuel to the gas turbine and the duct burners. This SCC is used to calculate SOX, PM10, and VOC emissions. Also note that the lower heating value of the natural gas (939 btu/scf) is used to estimate the fuel requirement.	

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 10

Cogen 1, 2, &3

Segment Description and Rate : Segment 3

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : External Combustion Boilers-Industrial--Process Gas-1000-3999--Vent gases from the methanol and amines plants	
2. Source Classification Code (SCC) : 1-02-007-99	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.27	5. Maximum Annual Rate : 2.40
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment : There will be no net change in vent gases burned. That is, if vent gas is burned in the cogen unit, the amount of vent gas burned in the boilers will be reduced and a net emission reduction will occur due to the catalyst on the cogen unit.	

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - NOX	024	033	WP
2 - SO2			WP
3 - CO	080		NS
4 - VOC	080		NS
5 - PM10			NS

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **NOX**
2. Total Percent Efficiency of Control : 66.00 %
3. Potential Emissions : 49.50 lb/hour 210.00 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 1
8. Calculations of Emissions :

As per source testing data provided by Solar Turbines (memo from Jerry Napierala dated 20June 1996), 3 Taurus 60S gas turbines will have potential emissions (based on average operating conditions) of

24.4 ton/(unit Yr)* 3 Units= 73.2 ton/yr

Additional NOx will be generated by supplemental firing of the duct burners to produce steam.

Assume that

1. Without supplemental firing, each unit can produce about 20,000 lb/hr of 600 # steam
2. Therefore, supplemental firing must supply the additional 70,000 lb/hr steam for each unit.
3. Assume the condensate entering the unit is hot, 212F

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

Emissions Unit Information Section 10

Cogen 1, 2, &3

Then heat required to bring the condensate up to steam temperature is Q=mc(T2-T1)=(70,000 lb/(hr unit))*(1 Btu/(lbF)) *(468.2-212)F=17,934,000 Btu/(hr unit)

The heat required to produce steam is Q=m(lambda)=(70,000 lb/hr)* (1203.7-471.7)Btu/lb=51,240,000 Btu/(hr unit)

Therefore supplemental firing requires a total of 69,174,000 Btu/(hr unit)

This neglects additional heat required for superheat, therefore 70 MMBtu/(hr unit) will be used.

Finally, using the emission factors from SCC for small boilers (<100 MMBtu/hr) (140 lb NOx/MMscf gas)*(1 scf gas/939 btu)*(70 MMBtu/(hr unit))* 3 units*24 hr/day*365 day/yr= 274,275 lb NOx/yr

Total NOx generation from all three combined cycle units will be (73.2 ton/yr)*(2000 lb/ton) + 274,275 lb NOx/yr=420,674 lb NOx/yr

Note that worst case instantaneous conditions result at colder conditions. Thus, at 20F, the gas turbines will be producing 49.5 lb/hr of NOx. HOWEVER THIS IS AN INSTANTANEOUS SHORT DURATION OCCURENCE FOR THIS AREA SO THIS NUMBER SHOULD NOT BE EXTRAPOLATED TO CALCULATED THE AVERAGE EMISSIONS FOR THE YEAR.

9. Pollutant Potential/Estimated Emissions Comment :

Efficiency of control given is for the gas turbine only.

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code : RULE
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : Low NOx Firing. Initial performance test and fuel monitoring.
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : Subpart GG--NSPS for Gas Fired Turbines limits NOx Emissions

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **SO2**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 0.24 lb/hour 1.06 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference : See Below
7. Emissions Method Code : 3
8. Calculations of Emissions : SCC factors for cogeneration are used to calculate emissions at the maximum firing rate(EPA, March 1990) from the combined cycle units: Each gas turbine requires 56.05 MMBtu/hr of natural gas and each supplementally fired boiler requires 70 MMBtu/hr of natural gas at the maximum firing rate. SOx=(.6 lb SOx/MMcf gas)*(1 scf gas/939 Btu)*(56.05+70)(MMBtu/(hr unit))*(3 units)*(8760 hr/yr)* (1ton/ 2000 lb)=. 1.06 ton/yr
9. Pollutant Potential/Estimated Emissions Comment : Use SCC Code 1-02-006-02.

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits for this pollutant.

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Potential/Estimated Emissions : Pollutant 3

1. Pollutant Emitted :	**CO**
2. Total Percent Efficiency of Control :	%
3. Potential Emissions :	3.00 lb/hour 13.20 tons/year
4. Synthetically Limited?	[ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions:	to tons/year
6. Emissions Factor : Reference :	See Below
7. Emissions Method Code :	1

8. Calculations of Emissions :

Souce testing data from Solar Turbines (memo from John Robbins to Dave Henn dated 9July 1996) indicates that three gas turbines will generate

32.33 ton/yr *3 units=97 ton/yr CO

After applying the catalyst for 90% control, this leaves

97 ton/y *.1=9.7 ton/yr=19,400 lb/yr.

The supplementally fired boilers use 70 MMBtu/hr of natural gas at the maximum firing rate. Use SCC factors for small boilers (<100 MMBtu/hr) to estimate CO generation from the heat recovery steam generator:

CO=(35 lb CO/MMcf)*(1 scf/939 Btu)*(70 MMBtu/(hr unit))*(3 units)*(8760 hr/yr)*(1 ton/2000 lb)=34.3 ton/yr

Emissions Unit Information Section 10
Cogen 1, 2, &3

After the application of the 90% reduction from catalyst, 3.43 ton/yr CO.

Then the total CO generated from cogeneration is 9.7 ton/yr +3.43 ton/yr =13.1 ton/yr

9. Pollutant Potential/Estimated Emissions Comment :

Use SCC code 1-02-006-02 to calculate emissions from the heat recovery steam generation portion, use Solar data for the gas turbine.

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Information Section 3

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numerical emission limits for this pollutant.

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Potential/Estimated Emissions : Pollutant 4

1. Pollutant Emitted : **VOC**

2. Total Percent Efficiency of Control : 50.00 %

3. Potential Emissions :
0.28 lb/hour 1.20 tons/year

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

5. Range of Estimated Fugitive/Other Emissions:
to tons/year

6. Emissions Factor :
Reference : See Below

7. Emissions Method Code : 3

8. Calculations of Emissions :

SCC factors for cogeneration (SCC # 1-02-006-04, EPA, March 1990) are used to calculate emissions at the maximum firing rate, then a 50% reduction for catalyst use is taken.

The gas turbine requires 56.05 MMBtu/hr of natural gas and the supplementally fired heat recovery boiler requries 70 MMBtu/hr at maximum firing rates.

VOC=(1.4 lb VOC/MMcf)*(1 scf/939 Btu)*(70+56.05)(MBtu/(hr unit))*(3 units)*(8760 hr/yr)*(1 ton/2000 lb)=2.47 ton/yr

After taking the 50% reduction for the CO removal catalyst, 1.23 ton/yr.

9. Pollutant Potential/Estimated Emissions Comment :

VOC emissions from the gas turbine and the heat recovery steam generation unit are calculated

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

Emissions Unit Information Section 10

Cogen 1, 2, &3

together using the SCC for cogeneration (1-02-006-04)

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Information Section 4

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits for this pollutant.

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Potential/Estimated Emissions : Pollutant 5

1. Pollutant Emitted : **PM10**
2. Total Percent Efficiency of Control : %
3. Potential Emissions : 1.21 lb/hour 5.29 tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code : 3
8. Calculations of Emissions : SCC factors for cogeneration (SCC# 1-02-006-04, EPA, March 1990) are used to calculate emissions at the maximum firing rate: The gas turbine requires 56.05 MMBtu/hr of natural gas and the supplementally fired boiler requires 70 MMBtu/hr of natural gas at the maximum firing rate. PM10=(3 lb PM10/MMcf)*(1 scf/939 Btu)*(70 +56.05)(MMBtu/(hr unit))*(3 units)*(8760 hr/yr)*(1 ton/2000 lb)=5.29 ton/yr
9. Pollutant Potential/Estimated Emissions Comment : PM10 emissions from the gas turbine and the heat recovery steam generator are calculated together using the natural gas cogeneration SCC (1-02-006-04).

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

Emissions Unit Information Section 10
Cogen 1, 2, &3

Emissions Unit Information Section 10
Cogen 1, 2, &3

Pollutant Information Section 5

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no emission limiting regulations applicable to this pollutant.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Cogen 1, 2, &3

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype : VE		
2. Basis for Allowable Opacity :		
3. Requested Allowable Opacity :		
Normal Conditions :	20	%
Exceptional Conditions :	40	%
Maximum Period of Excess Opacity Allowed :	2	min/hour
4. Method of Compliance : Visible emissions will be determined prior to permit renewal.		
5. Visible Emissions Comment :		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Cogen 1, 2, &3

Visible Emissions Limitation : Visible Emissions Limitation 2

1. Visible Emissions Subtype :	VES
2. Basis for Allowable Opacity :	RULE
3. Requested Allowable Opacity :	
Normal Conditions :	%
Exceptional Conditions : 60	%
Maximum Period of Excess Opacity Allowed :	min/hour
4. Method of Compliance :	
5. Visible Emissions Comment :	
3. Excess emissions during soot blowing are allowed for 3 hours during any 24 hour period.	

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 10
Cogen 1, 2, &3

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code : FLOW	2. Pollutant :
3. CMS Requirement : RULE	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : NSPS Subpart Dc for Small Steam Generating Units requires that fuel flow be monitored. There are no continuous emission monitors required for the gas fired turbine.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 10

Cogen 1, 2, &3

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM : C	SO2 : C	NO2 : C
4. Baseline Emissions :		
PM :	lb/hour	0.0000 tons/year
SO2 :	lb/hour	0.0000 tons/year
NO2 :		0.0000 tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 10

Cogen 1, 2, &3

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	APCI7
3. Detailed Description of Control Equipment :	APCI10
4. Description of Stack Sampling Facilities :	APCI11
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :	
13. Compliance Assurance Monitoring Plan :	
14. Acid Rain Application (Hard-copy Required) :	
NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 11

#4 Methylamines Group 1 Storage

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 11

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methylamines Group 1 Storage		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment :		

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Emissions Unit Control Equipment 1

1. Description : The Group 1 storage tank, D-67001, vents to the low pressure scrubber (a product recovery device), which vents to the amines flare.
2. Control Device or Method Code : 1

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Emissions Unit Control Equipment 2

1. Description : The low pressure scrubber vents to the flare, a control device which meets the requirements specified in 40CFR63.11b.
2. Control Device or Method Code : 23

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Emissions Unit Control Equipment 3

1. Description : This tank is painted white.
2. Control Device or Method Code : 95

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

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as the #4 Methylamines Fired Heater.			

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Rule Applicability Analysis

List of Applicable Regulations

FAC62-296.820 New NESHAPS

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b),(c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv),(2)(v), (f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf.Reports

40CFR63.119(a)(1), (e) HON Grp. 1 Stg. Tanks

40CFR63.120(e) HON Grp. 1 Stg. Tanks

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

List of Applicable Regulations
40CFR63.122(a)(1)-(5),(c)(2),(g) HON Grp. 1 Stg. Tanks

40CFR63.123(a), (b), (f) HON Grp. 1 Stg. Tanks

40CFR63.148, Inspection of Closed Vent systems

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 11

#4 Methylamines Group 1 Storage

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	D-67001
2. Emission Point Type Code :	4
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit consists of the #4 Methylamines Recycle Feed Tank which vents through a product	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : Emission units which are controlled by the flare include HON Group 1 Process vents from the Methylamines and the Higher Amines plants, NSPS storage tanks in the Methylamines plant, HON Group 1 and Group 2 storage tanks in the Methylamines and Higher Amines plants as well as unregulated storage tanks in both amines plants, and HON Group 1 and Group 2 loading in the Higher Amines plant.	
5. Discharge Type Code :	
6. Stack Height :	feet
7. Exit Diameter :	feet
8. Exit Temperature :	°F
9. Actual Volumetric Flow Rate :	acfm
10. Percent Water Vapor :	%
11. Maximum Dry Standard Flow Rate :	dscfm
12. Nonstack Emission Point Height :	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :	
14. Emission Point Comment :	

See "Amines Flare"

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 11

#4 Methylamines Group 1 Storage

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing-Fuel Fired Equipment--Waste Gas Flares--2800	
2. Source Classification Code (SCC) : 3-01-900-99	
3. SCC Units : Million Cubic Feet Burned (all gaseous fuels)	
4. Maximum Hourly Rate : 0.12	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

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

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - H115	001	023	WP
2 - VOC	001	023	WP

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

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **H115**
2. Total Percent Efficiency of Control : 99.99 %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions : The low pressure scrubber is operated so that no detectable methylamines leave the top of the scrubber. The scrubber then vents to the flare. Therefore, VOC or HAP emissions will be negligible.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Pollutant Information Section 1

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance : The Amines Flare meets the technology-based control requirements for HON Group 1 storage tanks (effective date 4/22/97).
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

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

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Pollutant Potential/Estimated Emissions : Pollutant 2

1. Pollutant Emitted : **VOC**
2. Total Percent Efficiency of Control : 99.99 %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [X] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code : 2
8. Calculations of Emissions : The low pressure scrubber is operated wiht no detectable methylamines leaving the top of the scrubber which then vents to the flare. Therefore, emissions from this emission unit are negligible.
9. Pollutant Potential/Estimated Emissions Comment : Below threshold.

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Pollutant Information Section 2

Allowable Emissions 1

1. Basis for Allowable Emissions Code :
2. Future Effective Date of Allowable Emissions :
3. Requested Allowable Emissions and Units :
4. Equivalent Allowable Emissions : lb/hour tons/year
5. Method of Compliance :
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) : There are no specific numeric emission limits.

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : This emission unit will not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 11
#4 Methylamines Group 1 Storage

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : The HON requires that the flare be continuously monitored using a thermocouple to ensure the presence of a flame.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 11

#4 Methylamines Group 1 Storage

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 11

#4 Methylamines Group 1 Storage

Supplemental Requirements for All Applications

1. Process Flow Diagram :	APCI3
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	APCI10
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	APCI12

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 12

#4 Methylamines Cooling Tower

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section 12

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : #4 Methylamines Cooling Tower		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment :		

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

Emissions Unit Control Equipment 1

1. Description : Drift eliminators are used to reduce entrainment of water droplets from the cooling tower.
2. Control Device or Method Code : 15

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

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

Emissions Unit Details

1. Initial Startup Date :	01-Aug-1998	
2. Long-term Reserve Shutdown Date :		
3. Package Unit : Manufacturer :		Model Number :
4. Generator Nameplate Rating :	MW	
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :		Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	mmBtu/hr	
2. Maximum Incinerator Rate :	lb/hr	tons/day
3. Maximum Process or Throughput Rate :		
4. Maximum Production Rate :		
5. Operating Capacity Comment : Particulate emissions from the cooling tower are not directly related to any process or production rate.		

Emissions Unit Operating Schedule

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

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

Rule Applicability Analysis

There are no regulations which apply specifically to this emission unit.

Emissions Unit Information Section _____

List of Applicable Regulations

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 12

#4 Methylamines Cooling Tower

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	CT-67038	
2. Emission Point Type Code :	4	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) This emission unit is composed of particulate emissions which result from drift from the #4 Methylam		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : There are no other emission units with this emission point in common.		
5. Discharge Type Code :	F	
6. Stack Height :		feet
7. Exit Diameter :		feet
8. Exit Temperature :	90	°F
9. Actual Volumetric Flow Rate :		acfm
10. Percent Water Vapor :		%
11. Maximum Dry Standard Flow Rate :		dscfm
12. Nonstack Emission Point Height :	0	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :		
14. Emission Point Comment :		

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section 12

#4 Methylamines Cooling Tower

Segment Description and Rate : Segment 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) : Chemical Manufacturing--major Group 28--Fugitive Emissions--2800--Cooling Tower Drift	
2. Source Classification Code (SCC) : 3-01-888-05	
3. SCC Units : Process Unit-Yr	
4. Maximum Hourly Rate :	5. Maximum Annual Rate :
6. Estimated Annual Activity Factor :	
7. Maximum Percent Sulfur :	8. Maximum Percent Ash :
9. Million Btu per SCC Unit :	
10. Segment Comment :	

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

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
1 - PM10	015		NS

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

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

Pollutant Potential/Estimated Emissions : Pollutant 1

1. Pollutant Emitted : **PM10**				
2. Total Percent Efficiency of Control :	70.00	%		
3. Potential Emissions :	2.80	lb/hour	12.50	tons/year
4. Synthetically Limited? [ ] Yes [X] No				
5. Range of Estimated Fugitive/Other Emissions:			to	tons/year
6. Emissions Factor : Reference :				
7. Emissions Method Code :				

8. Calculations of Emissions :

The method used is analogous to the method from AP-42, Section 11.4, except actual data on dissolved solids content and drift rate is used.

Drift from the cooling tower is assumed to be a percentage of circulation rate. This cooling tower will be designed to operate with a drift rate less than .03% of circulation rate.

PM10 results from the residue left when the droplets evaporate. Data on APCI cooling towers indicate that the total dissolved solids level in the recirculating water is approximatley 1000 ppm.

The design circulating rate for the cooling tower is 19000 gpm.

Therefore, the PM10 emissions are calculated as follows:

PM10=(19000 gal/min)*(.0003 gal drift/gal)*(8.34 lb drift/gal drift)*(1000*10^(-6) lb PM10/lb drift)*(60 min/hr)*(24 hr/day)*(365 day/yr)*(1 ton/2000 lb)=12.5 ton/yr

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

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

9. Pollutant Potential/Estimated Emissions Comment :

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : This emission unit will not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 12
#4 Methylamines Cooling Tower

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There are no continuous monitors required for this emission unit.	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 12

#4 Methylamines Cooling Tower

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

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

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

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

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

3. Increment Consuming/Expanding Code :

PM :	SO2 :	NO2 :
C		

4. Baseline Emissions :

PM :	lb/hour	0.0000	tons/year
SO2 :	lb/hour		tons/year
NO2 :			tons/year

5. PSD Comment :

In actuality, drift emissions from cooling towers contribute very little to particulate matter in the air.

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 12

#4 Methylamines Cooling Tower

Supplemental Requirements for All Applications

1. Process Flow Diagram :	NA
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	APCI10
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	APCI8
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :	NA
11. Alterntive Modes of Operation (Emissions Trading) :	NA

12. Identification of Additional Applicable Requirements :	NA
13. Compliance Assurance Monitoring Plan :	NA

14. Acid Rain Application (Hard-copy Required) :

NA	Acid Rain Part - Phase II (Form No. 62-210.900(1)(a))
NA	Repowering Extension Plan (Form No. 62-210.900(1)(a)1.)
NA	New Unit Exemption (Form No. 62-210.900(1)(a)2.)
NA	Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

III. EMISSIONS UNIT INFORMATION

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

Emissions Unit Information Section 13

4 Methylamines Heat Exchangers

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one :

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

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

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

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

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

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

Emissions Unit Information Section _____

Emissions Unit Control Equipment _____

1. Description :
2. Control Device or Method Code :

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Emissions Unit Information Section 13
4 Methylamines Heat Exchangers

Rule Applicability Analysis

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

Emissions Unit Information Section _____

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

Emissions Unit Information Section _____

Pollutant Information Section _____

Allowable Emissions _____

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

List of Applicable Regulations

New NESHAPS, FAC62-296.820

40CFR63.1(a)(1)-(a)(4) HON General Provisions

40CFR63.1(a)(12)-(a)(14) HON General Provisions

40CFR63.2 HON Definitions

40CFR63.4(a)(1)-(a)(3), (a)(5) HON Prohibited Acts

40CFR63.4(b), (c) HON Circumvention/Severability

40CFR63.6(e) HON SU/SD/Malf. Plan

40CFR63.6(f)(2)(i)-(2)(iii)(c) HON non-Opacity Stds.

40CFR63.6(f)(2)(iv), (2)(v), (f)(3) HON non-Opacity Stds.

40CFR63.6(i)(1) HON Extension of Compliance

40CFR63.10(d)(5)(i)-(ii) HON SU/SD/Malf. Reports

40CFR63.104 HON Heat Exchangers

40CFR63.1(b)(2) HON Rqmt. to Obtain Permit

F. SEGMENT (PROCESS/FUEL) INFORMATION

Emissions Unit Information Section _____

Segment Description and Rate : Segment _____

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

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

Emissions Unit Information Section _____

Pollutant Potential/Estimated Emissions : _____

1. Pollutant Emitted :
2. Total Percent Efficiency of Control : %
3. Potential Emissions : lb/hour tons/year
4. Synthetically Limited? [ ] Yes [ ] No
5. Range of Estimated Fugitive/Other Emissions: to tons/year
6. Emissions Factor : Reference :
7. Emissions Method Code :
8. Calculations of Emissions :
9. Pollutant Potential/Estimated Emissions Comment :

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 13
4 Methylamines Heat Exchangers

Visible Emissions Limitation : Visible Emissions Limitation 1

1. Visible Emissions Subtype :
2. Basis for Allowable Opacity :
3. Requested Allowable Opacity : Normal Conditions : % Exceptional Conditions : % Maximum Period of Excess Opacity Allowed : min/hour
4. Method of Compliance :
5. Visible Emissions Comment : This emission unit will not contribute to visible emissions.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Information Section 13
4 Methylamines Heat Exchangers

Continuous Monitoring System : Continuous Monitor 1

1. Parameter Code :	2. Pollutant :
3. CMS Requirement :	
4. Monitor Information : Manufacturer : Model Number : Serial Number :	
5. Installation Date :	
6. Performance Specification Test Date :	
7. Continuous Monitor Comment : There are no continuous monitors required for this emission unit.	

Emissions Unit Information Section 13

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

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section : # 4 Methylamines Heat Exchangers		
2. Emissions Unit Identification Number : [X] No Corresponding ID [ ] Unknown		
3. Emissions Unit Status Code : C	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code : 28
6. Emissions Unit Comment : This emission unit includes E-67032. This emission unit should be combined with the emission unit called "Sitewide HON Heat Exchangers" in the Title V permit Application. There are not normally any emissions from this source.		

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

Emissions Unit Information Section 13
4 Methylamines Heat Exchangers

Emissions Unit Details

1. Initial Startup Date :	01-Dec-1998
2. Long-term Reserve Shutdown Date :	
3. Package Unit : Manufacturer :	Model Number :
4. Generator Nameplate Rating :	MW
5. Incinerator Information : Dwell Temperature : Dwell Time : Incinerator Afterburner Temperature :	 Degrees Fahrenheit Seconds Degrees Fahrenheit

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate :	10	mmBtu/hr	
2. Maximum Incinerator Rate :		lb/hr	tons/day
3. Maximum Process or Throughput Rate :			
4. Maximum Production Rate :			
5. Operating Capacity Comment : Note that this is the same as for the # 4 Methylamines fired heater.			

Emissions Unit Operating Schedule

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

E. EMISSION POINT (STACK/VENT) INFORMATION

Emissions Unit Information Section 13

4 Methylamines Heat Exchangers

Emission Point Description and Type :

1. Identification of Point on Plot Plan or Flow Diagram :	NA
2. Emission Point Type Code :	4
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking : (limit to 100 characters per point) NA	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common : NA	
5. Discharge Type Code :	
6. Stack Height :	feet
7. Exit Diameter :	feet
8. Exit Temperature :	°F
9. Actual Volumetric Flow Rate :	acfm
10. Percent Water Vapor :	%
11. Maximum Dry Standard Flow Rate :	dscfm
12. Nonstack Emission Point Height :	feet
13. Emission Point UTM Coordinates : Zone : East (km) : North (km) :	
14. Emission Point Comment :	

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION

Emissions Unit Information Section 13

4 Methylamines Heat Exchangers

Supplemental Requirements for All Applications

1. Process Flow Diagram :	NA
2. Fuel Analysis or Specification :	NA
3. Detailed Description of Control Equipment :	NA
4. Description of Stack Sampling Facilities :	NA
5. Compliance Test Report :	NA
6. Procedures for Startup and Shutdown :	NA
7. Operation and Maintenance Plan :	APCI9
8. Supplemental Information for Construction Permit Application :	APCI6
9. Other Information Required by Rule or Statue :	NA

Additional Supplemental Requirements for Category I Applications Only

10. Alternative Methods of Operations :
11. Alterntive Modes of Operation (Emissions Trading) :

12. Identification of Additional Applicable Requirements :
13. Compliance Assurance Monitoring Plan :
14. Acid Rain Application (Hard-copy Required) : Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) New Unit Exemption (Form No. 62-210.900(1)(a)2.) Retired Unit Exemption (Form No. 62-210.900(1)(a)3.)

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION

Emissions Unit Information Section 13

4 Methylamines Heat Exchangers

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

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

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

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

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

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

2. Increment Consuming for Nitrogen Dioxide?

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

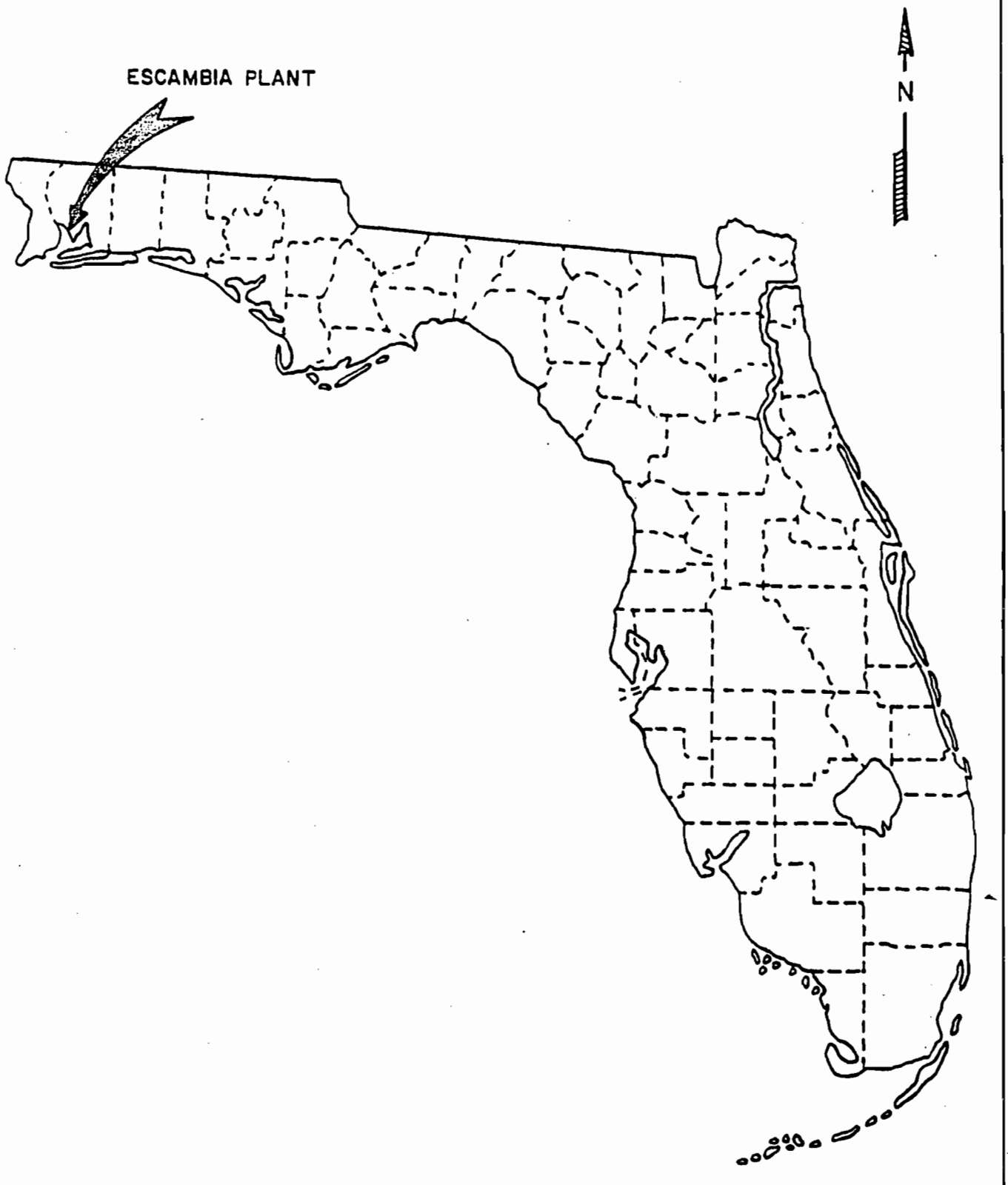
[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988.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

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

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

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

3. Increment Consuming/Expanding Code :		
PM :	SO2 :	NO2 :
4. Baseline Emissions :		
PM :	lb/hour	tons/year
SO2 :	lb/hour	tons/year
NO2 :		tons/year
5. PSD Comment :		



LOCATION MAP

AIR PRODUCTS AND CHEMICALS INC.
ESCAMBIA PLANT

APCI1.1

PACE, FLORIDATOWN

PEA RIDGE, HARP, MULAT

PACE
PEA RIDGE
FLORIDATOWN
HARP
MULAT
Escambia Bay
Base Hole Cove
Saultsman Cove
Simpson River
Ferry Cutoff
East River
Mill Creek
Jacobs Creek
Pace Creek
JOHN INERATY GRANT
ANDREW JACKSON EST.
ESCAMBIA HTS.
BAYVIEW
BAYSIDE
HIGH TRAILS EST.
RAMBLING OAKS
BAYOU RIDGE
INDIAN HILLS
SOUTHERN OAKS
WELLINGTON HTS.
VICKSBURG EST.
SHERIDAN WOODS
ENCHANTED FOREST
LA QUINTA MANOR
DEER RUN APTS.
COUNTRY VILLAGE APTS
PINE VILLA
BRIAR CLIFF
PINE GROVE
METRON EST.
SANTA VILLA
CARLSTEN OAKS
CRESTWOOD EST.
HUNGARIA EST.
TOWER RIDGE
LORENZO
BLUE GRAFT
FLORIDATOWN COUNTY PARK
BOAT RAMP
AIR PRODUCTS & CHEMICALS ESCAMBIA PLANT
AMERICAN CYANAMID PLANT
MULAT FIRE TOWER
AVALON-MULAT FIRE STATION
PACE SPORTS COMPLEX
PACE PLAZA SHOPPING CENTER
OAK PLAZA OFFICE CENTER
PACE VOL. FIRE DEPT.
S.S. DIXON ELEM.
PEA RIDGE ELEM.
BRAXTON MHP
QUAIL RUN MHP
FLORLANDA MHP
KING OAKS MHP
JUDGE'S BAYOU BLVD
CSX TRANSPORTATION SYSTEM, INC. RAILROAD
SEE MAP 44
SEE MAP 58
LIMIT OF MAP
RANGE 29 W
RANGE 28 W
TOWNSHIP 1 N
TOWNSHIP 1 S
©1993 MAPSource, St. Petersburg, FL

MAP 52

MAP 53

N

E200

E400

E600

WESTLAKE PVC PROPERTY BOUNDARY

MACHINE BOILER

PROPOSED COGEN SITE 2

MACHINE BOILER

MACHINE BOILER

MACHINE SHOP

PROPOSED NEW PIPE RACK

N600

OFFICES/LOCKER RMS.

AREA A WAREHOUSE

BOILER MACHINE

BOILER MACHINE

BOILER MACHINE

WESTLAKE PVC PROPERTY BOUNDARY

MACHINE BOILER

MACHINE BOILER

PROPOSED COGEN SITE 3

WAREHOUSE STREET

MACHINE BOILER

MACHINE BOILER

PROPOSED COGEN SITE 4

NITRIC ACID UNIT 2

RILEY UNION BOILER B-24008

MACHINE BOILER

PROPOSED COGEN SITE 1

MACHINE BOILER

CONTROL BLDG./LAB

B & W 600# STEAM BOILER B-24002

STEAM GENERATION

SSC3-2

MCC C3-2-1

N400

COOLING TOWERS

CT-30301

FILE: /usr/keith/cogen2.dgn
DATE: 24-Apr-96 15:40

REV.	LOG NO.	B.O.M.	C.E. NO.	DESCRIPTION	BY	DATE	CHK'D.	AREA	ENG.
Ø	.	.	.	.	.	.	.	.	.

DWG. NO.	TITLE
	REFERENCE DRAWINGS
ESCAMBIA PLANT	AIR PRODUCTS — BOX 467 PENSACOLA, FL.
GENERAL	PLOT PLAN
	PROPOSED COGENERATION SITE PLAN 1996
SCALE 1"=20'	DWG. NO. D-COGEN1996 — ISSUE Ø

NORTH

OFFICE

NEW CONTROL ROOM 45' x 45'

SHOP

CONSTR. RESTROOMS

CONSTRUCTION YARD

EXISTING CONSTRUCTION YARD

CONSTRUCTION TIME SHOP

GULF POWER SUBSTATION

GULF POWER EASEMENT

FIRED HTR. F-67009

D-67024

D-67019

D-67025A

D-67025B

CHECK TANKS

D-67001

RECYCLE FEED TANK

T-67022

ENVIRONMENTAL COL.

CT-67038

COOLING TOWER

CENTER LINE POWER LINES

CENTER LINE POWER LINES

E-1020

℄ WELL WATER

S-1015

FLARE STACK L-67101

FLARE K.O. POT F-68139

NOTE

FIVE 90,000 GAL. BULLET TANKS TO BE LOCATED IN THIS AREA.

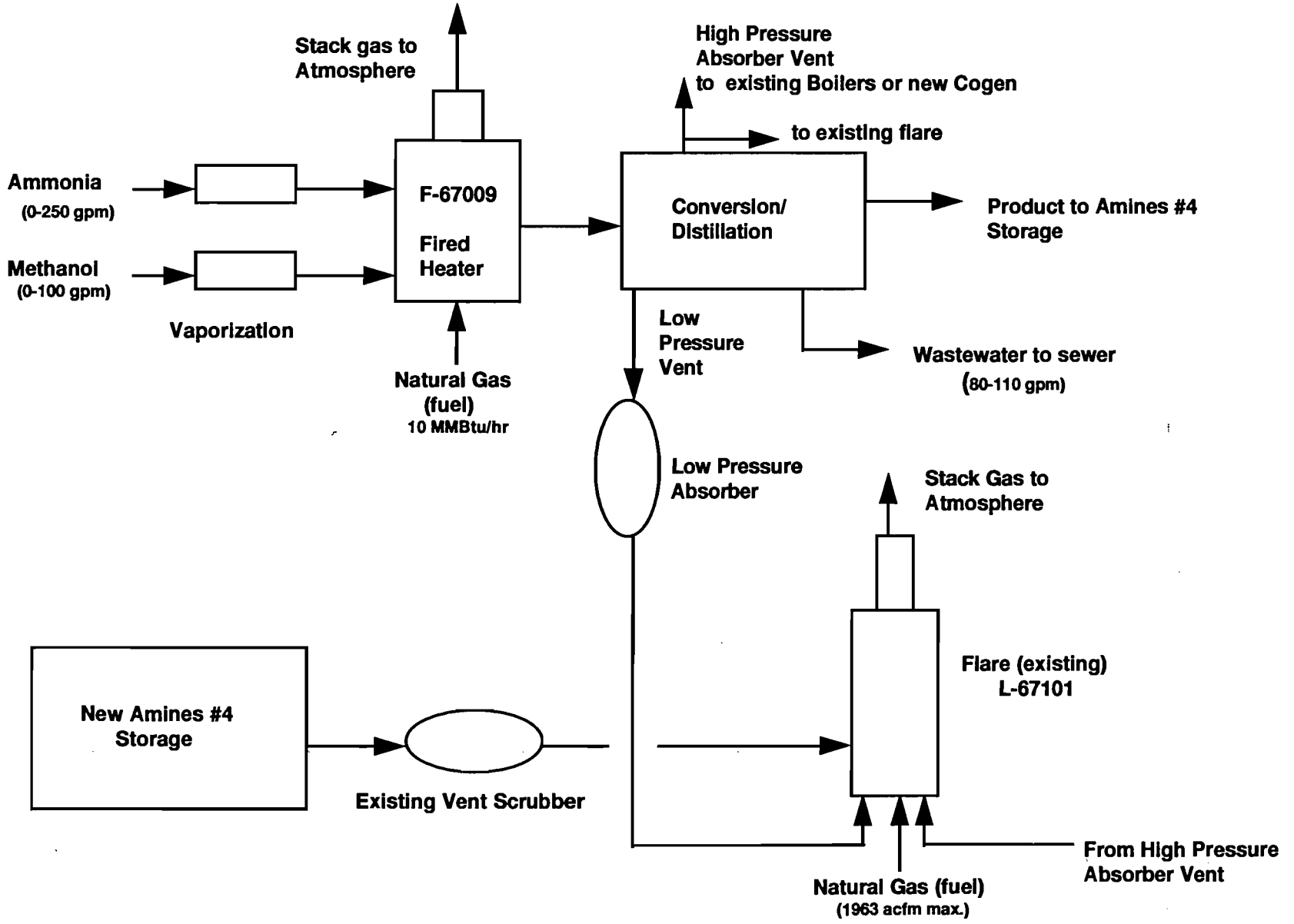
FILE: /usr/ron/67010001c.dgn
DATE: 18-Jun-96 09:49

REV.	LOG NO.	B.O.M.	C.E. NO.	DESCRIPTION	BY	DATE	CHKD.	AREA	ENG.
A				PRELIMINARY	RW	6/18/96			

DWG. NO.	TITLE
	REFERENCE DRAWINGS
ESCAMBIA PLANT	AIR PRODUCTS — BOX 467 PENSACOLA, FL.
PLANT AREA	PLOT PLAN
	METHYLAMINES #4 APCI 2A
SCALE 1"= 60'-0"	DWG. NO. D-670.10-001C — ISSUE A

APCI - 3
#4 Methylamines Process Flow

AIR PRODUCTS



Drawn by T. Knepper 8/2/96

APCI4

Precautions to Prevent Emissions of Unconfined Particulate Matter

Cooling Towers

Particulate emissions from the cooling tower are controlled using drift eliminators to catch the entrained droplets, coalesce them, and allow the water to drain back into the cooling tower. In addition, the louvers are designed to slope inward towards the tower so that any droplets that impinge on the louvers will also drain back into the tower. Finally, since the droplets are wet, most of them fall to the ground a short distance from the tower, before they can evaporate and contribute to airborne particulate emissions.

The cooling tower for the new methylamines plant will be designed with a very low drift rate, less than .03% of the recirculation rate.

Road Dust

All of the main roads will be paved. Additionally, the plant speed limit is 20 miles per hour.

Fugitive Emission Identification

Equipment Leaks

Fugitive emissions throughout the plant result primarily from tiny leaks through packings and seals. The purpose of the packings and seals is to prevent leakage to the atmosphere and, in some cases, to prevent air or dirt from entering the process. Best available sealing technologies are used throughout the plant to minimize leakage and LDAR (leak detection and repair) is employed to find leaks that are too small to hear, see, or smell and repair them. The instrument used to find these leaks (either an OVA or a Bacharach TLV meter) is sensitive down to concentrations of approximately 3 ppm (parts per million).

Since it is impossible to actually measure the minute leakage from equipment seals throughout the plant, EPA protocols are used to estimate the amount of leakage ("Protocol for Equipment Leak Emission Estimates", EPA, November 1995). The composition of these fugitive emissions is detailed in the individual emission unit sections for fugitive emissions: #4 Methyls HON Equipment Leaks (for equipment in methanol service) and #4 Methyls Non-HON Equipment Leaks (for all other VOC containing equipment.

Secondary Fugitive Emissions

Secondary fugitive emissions result from Road Dust, from cooling tower drift, from Waste Water Treatment, from preparing equipment for safe maintenance or from the maintenance itself. Control of fugitive emissions from dust and cooling towers is discussed more fully in Attachment APCI4, Precautions to Prevent Emissions of Unconfined Particulate Matter.

Preparing process equipment for safe maintenance involves three main steps: (1) isolation of the equipment from all energy sources (chemical, electrical, mechanical, potential), (2) removal of hazardous materials and (3) Ensuring adequate ventilation or air supply for confined spaces. In general, when equipment must be prepared for maintenance, all liquids are removed, and, in most cases returned to the process. However, some small amounts of materials may be washed to the Waste Water Treatment system either during the initial draining or during subsequent water washing. Most of the materials that are washed to the waste water treatment system will be degraded biologically, however, there is a very small fraction (estimated at .144%) that escapes to the air as fugitive emissions. Additionally, any vapors left in the equipment after the liquids are removed will be purged to the air as fugitive emissions once ventilation is established.

Maintenance activities themselves, such as painting or insulating, may involve the use of materials which contain volatile organic materials which evaporate into the air as fugitive emissions. Use of such a material receives careful review on a case by case basis and the plant policy is to not use ozone depleting substances unless there is no other alternative available.

Secondary fugitive emissions were quantified extensively in the Title V permit application. Therefore, the exercise will not be repeated here.

Project Summary and Emission Estimate

Project Summary

This project will construct a new state-of-the-art methylamines production facility and steam/electric power generation facilities at the Air Production and Chemicals, Inc. facility in Pace, Florida.

The new methylamines plant will contain a new 10 MMBtu/hr fired heater, new storage tanks, new distillation columns, and a new cooling tower. Existing storage capacity and loading facilities will also serve the new plant. Additionally, in order to supply the steam needs of the new plant, three new cogeneration units will be installed each capable of producing 5 megawatts of electricity and 90,000 lb/hr of 600 psig steam, replacing an existing boiler for a net emission reduction. In addition to supplying most of the steam needs for the site, the new cogeneration facilities will supply the base electric needs of the entire facility, dramatically reducing the site's purchased electric power.

Emission Estimate and Control Summary

The new methylamines plant will incorporate the latest in fugitive emission reduction technology including bellows sealed valves, valves with live-loaded packing, sealless pumps, and welded pipe. All fugitive emissions will meet EPA requirements under New Source Performance Standards (40 CFR 60, Subpart VV) or the Hazardous Organic NESHAP (40 CFR 63, Subpart H) as appropriate.

The new cooling tower will be designed to operate at a drift rate not to exceed .03% of the tower circulation rate (estimated at 19,000 gallons per minute). This will result in a particulate emission rate approximately 70% less than the cooling tower for the existing methylamines plant.

New storage tanks and distillation columns will be constructed in conformance with EPA regulations under New Source Performance Standards (40 CFR Part 60, Subparts Kb) and the Hazardous Organic NESHAP (40 CFR Part 63, Subparts A, F, and G), as appropriate.

The three new combined cycle cogeneration facilities will be capable of supplying all of the site's base electric power needs as well as most of the site's steam demand. The cogeneration facilities will replace one existing boiler completely, and the two remaining existing boilers will be used only for burning by-product fuels such as vent gas and used oil, although they will remain fully permitted to be used as back up. The new cogeneration facilities will employ the best available technology for controlling emissions of NOx and CO. The gas turbine end of the facilities will use low NOx burners to exceed compliance with EPA requirements under New Source Performance Standards (40 CFR 60, Subpart GG). The steam generation end of the cogeneration units will comply with NSPS for small boilers (40CFR 60, Subpart Dc). Additionally, a CO removal catalyst will be employed to ensure that no significant emission levels will be exceeded for any pollutant.

The combination of low NOx burners and CO removal in the cogeneration facilities will result in a net actual emission reduction for the entire project of approximately 87, 000 lb/yr. The net potential emission reduction (due to shutting down the Riley Union Boiler) will be approximately 123,000 lb/yr. Emission reductions resulting from reduced purchased power are not quantified and are not included in this analysis. The changes in potential and actual emissions for the Escambia site are summarized in the attached Table 1 and Table 2.

Control Equipment costs are summarized in Table 3.

Supplemental Information for Construction Permit Application

Table 1

Change in Potential Emissions (lb/yr)

This analysis assumes construction of an entirely new methylamines production facility similar in capacity and technology to the existing facility, construction of 3--5MW combined cycle cogeneration units each capable of producing 90,000 lb/hr of 600 lb steam, and removal of the Riley Union boiler.

CO emissions are reduced by a combination of using regular burners for supplemental firing and using a 90% removal catalyst. This catalyst will also reduce VOC emissions from cogen by 50%.

Emission decreases are shown in parentheses.

Pollutant	Fired Heater (10 MMBtu/hr)	Flare	Fugitive Emissions	Cooling Tower (19000 gpm)	Cogen 1,2 & 3 (270 MPPH 600# steam)	Riley Union Boiler	Net Change
NOx	12,000	no change			420,674	(599,640)	-166,966
CO	1,720	no change			26,257	(43,600)	-15,623
SOx	60	no change			2,117	(660)	1,517
VOC	240	no change	16,864		2,469	(1520)	18,053
PM10	260	no change		24,980	10,583	(3260)	32,563
HAP's*	---	no change	7,319				7,319
						Total Net	**-123,137 lb**

Note that no credit for potential emission reductions from the Riley Stoker or the B&W boilers is taken because we do not wish to reduce the current permitted capacity so they can be used as backup if cogen is down.

*Methanol

Table 2

Change in Actual Emissions (lb/yr)

This analysis assumes that the Riley Stoker and B&W boilers will only be used to burn by-product fuels, each normally producing about 50,000 lb/hr of 600# steam except when needed for backup. Also assume that actual emissions for the new plant will be approximately equal to actual emissions from the existing plant. Finally, this analysis assumes that the cogeneration units only produce, on average, 150 Mlb/hr steam and that the 90% CO reduction catalyst is employed (which also reduces VOC by about 50%).

Emission decreases are shown in parentheses.

Pollutant	Fired Heater (10 MMBtu/hr)	Flare	Fugitive Emission	Cooling Tower (19000 gpm)	Cogen 1,2 & 3 (150 MPPH 600# steam)	Riley Union Boiler	Riley Stoker Boiler	B&W Boiler	Net Change
NOx	6,680	14,800			279,619	(290,180)	(14,450)	(127,970)	-131,501
CO	960	3,700			22,730	(26,330)	(3,860)	(9,320)	-12,120
SOx	20	20			1,512	(320)	(90)	(140)	1,002
VOC	130	290	16,864		1,764	(740)	(250)	(330)	17,728
PM10	140	310		24,980	7,561	(1590)	(380)	(710)	30,311
HAP's*	---	no change	7,319						7,319
								Total Net	**-87,261 lb**

Note that in actuality, the B&W boiler will probably only be operated as backup so that the actual emission reduction from the B&W boiler will be approximately twice that listed above.

*Methanol

Table 3

Cost of Emission Controls

1.	Low NOx Incremental Cost	$ 300,000
2.	CO Reduction Catalyst	$ 145,000*
3.	Cooling Tower Low Drift Incremental Cost	$ 50,000
4.	Fugitive Emission Controls	$2,800,000
	Total	**$3,295,000**

* This does not include an approximate maintenance cost for the catalyst units of $30,000/year.

APCI 7
Fuel Analysis or Specification

Riley Stoker Boiler

Fuel	Max. Heat Input	% Sulfur	% Nitrogen	Other
Natural Gas	1097 BTU/scf	.0003	.307	
Ethane	1190 BTU/scf	.0006	8.0	
Methanol Vent Gas	359 BTU/scf	0	0	4.8% MeOH
Amines Liquid Waste	78 MBTU/gal	0	10	8% MeOH,amine salts
Ammonia Vent Gas	411 BTU/scf	0	.2	30% NH_3
Waste Oil	100 MBTU/gal	.06	.2	
Amines Vent Gas	606 BTU/scf	0	20	2.7% TEA

B&W Boiler

Fuel	Max. Heat Input	% Sulfur	% Nitrogen	Other
Natural Gas	1097 BTU/scf	.0003	.307	
Ethane	1190 BTU/scf	.0006	8.0	
Methanol Vent Gas	359 BTU/scf	0	0	4.8% MeOH
Ammonia Vent Gas	411 BTU/scf	0	.2	30% NH_3
Amines Vent Gas	606 BTU/scf	0	20	2.7% TEA

Cogen 1, 2, and 3

Fuel	Max. Heat Input	% Sulfur	% Nitrogen	Other
Natural Gas	1097 BTU/scf	.0003	.307	
Ethane	1190 BTU/scf	.0006	8.0	
Methanol Vent Gas	359 BTU/scf	0	0	4.8% MeOH
Ammonia Vent Gas	411 BTU/scf	0	.2	30% NH_3
Amines Vent Gas	606 BTU/scf	0	20	2.7% TEA

All Other Fuel Burning Equipment

Fuel	Max. Heat Input	% Sulfur	% Nitrogen
Natural Gas	1097 BTU/scf	.0003	.307
Ethane	1190 BTU/scf	.0006	8.0

APCI8

Procedures for Startup and Shutdown

The Air Products and Chemicals, Inc. facility in Pace, Florida is an ISO 9000 certified manufacturing plant. The ISO 9000 standard requires that operating procedures be maintained in a system that ensures that the procedures are always up to date and that only the most recent version of a procedure is used. This requirement is known as "Document Control."

The Air Products Escambia Plant Document Control system employs System Administrators who are responsible for insuring that operating procedures are kept up to date and that changes to operating procedures are adequately reviewed.

Procedures for startup, shutdown, normal operation and malfunction exist for each unit operation in each area. Regulatory requirements such as permit limits and compliance assurance are built into the unit operating procedures. And procedures are written so as to minimize excess emissions.

Operating procedures are maintained electronically in a system known as "InForm," which is a copyrighted software package produced by Howell Training Resources.

Under this system, hard copy printouts of procedures expire within 24 hours of printing. It is a violation of plant procedure to be in possession of expired hard copies of operating procedures. The purpose of these strict document control procedures is to ensure that operations are conducted in the safest and most consistent manner.

Due to the volume of printed material in question, it would be impractical to attach copies of all the operating procedures to this application. However, current procedures are available for review at any reasonable time.

APCI9

Operation and Maintenance Plan

The Air Products and Chemicals, Inc. facility in Pace, Florida utilizes a computerized scheduled maintenance system known as SCHEMAS. In this system, maintenance tasks such as calibrations, inspections, and operability checks are entered into a mainframe computer which contains similar information for other Air Products facilities.

Required maintenance tasks for each piece of equipment and their required frequency are determined individually for each piece of equipment. Each of these tasks is then programmed into the computer. Daily, weekly, or monthly computer printouts instruct the mechanical craftsmen as to which tasks are due. As each task is completed, maintenance personnel must enter close out information for the task in the computer. Any tasks which are missed for any reason are reported to the Plant Manager for Investigation.

Information on maintenance tasks scheduled for certain pieces of equipment is easily retrievable from SCHEMAS and is available for inspection at any reasonable time.

Prior to installation of new equipment, a series of four hazard reviews is conducted, during which operation and maintenance requirements are identified so that they can be built into the operating procedures or SCHEMAS. Additionally, thorough HAZOP reviews are conducted for each operating process unit at least once every five years. Finally, a system known as "Management of Change," or "MOC," is used to ensure that all process changes other than replacement in kind receive a thorough review prior to implementation. MOC also ensures that process changes are communicated to all affected personnel.

Equipment files are maintained for each piece of process equipment which contain information on equipment design, inspections, and any historical problems encountered.

Detailed Description of Control Equipment

Amines Flare

The Amines Flare is a non-assisted flare with a natural gas pilot. Natural gas is ratioed to process gas (which is mostly hydrogen) .5:1 to ensure complete combustion. A thermocouple continuously monitors the flame and alarms the control room if the flame appears to go out. Since the flare will not relight itself, a delay built into the computer logic is sufficient to allow for brief instances where the wind blows the flame away from the thermocouple. The ratio of natural gas to process gas insures that the minimum heat content of the gas being burned can never fall below the minimum requirement under NSPS (7.45MJ/m^3), and a high flow alarm on the natural gas flow ensures that the maximum allowable flare exit velocity (60 ft/sec) is not exceeded.

Low NOx (Lean Premix) Combustion

In conventional combustion, fuel and air are mixed at the flame zone so that mixing and combustion are essentially taking place simultaneously. As a result, even when off stoichiometric firing is employed, localized temperatures can approach the stoichiometric adiabatic flame temperature where insufficient mixing has occurred. Lean premix combustion employs both off-stoichiometric firing and a mechanism for thoroughly mixing the fuel and air prior to the flame zone to ensure that no localized hot spots can occur. Maintaining the fuel to air ratio in the lean range reduces the flame temperature which in turn reduces NOx formation.

Gas turbine NOx emissions for a natural gas fired 5 MW turbine using conventional combustion technologies are on the order of 100 ppm. Off stoichiometric firing can achieve NOx emissions on the order of 50 ppm. The combination of "lean premix" can achieve NOx levels less than 25 ppm.

However, in general, there is a tradeoff between NOx emission reductions and CO emission increases because of very low combustion zone residence times.

CO Reduction Catalyst

Engelhard's precious metal "CatCO" catalyst will be employed to reduce CO emissions from the cogeneration units. As mentioned above, low NOx combustion produces increased CO emissions.

The "CatCO" catalyst oxidizes approximately 90% of the CO generated to CO2 according to the following equation:

$$2CO + O2 \text{ ----> } 2CO2$$

Additionally, the "CatCO" catalyst will oxidize approximately 50% of the unreacted hydrocarbons (UHC) in the stream to CO2 and water using the following equation:

$$(A)\ UHC + O2 \text{ ----> } CO2 + (B)\ H2O$$

Pressurized Tanks

New methylamines storage tanks will designed to operate as high pressure (200 psig) bullet tanks. Operating at high pressure minimizes the methylamine partial pressure in the vent stream in the event that the tank requires venting. Normally venting will not occur. However, sometimes product must be loaded into railcars or trucks which have been blanketed with nitrogen for safety in transporation. During the closed dome loading procedure, vapors from the railcar or truck are vented back to the storage tank to eliminate emissions to the atmosphere. However, if nitrogen is vented back to the tank, it will act as a noncondensible gas which must be vented to prevent overpressuring the tank. Venting at high pressures ensures that the concentration of methylamines in the vent stream is minimized.

Vents from the high pressure tanks are scrubbed using a water scrubber to recover the product and then the vent from the water scrubber is flared or sent to the boilers.

Boilers

The Riley Stoker Boiler, the B&W boiler and the heat recovery steam generators on the cogeneration units are all designed to burn vent gases from the methanol, ammonia and amines processes. The vent gases are fed through annular burners with natural gas to ensure complete combustion. Each boiler is designed for a maximum firing rate of approximate 127 MMBTU/hr and is capable of producing about 90,000 lb/hr of 600 psig steam. The heat recovery steam generators are designed for a firing rate of approximately 70 MMBtu/hr and can also produce 90,000 lb/hr of 600# steam each. Thus, the boilers recover energy from process purge streams and they meet the technology-based control standard for Group 1 process vents under the HON.

APCI 11

Description of Stack Sampling Facilities

Cogeneration 1,2, and 3

Sampling facilities will be provided on each of three identical stacks.

1. Stack diameter — 4.0 feet diameter
2. 2 sampling ports — at 90 degree angle, capable of being sealed when not in use.
3. Sampling port inside diameter — 3 1/4"
4. Sampling ports will located at least 8.0 feet downstream and 2.0 ft upstream of any fan, bend, constriction or other flow disturbance.
5. The working platform will be at least three feet wide with rails and toeboards and will extend at least 110 degrees around each stack. The platform will also extend across all three stacks to minimize climbing up and down. The safety rail will be located so that no obstruction exists within an area extending 14 inches below each sample port and 6 inches on either side of the sample port.
6. Ladders with safety cages will be provided for access.
7. Either two 120V AC 20 amp outlets will be provided at the sample platform or extension cords will be kept readily available.
8. Either angle bracket supports will be located directly above each sample port (3"X3"X.25" equal legs 1.5 inches wide) 14" above the center line of the sample port or, alternatively, a 3/8" eye bolt protruding 2 " from the stack shall be located 15.5 inches directly above the center line of the sample port. In addition to either the bracket or the 3/8" eyebolt, a 3/4" eyebolt will be provided 48 " above the horizontal portion of the bracket or eyebolt.

Description of Emission Points and Controls

#4 Methylamines Production	Group #	Mono-, di-, and tri-methylamine production
Process Vents (2)--T-67102 (low pressure absorber to flare) and T-67014 (high pressure absorber to flare or boiler)	1	Process vents are controlled by a flare meeting the control device requirements specified in 40 CFR63.11, 114, 116, 117, and 118. The low pressure and high pressure absorbers are high efficiency product recovery devices which are used to recover product from distillation vents, tank vents, and clearing equipment for mechanical work.
Env. Col. Bot.--T-67022 (waste water) bottoms to sewer. ********** Total VOHAP Conc. (methanol)< 115 ppm Flow Rate (lpm)=364 Intend to Control: No	2 (Waste water)	Environmental column bottoms concentration is controlled to less than 1000 ppm TOC, ensuring a methanol concentration below the Group 1 threshold. The composition typically runs in the 100-115 ppm TOC range. Composition is controlled by controlling column tray temperature and procedures are used to minimize emissions during a process upset. The environmental column is so-named because one was originally installed voluntarily several years ago in the existing methylamines plant to recover methanol from the waste water stream, thereby reducing environmental emissions to both air and water.
Recycle Feed Tank--D-67001	1	The #4 Methylamines Recycle Feed Tank vents to the low pressure absorber which, in turn, vents to the flare.
Methylamines HON Maint. Waste Water--emissions from fluids drained from MeOH containing equipment during preparation for mechanical work.	NA	Best management practices are used to minimize emissions to the air while preparing equipment for safe maintenance.
Methylamines HON Fugitives--equipment leaks from equipment containing >5% by weight methanol	NA-Fugitives	Low leak technology components are employed extensively. Additionally, LDAR will be practiced throughout the plant as required under both the HON for methanol fugitives and NSPS for methylamines fugitives.
Methylamines HON Shutdown Losses--Emissions from clearing equipment for inspection/repair downtimes	NA	Procedures are used to minimize emissions to the air when preparing equipment for inspection or repair.

Other Emission Sources

The flare has already been described in the site's Title V Operating Permit application. Likewise, the existing closed dome loading facilities will be used to load product and they have already been described in the site's Title V Operating Permit application.

Other emission sources which are not subject to the HON include the cooling tower which is designed for the lowest practicable drift rate and methylamines storage tanks, gas fired turbines, and supplementally fired heat recovery steam generators which are all designed to comply with various NSPS requirements.

Compliance Statement

The compliance demonstration, monitoring, inspection, recordkeeping, and reporting provisions in 40CFR63.113-63.148 that are applicable to each emission point will be implemented following completion of construction.