FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
Northwest District
160 W Government St., Suite 308
Pensacola, Florida 32502-5740

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SECRETARY

Sent by Electronic Mail – Received Receipt Requested

PERMITTEE

Taminco Inc.
4574 Highway 90 East
Pace, Florida 32571

Authorized Representative:
Mr. Robert Dwane Brumfield, Site Manager

Air Permit No. 1130004-020-AC
Permit Expires: November 29, 2017

Taminco Pace Plant
Title V Air Construction Permit
No. 4 Methylamines Plant

This is the final air construction permit, which authorizes expansion of the No. 4 Methylamines Plant. The proposed work will be conducted at the existing Taminco Pace Plant, which is a Chemical Processing Plant (Standard Industrial Classification No. 2869). The facility is located in Santa Rosa County at 4575 Highway 90 East in Pace, Florida. The UTM coordinates are Zone 16, 486.9 km East, and 3382.7 km North. As noted in the Final Determination provided with this final permit, no changes were made to the draft permit.

This final permit is organized by the following sections.

Section 1. General Information

Section 2. Administrative Requirements

Section 3. Emissions Unit Specific Conditions

Section 4. Appendices

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C., and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C., for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Pensacola, Florida

/signed by Armando Sarasua for/ 11/29/12

Rick Bradburn, Air Program Administrator (Date)

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on November 29, 2012 to the persons listed below.

Robert Dwane Brumfield, Taminco Inc.: dwane.brumfield@taminco.com
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Kathleen Forney, EPA Region 4: forney.kathleen@epa.gov

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

/s/ 11/29/12

(Clerk) (Date)

FACILITY AND PROJECT DESCRIPTION

This construction permit follows 1130004-018-AV, effective July 13, 2011. Construction permit 1130004-019-AC, issued March 7, 2011, authorized the construction of a new dimethyl laurylamine (DIMLA) plant.

The DIMLA project, Application No. 1130004-019-AC, and the No. 4 MA Plant expansion project, Application 1130004-020-AC, are operationally and financially independent of one another. The existing capacity of the Pace plant is more than sufficient to supply DMA to the DIMLA plant without any MA expansion. The No. 4 MA Plant produces a variety of methylamines (MMA, DMA and TMA). The DIMLA plant uses one of these materials (DMA) as a starting material to make DIMLA. Consumption of DMA in the DIMLA unit is only about 3% of the Pace plant's existing DMA capacity in 2012. The Applicant states that the MA expansion project would be executed in absence of the DIMLA project. Without an MA expansion, Taminco cannot satisfy expected demands, unrelated to DIMLA, that stem from the volume demand growth of its MA and MA derivatives customers.

Existing Facility

Taminco Inc. operates an amines production facility in Pace, Florida, consisting of five chemical processing plants. Plants Nos. 1 and 4 produce a variety of methylamines. Plant No. 2 produces a variety of higher amines, including alkylamines and amylamines. Plant No. 3 processes higher amines and crude methanol. The DIMLA plant produces dimethyl laurylamine. The Utility Area contains two boilers, the Riley Stoker and the Babcock & Wilcox (B&W) boilers, and three cogeneration units. The cogeneration units are owned by Gulf Power but operated by Taminco. The existing facility consists of the following emissions units.

Facility ID No. 1130004

ID No.	Regulated Emissions Unit Description
EU001	Riley Stoker Boiler
EU003	B&W Boiler
EU005	Amines Plants Flare
EU006	Methylamines Plant No. 1 Gas Fired Heater
EU007	Higher Amines Plant Gas-Fired Heater
EU029	Methylamines Plants Nos. 1 and 4 Group 1 HON Storage Tanks
EU033	Methylamines Plant No. 4 Process Vents
EU034	Methylamines Plant No.4 Wastewater
EU035	Methylamines Plant No. 4 HON Maintenance Wastewater
EU036	Methylamines Plants Nos. 1 and 4 HON Equipment Leaks
EU037	Methylamines Plant No. 4 VOC Equipment Leaks
EU046	Sitewide HON Heat Exchangers
EU047	Methanol Storage HON Maintenance Wastewater
EU048	Methanol Storage Sample Points
EU049	Methylamines Plant No. 1 Process Vents
EU050	Methylamines Plant No. 1 Wastewater
EU051	Methylamines Plant No. 1 HON Maintenance Wastewater
EU053	Methylamines Plants Nos. 1 & 4 HON Group 2 Storage Tanks
EU054	Methylamines Plants Nos. 1 & 4 NSPS Storage Tanks

EU055	72” Batch Column Process Vent
EU056	72” Batch Column MON Maintenance Wastewater
EU057	Higher Amines and 72” Batch Column MON Equipment leaks
EU058	Higher Amines/72”Column/DIMLA MON Group 2 Storage Tanks
EU059	72” Batch Column Wastewater
EU060	Methylamines Plant No. 4 Gas Fired Heater
EU066	Higher Amines and 72” Batch Column Group 2 MON Transfer Rack
EU070	Higher Amines Plant Process Vents
EU071	Higher Amines/DIMLA MON Maintenance Wastewater
EU072	Higher Amines/DIMLA MON Wastewater
EU073	Higher Amines and 72” Batch Column MON Group 1 Storage Tanks
EU074	Sitewide MON Heat Exchangers
EU079	DIMLA Scrubber
ID No.	**Unregulated Emissions Unit Description**
EU075	Wastewater Treatment Plant Fugitives
EU062	Facility-Wide Equipment Leak Fugitives
EU063	Cooling Towers (4)
EU076	DIMLA Storage Tanks and Loading
EU077	DIMLA MON Equipment Leaks
EU078	DIMLA VOC Equipment Leaks

Note: ‘HON’ is Hazardous Organic NESHAP (National Emission Standards for Hazardous Air Pollutants) and ‘MON’ is Miscellaneous Organic NESHAP.

Proposed Project

The proposed No. 4 Methylamines Plant expansion project (“the Project”) will allow the facility to increase production of monomethylamine (MMA), dimethylamine (DMA), and trimethylamine (TMA). In the methylamines (MA) production process, methanol is reacted continuously with ammonia to yield methylamines. A natural gas-fired preheater is used to reach reaction temperature. Distillation columns may vent to the low pressure absorber or high pressure absorber which vents to the Amines Plants Flare. The Amines Plants Flare is a non-assisted flare with a natural gas pilot. Process gas from the high pressure absorber vents can also be controlled in the Riley Stoker or B&W Boilers, although this is not typically practiced. Wastewater generated from the process is treated in the wastewater treatment system.

Steam demands for the proposed Project will be reduced on pounds of steam per ton of product produced basis; however, total steam usage at the expanded No. 4 MA Plant will be approximately two times the amount of steam currently used at the No. 4 MA plant. Approximately 47% of the steam will come from the Gulf Power Cogeneration units and the remaining 53% will be produced by the Riley Stoker and B & W Boilers.

The Project will reuse existing equipment and foundations to the maximum extent possible. Since all existing columns, except the Separation Column, will be in new service, significant rearrangement and repiping of existing equipment will be required.

The Project scope includes extensive provisions to minimize the environmental impact. These include:

- Heat integration using an innovative hot water circulating loop to reduce the amount of steam required to produce a pound of product by approximately 50%;
- The installation of flue gas recirculation on the Riley Stoker and B&W boilers to reduce NOx emissions; and,
- The use of bellows sealed valves and sealless pumps to reduce fugitive emissions.

The proposed No. 4 MA Plant expansion Project includes the following changes:

1. Install Flue Gas Recirculation on the existing Riley Stoker and B&W boilers to reduce NOx emissions.
2. Upgrade or replace methanol supply pumps and associated piping at the methanol storage area.
3. Install a new supply line from the methanol storage area to the No. 4 MA plant.
4. Install a new 7,500 gallon methanol feed tank (D-67043). The new tank will drain to the dike that is connected to the chemical sewer to allow the tank to be cleared for mechanical work.
5. Install new 20,000 gallon ammonia/methylamines recycle feed tank (D-67044).
6. The new feed tanks will vent through the existing absorbers which vent to the flare.
7. The feed streams to the MA process will be preheated using reactor effluents in a series of heat exchangers, including two waste heat boilers, to maximize energy efficiency.
8. Additional heat integration will be accomplished through use of a hot water circulation loop.
9. Install a new Ammonia Column, T-67024, in the distillation train to separate unreacted ammonia for recycle. A new fixed bed converter with catalyst will also be required.
10. The main reboiler for the Ammonia Column will use steam, produced by one of the reactor waste heat boilers, and steam from flashing of condensate in the new condensate tank. A secondary steam reboiler is provided for start-up and as needed to maintain the proper temperature of the steam.
11. Convert the old ammonia column, T-67015, to TMA service. This column will perform extractive distillation using water recovered from the columns that follow it in the process.
12. Install a new Dehydration Column, T-67025. Vapors, in the form of dry MMA and DMA, will be fed from the new Dehydration Column to the existing Dehydration Column, T-67020.
13. The existing Dehydration column will be converted to DMA service. A new reboiler is required for the conversion to make use of the hot water loop instead of steam, and a new condenser is also required due to the lower temperature with the change of service. The overheads from the DMA column, a mixture of MMA and DMA, will be fed to the last column in the train.
14. A purge column, T-67026, will be used to recover product from the dehydration column tray purge.
15. High purity MMA product will be taken from the overheads of the existing Separation Column, T-67023, and DMA product will be taken from the bottoms.
16. An additional overhead condenser, E-67065, will be added to the Separation Column and a new reboiler will be installed to make use of the hot water system instead of steam.
17. An auxiliary column, the existing No. 4 Environmental Column (currently in TMA service), T-67022, will be used to recover unreacted methanol from both the No. 4 MA Plant and the No. 1 MA Plant Dehydration Column. An existing condenser will be converted to hot water service for the circulation loop rather than cooling water. The Environmental Column in the No. 1 MA plant will be retired.
18. Condenser E-67119 (No. 1 MA Plant Environmental Column Condenser) will be taken out of service and will be replaced by Condenser E-67032 (No. 4 MA Plant Environmental Column Condenser).
19. Condenser E-671119 will continue to be used as the No. 1 MA Plant Column Sidedraw Condenser.
20. Condenser E-67037 (No. 4 MA Plant Dehydration Column Sidedraw Condenser) will be replaced by Condenser E-67068 (new Dehydration Column Sidedraw Condenser).
21. Taminco currently operates four cooling towers. The MA Plant expansion will modify one of the existing cooling towers (CT-67038) by adding an identical cell (CT-67039).

No physical modifications are planned to the wastewater treatment system. The existing system can handle the additional flow and loading.

This Project will modify or affect the following emissions units.

Facility ID No. 1130004	
ID No.	**Regulated Emissions Unit Description**
EU001	Riley Stoker Boiler
EU003	B&W Boiler
EU005	Amines Plants Flare
EU029	Methylamines Plants Nos. 1 and 4 Group 1 HON Storage Tanks
EU033	Methylamines Plant No. 4 Process Vents
EU034	Methylamines Plant No.4 Wastewater
EU035	Methylamines Plant No. 4 HON Maintenance Wastewater
EU036	Methylamines Plants Nos. 1 and 4 HON Equipment Leaks
EU037	Methylamines Plant No. 4 VOC Equipment Leaks
EU046	Sitewide HON Heat Exchangers
EU050	Methylamines Plant No. 1 Wastewater
EU051	Methylamines Plant No. 1 HON Maintenance Wastewater
EU053	Methylamines Plants Nos. 1 & 4 HON Group 2 HON Storage Tanks
EU054	Methylamines Plants Nos. 1 & 4 NSPS Storage Tanks
EU060	Methylamines Plant No. 4 Gas Fired Heater
EU062	Facility-Wide Equipment Leak Fugitives
EU063	Cooling Towers (4)
EU075	Wastewater Treatment Plant Fugitives

Emission Units 034, 035, 036, 037, 050, 054 & 060 are not explicitly identified on the application scope list, however, these emission units are affected by this project as follows:

EU 034 - Methylamines Plant No.4 Wastewater: Increased wastewater from increased production at No. 4 MA Plant.
EU 035 - Methylamines Plant No. 4 HON Maintenance Wastewater: Methanol containing wastewater will no longer be routed to the Recycle Feed Tank, D-67001, or the Recycle Feed Tank Cooler, E-67001. In addition, the new Methanol feed tank will drain to the dike connected to the chemical sewer for maintenance activities.
EU 036 - Methylamines Plants Nos. 1 and 4 HON Equipment Leaks: Adding piping from new and existing equipment in the No. 4 MA Plant.
EU 037 - Methylamines Plant No. 4 VOC Equipment Leaks: Adding piping from new and existing equipment in the No. 4 MA Plant.
EU 050 - Methylamines Plant No. 1 Wastewater: The No. 1 Methylamines Plant environmental column will be taken out of service. The Methylamines Plant No. 1 Wastewater (#1 Environmental Column Bottoms) will no longer be a wastewater stream. Streams currently processed by the #1 Environmental Column will be processed by the #4 Environmental Column.
EU 051 - Methylamines Plant No. 1 HON Maintenance Wastewater: HON Maintenance Wastewater will increase as a result of maintenance activities on the No. 1 MA Plant Column Sidedraw Condenser (E-671119).
EU 054 - Methylamines Plants Nos. 1 & 4 NSPS Storage Tanks: Emissions will increase due to the installation of the new ammonia/methylamines Tank (D-67044).

EU 060 - Methylamines Plant No. 4 Gas Fired Heater: Flow of natural gas to the heater will increase due to increased production at the No. 4 MA Plant. However, the maximum allowable operating rate is unchanged from the existing Title V permit.

Emissions Changes Due to Project: (Emissions listed in tons per year)

Pollutant	Facility Potential Emissions		Baseline Actual Emissions	Projected Actual Emissions	Project Emissions Increase[a]	Significant Emissions Rate	Subject To PSD?
	Pre Project	Post Project					
CO	169.1	169.1	35.6	63.1	27.44	100	No
NO_X	458.45	258.5	46.4	63.1	16.73	40	No
PM	22.81	16.6	1.5	3.0	1.5	25	No
PM_{10}	22.8	16.6	1.5	3.0	1.49	15	
$PM_{2.5}$	22.8	16.6	1.5	3.0	1.49	10	No
SO_2	14.79	16.2	0.2	0.3	0.15	40	No
VOC	141.69	147.6	65.4	83.8	18.44	40	No
HAP	67.38	72.0	52.2	63.7	11.55	NA	NA

[a] Note: The Project baseline and projected emissions increase estimates in this table include only those emissions changes resulting from the No. 4 MA Plant expansion Project. Steam reduction at only the No. 4 MA Plant is included, and only the emissions for the portion of the Riley Stoker and B&W Boilers impacted by the No. 4 MA Plant expansion are included.

Prevention of Significant Deterioration (PSD): This facility is a major stationary source with respect to PSD because it is a chemical processing plant with emissions of NOx, CO and VOC greater than 100 TPY. This Project does not constitute a major modification at this major stationary source because the Project does not result in a significant emissions increase of any PSD pollutant. This Project is not subject to PSD monitoring, reporting and recordkeeping provisions because this Project is not part of a major modification and there is no reasonable possibility that the projected actual emissions, compared to baseline actual emissions, will result in a significant emissions increase for any PSD pollutant. [40 CFR 51.165(a)(6)]

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

1. Permitting Authority: The permitting authority for this project is the Northwest District Air Resource Management Program, Florida Department of Environmental Protection (Department). The District's mailing address is 160 W. Government Street, Suite 308, Pensacola, Florida 32502-5740. All documents related to applications for permits to operate an emissions unit shall be submitted to the District Office.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the District Office at the above address or nwdair@dep.state.fl.us.

3. Appendices: The following Appendices are attached as part of this permit:

   a. Appendix A. Citation Formats and Glossary of Common Terms;

   b. Appendix B. General Conditions;

   c. Appendix C. Common Conditions; and

   d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. Asbestos: This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61 subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61 subpart M, Section 61.145, is required for any asbestos demolition or renovation at the source. [40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

6. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

7. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

8. Source Obligation:

   (a) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   (b) At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4)

through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

[Rule 62-212.400(12), F.A.C.]

9. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. You can obtain a permit application form or apply for permit renewal electronically at the following web address: http://www.dep.state.fl.us/air/emission/permitting.htm. [Rules 62-4.030, 62-4.050, and Chapter 62-213, F.A.C.]

A. Riley Stoker Boiler

Subsection A. This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 001	Riley Stoker Boiler

The Riley Stoker Boiler produces up to 90,000 pounds per hour of 600 psig steam. This is equivalent to 128 MMBtu per hour heat input assuming 80% boiler efficiency. The boiler is fueled by natural gas, process gas, non-hazardous liquids, used oil and DIMLA Residue. Combustion gasses are exhausted without controls.

The following specific conditions apply to the emissions unit listed above:

A.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

A.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

A.3. The permittee is authorized to install Flue Gas Recirculation (FGR) on the existing Riley Stoker Boiler to reduce NOx emissions. [Application No. 1130004-020-AC]

TESTING REQUIREMENTS

A.4. Initial Compliance Tests: An initial compliance assessment shall be conducted using EPA Method 9 (minimum duration 30 minutes) on the boiler stack with the boiler operating at capacity. The initial compliance test shall be conducted within 180 days of startup of the No. 4 MA Plant after completion of this expansion Project. Test results are to be submitted within 45 days of the test. [Rules 62-297.310(2)(b) and 62-297.401(9), F.A.C., and permit application 113004-020-AC]

{Permitting Note: The applicant states that Installation of FGR control on the existing Riley Stoker and B&W Boilers is conservatively assumed to provide a 50% NOx control over baseline. The actual reduction in NOx emissions associated with the steam demand for the plant (facility wide) was documented separately (56.3 tons), but the applicant did not "net" those emissions. Because, this facility-wide decrease in NOx emissions is not being claimed in this project, stack testing for NOx is not required by this permit. If the decrease in NOx emissions, achieved through installation of FGR control, is claimed in a future project, the Department may require stack testing to validate the change in NOx emissions.}

B. B & W Boiler

Subsection B. This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 003	B & W Boiler

The Babcock & Wilcox (B & W) boiler produces up to 90,000 pounds per hour of 600 psig steam. This is equivalent to 128 MMBtu/hr of heat input at 80% boiler efficiency. The boiler is fueled by natural gas and process gas. Combustion gasses are exhausted without controls.

The following specific conditions apply to the emissions unit listed above:

B.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

B.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

B.3. The permittee is authorized to install Flue Gas Recirculation (FGR) on the existing B & W Boiler to reduce NOx emissions. [Application No. 1130004-020-AC]

TESTING REQUIREMENTS

B.4. Initial Compliance Tests: An initial compliance assessment shall be conducted using EPA Method 9 (minimum duration 30 minutes) on the boiler stack with the boiler operating at capacity. The initial compliance test shall be conducted within 180 days of startup of the No. 4 MA Plant after completion of this expansion Project. Test results are to be submitted within 45 days of the test. [Rules 62-297.310(2)(b) and 62-297.401(9), F.A.C., and permit application 113004-020-AC]

{Permitting Note: The applicant states that Installation of FGR control on the existing Riley Stoker and B&W Boilers is conservatively assumed to provide a 50% NOx control over baseline. The actual reduction in NOx emissions associated with the steam demand for the plant (facility wide) was documented separately (56.3 tons), but the applicant did not "net" those emissions. Because, this facility-wide decrease in NOx emissions is not being claimed in this project, stack testing for NOx is not required by this permit. If the decrease in NOx emissions, achieved through installation of FGR control, is claimed in a future project, the Department may require stack testing to validate the change in NOx emissions.}

C. Amines Plants Flare

Subsection C. This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 005	Amines Plants Flare

The amines plants flare is a non-assisted flare with a natural gas pilot. The presence of the pilot flame is monitored using a thermocouple. Natural gas is fed with process gas in a ratio of 0.33:1 to ensure that the minimum required heating value under NSPS and NESHAP requirements (200 Btu/scf) is maintained. A high flow alarm on the natural gas flow ensures that the maximum allowable flare exit velocity is not exceeded.

The following specific conditions apply to the emissions unit listed above:

C.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

C.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

This Project does not make any physical changes to this emission unit. However, emissions from the flare will increase as a result of increased production at the No. 4 MA Plant. The additional process gas flow resulting from this expansion Project will be burned in the flare, and the vent streams from two the new feed tanks (methanol feed tank and ammonia/methylamines recycle feed tank) will be routed to the flare via the existing absorbers.

TESTING REQUIREMENTS

C.3. Initial Compliance Tests: An initial flare compliance assessment shall be conducted using EPA Method 22 with both the No. 4 MA Plant and the DIMLA plant operating and the flare operating at maximum capacity. The initial compliance test shall be conducted within 180 days of startup of the No. 4 MA Plant after completion of this expansion Project. The period of observation shall be two hours. Notification shall be made to the Administrator at least 30 days prior to the compliance assessment to allow the Administrator the opportunity to have an observer present. [Rules 62-204.800(8)(d) and (11)(b) & (d), F.A.C., 40 CFR 63.11(b)(4), and 40 CFR 60.18(c)(1) and (f)(1)]

{Permitting Note: Taminco does not have any measurable parameters in existing permits to show the plants are operating at maximum capacity but they do have measurable parameters for the flare.}

D. Methylamines Plants Nos. 1 and 4 Group 1 HON Storage Tanks

Subsection D. This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 029	Methylamines Plants Nos. 1 and 4 Group 1 HON Storage Tanks

Storage tanks TK-53401B, TK-53405 and TK-53407 are used to store methanol used in the Methylamines Plants.

The following specific conditions apply to the emissions unit listed above:

D.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

D.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

D.3. The permittee is authorized to upgrade or replace methanol supply pumps, piping, valves and connecters at the methanol storage area. [Application No. 1130004-020-AC]

D.4. The permittee is authorized to install a new methanol supply line from the methanol storage area to the No. 4 MA Plant. [Application No. 1130004-020-AC]

E. Methylamines Plant No. 4 Process Vents

Subsection E. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 033	Methylamines Plant No. 4 Process Vents

Emissions from several process vents at the No. 4 MA Plant are collected using a vapor collection system and routed to the amines plant flare during normal operation.

The following specific conditions apply to the emissions unit listed above:

E.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

E.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

This Project does not make any physical changes to the No. 4 MA Plant Low Pressure Absorber vent or the High Pressure Absorber vent ("process vents"). However, this Project does make changes to the equipment that is vented to the vapor collection system.

E.3. The permittee is authorized to make the following equipment changes in the No. 4 MA Plant that is vented to the vapor collection system:

a. Install a new fixed bed converter with catalyst.
b. Install a new Ammonia Column.
c. Install a new Dehydration Column.
d. Convert the old ammonia column to TMA service.
e. Convert the existing Dehydration column to DMA service.
    1. Add a new reboiler and a new condenser.
    2. The overheads from the DMA column will be fed to the last column.
    3. Convert the existing TMA column to methanol recovery and convert condenser to hot water service
    4. Install a new Methanol feed tank (D-67043).
    5. Install a new Ammonia feed tank (D-67044).
k. Add a new condenser and reboiler to the existing Separation Column (T-67023)

[Application No. 1130004-020-AC]

F. Methylamines Plant No. 4 Wastewater

Subsection F. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 034	Methylamines Plant No. 4 Wastewater

The Methylamines Plant No. 4 Wastewater is the wastewater stream from the No. 4 MA Plant distillation process. The stream, consisting of water and negligible quantities of product, is directed to the plant sewer system.

Emissions from all wastewater have been included under EU 075, Wastewater Treatment Plant Fugitives.

This project authorizes placing the existing No. 4 Environmental Column (currently in TMA service), T-67022, back in environmental service to recover unreacted methanol from both the No. 4 MA Plant and the No. 1 MA Plant Dehydration Column wastewater streams.

The following specific conditions apply to the emissions unit listed above:

F.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

F.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

F.3. The permittee is authorized to place the existing No. 4 Environmental Column (currently in TMA service), T-67022, back in environmental service to recover unreacted methanol from both the No. 4 MA Plant and the No. 1 MA Plant Dehydration Column wastewater streams. [Application No. 1130004-020-AC]

G. Methylamines Plant No. 4 HON Maintenance Wastewater

Subsection G. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 035	Methylamines Plant No. 4 HON Maintenance Wastewater

Wastewater removed during maintenance activities at the No. 4 MA Plant is disposed of in the plant sewer system.

The following specific conditions apply to the emissions unit listed above:

G.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

G.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

G.3. The permittee is authorized to allow the new methanol feed tank (D-67043) to drain to the dike that feeds to the plant sewer system so the tank can be cleared for mechanical work. [Application No. 1130004-020-AC]

H. Methylamines Plants Nos. 1 and 4 HON Equipment Leaks

Subsection H. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 036	Methylamines Plants Nos. 1 and 4 HON Equipment Leaks

HON Equipment Leaks (Methanol Storage leaks) are comprised of fugitive emissions from the pump seals, pressure relief valves, open-ended valves or lines, valves, connectors, and sampling points in organic hazardous air pollutant service.

Emissions are reported under EU 062 (Facility-wide Equipment Leak Fugitives).

The following specific conditions apply to the emissions unit listed above:

H.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

H.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

H.3. The permittee is authorized to add pumps, valves, lines, connectors, and sampling points for new and existing equipment in the No. 4 MA Plant. [Application No. 1130004-020-AC]

{Permitting Note: Emission Unit 036 is not explicitly identified on application scope list, however, this emission unit is affected by this project by the addition piping from new and existing equipment in the No. 4 MA Plant.}

I. Methylamines Plant No. 4 VOC Equipment Leaks

Subsection I. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 037	Methylamines Plant No. 4 VOC Equipment Leaks

Methylamines Plant No. 4 VOC Equipment Leaks is comprised of fugitive emissions from the pressure relief valves, open-ended valves or lines, valves, connectors, and sampling points in VOC service. Components are considered in VOC service when the piece of equipment contains or contacts a process fluid that is at least 10 percent VOC by weight. These equipment leaks are subject to the NSPS requirements of 40 CFR 60 Subpart VV, Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry.

The No. 4 MA Plant is currently subject to NSPS VV. The proposed expansion of the No.4 MA Plant triggers reconstruction (i.e. the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility); therefore, NSPS VVa (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006) is triggered. As an alternative means of compliance, Taminco chooses to comply with 40 CFR Part 63 Subpart H per 60.480a(e)(2). When choosing to comply with 40 CFR part 63, subpart H, the requirements of §60.485a(d), (e), and (f), and §60.486a(i) and (j) still apply.

Emissions are reported under EU062 (Facility-wide Equipment Leak Fugitives).

The following specific conditions apply to the emissions unit listed above:

I.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

I.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

I.3. The permittee is authorized to add valves, lines, connectors and sampling points for new and existing equipment in the No. 4 MA Plant. [Application No. 1130004-020-AC]

{Permitting Note: Emission Units 037 is not explicitly identified on application scope list, however, this emission unit is affected by this project because of addition of piping from new and existing equipment in the No. 4 MA Plant.}

I. Methylamines Plant No. 4 VOC Equipment Leaks

RECORDS AND REPORTS

I.4. In addition to the recordkeeping and reporting requirements contained in the existing Title V permit, the permittee shall comply with the requirements of 40 CFR 60.485a(d),(e) & (f) and 60.486a(i) & (j):

a. The owner or operator shall test each piece of equipment unless it is demonstrated that a process unit is not in VOC service, i.e., that the VOC content would never be reasonably expected to exceed 10 percent by weight. For purposes of this demonstration, the following methods and procedures shall be used:

1. Procedures that conform to the general methods in ASTM E260–73, 91, or 96, E168–67, 77, or 92, E169–63, 77, or 93 (incorporated by reference—see §60.17) shall be used to determine the percent VOC content in the process fluid that is contained in or contacts a piece of equipment.

2. Organic compounds that are considered by the Administrator to have negligible photochemical reactivity may be excluded from the total quantity of organic compounds in determining the VOC content of the process fluid.

3. Engineering judgment may be used to estimate the VOC content, if a piece of equipment had not been shown previously to be in service. If the Administrator disagrees with the judgment, paragraphs (d)(1) and (2) of this section shall be used to resolve the disagreement.

[40 CFR 60.485a(d)1., 2, &3]

b. The owner or operator shall demonstrate that a piece of equipment is in light liquid service by showing that all the following conditions apply:

1. The vapor pressure of one or more of the organic components is greater than 0.3 kPa at 20°C (1.2 in. H2O at 68°F). Standard reference texts or ASTM D2879–83, 96, or 97 (incorporated by reference—see §60.17) shall be used to determine the vapor pressures.

2. The total concentration of the pure organic components having a vapor pressure greater than 0.3 kPa at 20°C (1.2 in. H2O at 68°F) is equal to or greater than 20 percent by weight.

3. The fluid is a liquid at operating conditions.

[40 CFR 60.485a(e)1., 2, &3]

c. Samples used in conjunction with I.4.a and I.4.b above (paragraphs (d) and (e) of 40 CFR 60.485a) shall be representative of the process fluid that is contained in or contacts the equipment or the gas being combusted in the flare.

[40 CFR 60.485a(f)]

d. The following information shall be recorded in a log that is kept in a readily accessible location for use in determining exemptions as provided in §60.480a(d):

1. An analysis demonstrating the design capacity of the affected facility,

2. A statement listing the feed or raw materials and products from the affected facilities and an analysis demonstrating whether these chemicals are heavy liquids or beverage alcohol, and

3. An analysis demonstrating that equipment is not in VOC service.

[40 CFR 60.486a(i)1., 2. & 3.]

e. Information and data used to demonstrate that a piece of equipment is not in VOC service shall be recorded in a log that is kept in a readily accessible location available for Department inspection.

[40 CFR 60.486a(j) and Rule 62-4.070, F.A.C.]

J. Sitewide HON Heat Exchangers

Subsection J. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 046	Sitewide HON Heat Exchangers

This emissions unit is comprised of non-contact heat exchangers used to cool process fluids at the Amines Plant.

The following specific conditions apply to the emissions unit listed above:

J.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

J.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

J.3. The permittee is authorized to make the following equipment changes to the sitewide heat exchangers:

a. Condenser E-671119 will continue to be used as the No. 1 MA Plant Column Sidedraw Condenser.
b. Condenser E-67119 (No. 1 MA Plant Environmental Column Condenser) will be taken out of service and will be replaced by Condenser E-67032 (No. 4 MA Plant Environmental Column Condenser).
c. Condenser E-67037 (No. 4 MA Plant Dehydration Column Sidedraw Condenser) will be replaced by Condenser E-67068 (new Dehydration Column Sidedraw Condenser).
[Application No. 1130004-020-AC]

{Permitting Note: Condenser E-67032 (No. 4 MA Plant Environmental Column Condenser) will be in cooling tower service and will be subject to HON regulations. Condenser-E-67068 (new Dehydration Column Sidedraw Condenser) will not be in cooling tower service and will not be subject to HON regulations}

K. Methylamines Plant No. 1 Wastewater

Subsection K. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 050	Methylamines Plant No. 1 Wastewater

The Methylamines Plant No. 1 Wastewater is the bottoms stream from various No. 1 MA Plant distillation columns. The stream, consisting of water and negligible quantities of product and methanol, is directed to the plant sewer system after processing in the dehydration column and/or the environmental column.

The following specific conditions apply to the emissions unit listed above:

K.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

K.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

K.3. The permittee is authorized to retire the existing No. 1 MA Plant Environmental Column. [Application No. 1130004-020-AC]

{Permitting Note: Emission Units 050 is not explicitly identified on application scope list, however, this emission unit is affected by this project because the No. 1 Methylamines Plant environmental column will be taken out of service, and the Methylamines Plant No. 1 Wastewater (#1 Environmental Column Bottoms) will no longer be a wastewater stream. Streams currently processed by the #1 Environmental Column will be processed by the #4 Environmental Column. The #1 Dehydration Column Bottoms will remain a wastewater stream.}

L. Methylamines Plant No. 1 HON Maintenance Wastewater

Subsection L. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 051	Methylamines Plant No. 1 HON Maintenance Wastewater

Wastewater removed during maintenance activities at the No. 1 MA Plant is disposed of in the plant sewer system.

Emissions from all wastewater have been included under EU 075 – Wastewater Treatment Plant Fugitives.

The following specific conditions apply to the emissions unit listed above:

L.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

L.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

{Permitting Note: This Project does not make any physical changes to this emission unit. HON Maintenance Wastewater will increase as a result of maintenance activities on the No. 1 MA Plant Column Sidedraw Condenser (E-671119).}

M. Methylamines Plants Nos. 1 and 4 Group 2 HON Storage Tanks

Subsection M. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 053	Methylamines Plant Nos. 1 & 4 HON Group 2 Storage Tanks

Storage tanks D-68127, D-68146, and D-67116O, and D-67134B are in the common service of both Methylamines Plants Nos. 1 and 4.

All product storage tanks are vented through absorbers and/or knock out pots and vented to the flare. The absorbers are used to maximize product recovery with air emissions being controlled through the flare.

The following specific conditions apply to the emissions unit listed above:

M.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

M.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

M.3. The permittee is authorized to route the new 7,500 gallon methanol feed tank (D-67043) vent stream to the Amines Plants flare via the existing absorbers. [Application No. 1130004-020-AC]

{Permitting Note: This new feed tank is not subject to NSPS 40 CFR 60 subpart Kb because its capacity (7,500 gallons) is less than to threshold capacity (19,800 gallons).}

{Permitting Note: This Project does not make any physical changes to the No. 4 MA Plant Low Pressure Absorber vent or the High Pressure Absorber vent ("process vents"). However, this Project does make changes to the equipment that is vented to the vapor collection system.}

N. Methylamines Plant No. 1 NSPS Storage Tanks

Subsection N. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU054	Methylamines Plants Nos. 1 & 4 NSPS Storage Tanks

Storage tanks D-67204E, D-67216A and D-67216B located at No. 1 MA Plant are used in the common service of Methylamines Plants Nos. 1 and 4, and are exempt from the HON regulations but remain subject to the NSPS requirements of 40 CFR 60 subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

All product storage tanks are vented through absorbers and/or knock out pots and vented to the flare. The absorbers are used to maximize product recovery with air emissions being controlled through the flare.

The capacity of the new ammonia/methylamines recycle feed tank (D-67044) is greater than 75 m3 (19,800 gallons) but less than 151 m3 (39,900 gallons) and will store a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa (2.2 psia). Therefore, this feed tank is subject to the NSPS recordkeeping requirements of 40 CFR 60 subpart Kb.

The following specific conditions apply to the emissions unit listed above:

N.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

N.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

N.3. The permittee is authorized to route the new 20,000 gallon ammonia/methylamines recycle feed tank (D-67044) vent stream to the Amines Plants flare via the existing absorbers. [Application No. 1130004-020-AC]

{Permitting Note: This Project does not make any physical changes to the No. 4 MA Plant Low Pressure Absorber vent or the High Pressure Absorber vent ("process vents"). However, this Project does make changes to the equipment that is vented to the vapor collection system.}

MONITORING REQUIREMENTS

N.4. The permittee shall comply with the following monitoring and recordkeeping requirements:

a. The owner or operator shall keep copies of all records required by this section, except for the record required by paragraph (b) of this section, for at least two years. The record required by paragraph (b) of this section will be kept for the life of the source. [40 CFR 116b(a)].

N. Methylamines Plant No. 1 NSPS Storage Tanks

b. The owner or operator of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 116b(b)]

c. The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m3 but less than 151 m3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. [40 CFR 116b(c)]

d. The owner or operator of each storage vessel with a design capacity greater than or equal to 75 m3 but less than 151 m3 storing a liquid with a maximum true vapor pressure that is normally less than 27.6 kPa shall notify the Administrator within 30 days when the maximum true vapor pressure of the liquid exceeds the respective maximum true vapor pressure values for each volume range. [40 CFR 116b(d)]

RECORDS AND REPORTS

N.5. The permittee shall maintain a readily accessible record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL for at least two years, and available for Department inspection. [Rule 62-4.070, F.A.C.]

O. Methylamines Plant No. 4 Gas-Fired Heater

Subsection O. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 060	Methylamines Plant No. 4 Gas-Fired Heater

At the No. 4 MA Plant, a natural gas-fired preheater is used to heat the reaction of methyl alcohol, ammonia and recycled methylamine to yield methylamine. This emissions unit is not subject to any unit specific rule or regulation.

The feed streams to the MA process will also be preheated using reactor effluents in a series of heat exchangers, including two waste heat boilers, to maximize energy efficiency. Additional heat integration will be accomplished through use of a hot water circulation loop. The main reboiler for the Ammonia Column will use steam, produced by one of the reactor waste heat boilers, and steam from flashing of condensate in the new condensate tank. A secondary steam reboiler is provided for start-up, and will be used as needed to maintain proper temperature of the streams.

The following specific conditions apply to the emissions unit listed above:

O.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

O.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

This Project does not make any physical changes to this emission unit.

PERFORMANCE RESTRICTIONS

O.3. Permitted Capacity: The maximum allowable operating rate is unchanged from the existing Title V permit. [Application No. 1130004-020-AC]

{Permitting Note: Emission Units 060 is not explicitly identified on application scope list, however, this emission unit is affected by this project because the flow of natural gas to the heater will increase due to increased production at the No. 4 MA Plant.}

P. Facility-Wide Equipment Leak Fugitives

Subsection P. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 062	Facility-Wide Equipment Leak Fugitives (unregulated emissions unit)

Fugitive emissions from EU 036, Methylamines Plants Nos. 1 and 4 HON Equipment Leaks, and EU 037, Methylamines Plant No. 4 VOC Equipment Leaks, are reported under this emission unit.

The following specific conditions apply to the emissions unit listed above:

P.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

P.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

{Permitting Note: This Project does not make any physical changes to this emission unit. Emissions will increase due to the addition of pumps, valves, lines, connectors and sampling points for new and existing equipment as specified under EU 036 and EU 037.}

Q. Cooling Towers (4)

Subsection Q. This section addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 063	Cooling Towers (4) (unregulated emissions unit)

This unregulated emissions unit consists of four open recirculating induced draft cooling towers which use non-chromium based corrosion inhibitors as well as oxidizing and non-oxidizing biocides to control algae and bacterial growth in the recirculating water. Particulate emissions are controlled using drift eliminators.

Emissions will increase as a result of increased circulation rate at the cooling towers.

The following specific conditions apply to the emissions unit listed above:

Q.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

Q.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

EQUIPMENT

Q.3. The permittee is authorized to add an identical cell, designated CT-67039, to existing cooling tower CT-67038. [Application No. 1130004-020-AC]

R. Wastewater Treatment Plant Fugitives

Subsection R. This section of the permit addresses the following emissions unit.

ID No.	Emissions Unit Description
EU 075	Wastewater Treatment Plant Fugitives (unregulated emissions unit)

The wastewater treatment system consists of a series of ponds encompassing several acres. A combination of neutralization, equalization, and naturally occurring biological oxidation processes using indigenous bacteria are used to convert organic contaminants in the wastewater to CO_2 and water. Emissions result from evaporation from the surface of the ponds and are not controlled.

Fugitive emissions from EU 034, Methylamines Plant No. 4 Wastewater, and EU 051, Methylamines Plant No. 1 HON Maintenance Wastewater, are reported under this emission unit.

The following specific conditions apply to the emissions unit listed above:

R.1. Previous Permits: This permit supplements all previously issued air construction and operation permits for this emissions unit. Except for the change noted below, the unit remains subject to the conditions of all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

R.2. New Equipment: Except for the change noted below, the new equipment authorized by this permit shall be subject to the same requirements, such as, but not limited to; emissions standards, recordkeeping, compliance testing and fuels limitations previously established for this emissions unit in all other legally binding air construction and operating permits. [Rules 62-4.070(3) and 62-210.300(1), F.A.C., and Application No. 1130004-020-AC]

{Permitting Note: This Project does not make any physical changes to this emission unit. Emissions will increase as a result of the additional loading to the existing wastewater treatment system caused by increased production at the No. 4 MA Plant, as specified under EU 034 and EU 051.}