Solutia Inc.
Pensacola Plant
Facility ID No.: 0330040
Escambia County

Initial Title V Air Operation Permit
DRAFT Permit No.: 0330040-002-AV

Permitting and Compliance Authority:
Department of Environmental Protection
Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
Telephone: 850/595-8364
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Drafted on January 12, 2000
Last revised on June 5, 2000

[electronic file name: 0330040e.doc]

Initial Title V Air Operation Permit
DRAFT Permit No.: 0330040-002-AV

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Appendix T-1, NSPS kb Tanks list

Permittee:
Solutia Inc.

DRAFT Permit No.: 0330040-002-AV
Facility ID No.: 0330040
SIC Nos.: 28, 2824
Project: Initial Title V Air Operation Permit

This permit is for the operation of the Pensacola Plant located at 3000 Old Chemstrand Road, Gonzalez, Escambia County; UTM Coordinates: Zone 16, 476 km East and 3385 km North; Latitude: 30° 35' 56" North and Longitude: 87° 15' 01" West.

STATEMENT OF BASIS: This Title V air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 62-4, 62-210, and 62-213. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

Referenced attachments made a part of this permit:
Appendix TV-3, Title V Conditions (version dated 04/30/99)
Appendix SS-1, Stack Sampling Facilities (version dated 10/07/96)
Table 297.310-1, Calibration Schedule (version dated 10/07/96)
Table A-1, Cogeneration Plant Heat Input
Appendix EX-1, Insignificant Source List
Appendix U-1, Unregulated Source List
Appendix T-1, NSPS kb Tanks list

Effective Date:
Renewal Application Due Date:
Expiration Date:

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____
Ed K. Middleswart, P.E.
Air Program Administrator

EKM/rb

Section I. Facility Information.

Subsection A. Facility Description.

Solutia makes nylon and various intermediate chemicals. This facility consists of several raw materials barge, train and truck offloading and storage operations; chemical unit process plants which make the chemical feedstocks and intermediates and the nylon resins; a yarn plant to make finished yarn product; and, boilers and a cogeneration unit to provide process steam and plant electricity.

Based on the initial Title V permit application received June 12, 1996, this facility is a major source of hazardous air pollutants (HAPs) and criteria pollutants.

Subsection B. Summary of Emissions Unit ID Nos. and Brief Descriptions.

E.U. ID No.	Brief Description
003	Boiler 8
004	Boiler 7
014	Boiler 4
015	Boiler 5
016	Boiler 6
049	Hydrogen Generating Plant #1
060	Adipic Acid 485 BEPEX Dryer
061	Adipic Acid Dryer 405-A
062	Adipic Acid Dryer 405-B
063	Adipic Acid Dryer 465-A
064	Adipic Acid Dryer 465-B
079	Adipic Acid 485 NIRO Dryer
005	Vaporizer No.1
007	Vaporizer No.2
008	Vaporizer No.3
009	Vaporizer No.4
010	Vaporizer No.5
011	Vaporizer No.6
013	Vaporizer No.7
075	Vaporizer No.8
020	Cyclohexane Oxidation Process
002	Adipic Acid Process
032	Cogeneration Plant
040	Hexamethylene Diamine Synthesis and Refining
041	B and C Hexamethylene Diamine Stripper Distillation Column
076	Maleic Anhydride (MA) Plant
081	Continuous Nylon Polymerization Lines
082	Batch Nylon Polymerization
042	Nitric Acid Plant

Please reference the Permit No., Facility ID No., and appropriate Emissions Units ID Nos. on all correspondence, test report submittals, applications, etc.

Subsection C. Relevant Documents.

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

<u>These documents are provided to the permittee for information purposes only:</u>
Statement of Basis
Table 1-1, Summary of Air Pollutant Standards and Terms
Table 2-1, Summary of Compliance Requirements
Appendix A-1, Abbreviations, Acronyms, Citations, and Identification Numbers
Appendix H-1, Permit History/ID Number Changes

<u>This document is on file with permitting authority:</u>
Initial Title V Permit Application received June 12, 1996, including Company Confidential Section

Section II. Facility-wide Conditions.

The following conditions apply facility-wide:

1. APPENDIX TV-3, TITLE V CONDITIONS, is a part of this permit.
{Permitting note: APPENDIX TV-3, TITLE V CONDITIONS, is distributed to the permittee only. Other persons requesting copies of these conditions shall be provided one copy when requested or otherwise appropriate.}

2. General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants which cause or contribute to an objectionable odor.
[Rule 62-296.320(2), F.A.C. and permits AC17-262484, AC17-247476, AC17-262486, AC17-127871, AC17-229192]

3. General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C.
[Rules 62-296.320(4)(b)1. & 4., F.A.C.]

4. Prevention of Accidental Releases (Section 112(r) of CAA).
a. As required by rule, inspection, or change in process the owner or operator shall submit an updated Risk Management Plan (RMP) to the Chemical Emergency Preparedness and Prevention Office (CEPPO) RMP Reporting Center.
b. The owner or operator shall report to the Department of Community Affairs (DCA) within one working day of discovery of an accidental release of a regulated substance from the stationary source, if the owner or operator is required to report the release to the USEPA/Chemical Safety Hazard Investigation Board or the National Response Center under Section 112(r)(6).
c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1 annually, in accordance with Part IV, Chapter 252, F.S. and Rule 9G-21, F.A.C.

5. General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.
[Rule 62-296.320(1)(a), F.A.C]

6. Not federally enforceable. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility includes the application of good housekeeping practices. [Rule 62-296.320(4)(c)2., F.A.C.]

7. When appropriate, any recording, monitoring, or reporting requirements that are time-specific shall be in accordance with the effective date of the permit, which defines day one. [Rule 62-213.440, F.A.C.]

8. The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Northwest District office:

Department of Environmental Protection
Northwest District Office
160 Governmental Center
Pensacola, Florida 32501-5794
Telephone: 850/595-8364; Fax: 850/595-8096

9. Any reports, data, notifications, certifications, and requests required to be sent to the United States Environmental Protection Agency, Region 4, should be sent to:

United States Environmental Protection Agency
Region 4
Air, Pesticides & Toxics Management Division
Air and EPCRA Enforcement Branch, Air Enforcement Section
61 Forsyth Street
Atlanta, Georgia 30303
Telephone: 404/562-9055, Fax: 404/562-9164

10. Unless otherwise specified, permittee shall maintain 90% data capture and collection of monitoring data for recordkeeping purposes, on an annual basis. This management practice objective is based on an allowance of no more than 5% loss of data due to monitor downtime and an allowance of no more 5% loss of data capture due to other causes.

Section III. Emissions Units and Conditions.

Subsection A. This section addresses the following emissions units.

E.U. ID No.	Brief Description
014	Boiler 4
015	Boiler 5
016	Boiler 6

These boilers are normally fueled by natural gas and ethane rich natural gas. No. 6 fuel oil is an alternate fuel which may contain blended on-specification used oil as supplemental fuel. The used oil must meet the requirments of 40 CFR Part 279 - Standards for the Management of Used Oil. Boilers 4 and/or 5 may also burn as supplemental fuels AGS (a mixture of organic acids from deep well waste stream), KATT (a mixture of organic esters), DME (Dimethyl Esters), Amines and Area 480 residue. Emissions are controlled by proper combustion control and by fuel composition.

These emissions units are regulated under Rules 62-296.405 (SO_2 aggregate) and 62-296.406 F.A.C., Fossil Fuel Steam Generators with less than 250 MMBtu heat input.

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

Essential Potential to Emit (PTE) Parameters

A.1. Capacity. The aggregate maximum operating rate is 723 MMBtu per hour for Boilers 4, 5 and 6 with no individual boiler limits. During periods of outage of the cogeneration, boilers 4, 5 and 6 may operate at a combined maximum operating rate of 864 MMBtu per hour. Records of heat input shall be maintained and made available for Department inspection. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]
{Permitting note: The capacity limitations have been placed in the permit to identify the capacity of each unit for the purpose of confirming that emissions testing is conducted within 90 to 100 of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for capacity limitations. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, in order to demonstrate what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emissions tests. Such capacity determinations may be based on measurements of process inputs, flow measurements and/or other data to calculate average hourly capacity.}

A.2. Methods of Operation - Fuels. These boilers may be fueled by natural gas or ethane rich natural gas. No. 6 fuel oil, blended with on-specification used oil, may be used as an alternate fuel provided the Department is notified in writing within seven days of the fuel change over. If fuel oil use exceeds six hours per day on each of four or more days within a 30 day period, a visible emission compliance test shall be conduct within 14 days using the maximum quantity of fuel oil. Testing is not required if a passing test has been successfully conducted within the last 12 months.

Used Oil. Burning of on-specification used oil is allowed in this emissions unit in accordance with all other conditions of this permit and the following conditions:

On-specification Used Oil Emissions Limitations: This emissions unit is permitted to burn on-specification used oil. On-specification used oil is defined as used oil that meets the specifications of 40 CFR 279 - Standards for the Management of Used Oil, listed below. The owner shall maintain records to demonstrate that each shipment of used oil meets the specifications of 40 CFR 279. "Off-specification" used oil shall not be burned. Used oil which fails to comply with any of these specification levels is considered "off-specification" used oil.

CONSTITUENT/PROPERTY	ALLOWABLE LEVEL
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash point	100 degrees F minimum

Supplemental Fuels. The following supplemental fuels may be burned in boilers 4 and/or 5 in conjunction with burning of gas or fuel oil:
1. AGS, a mixture of organic acids extracted from the deep well waste stream, up to 8,000 pounds per hour, and/or
2. KATT composite fuel, consisting of KATT (Ketone Alcohol Topper Tails), DME (mixture of Dimethyl Esters), Amines (from nylon and nylon intermediates manufacturing) and Area 480 residue (a mixture of alcohol and ketone by-products) up to 10,000 pounds per hour.
3. These fuels may only be burned in Boiler 4 and/or 5. Records shall be maintained of the supplemental fuel quantities burned. A request may be made by the Department to periodically sample and analyze supplemental fuels. The supplemental fuels shall be sampled and results submitted with the application for renewal of this permit.
[Rules 62-4.070, 62-4.160(2) and 62-213.440(1), F.A.C. and 40 CFR 279.11]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.3. Visible emissions shall not exceed 20% opacity except for up to two minutes in any one hour at not more than 40% opacity.
[Rule 62-296.406(1), F.A.C.]

A.4. Sulfur Dioxide. The aggregate maximum total sulfur dioxide emissions from boilers 4, 5 and 6 shall be less than 57.5 tons in any 24 hour period. Monthly records of sulfur dioxide emissions, based on fuel usage and sulfur content, shall be maintained and made available for inspection by the Department.
[Rule 62-296.405(1)(c)1.f., F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

A.5. Emissions Tests. See common condition number **Z.1.**

A.6. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

A.7. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

A.8. Natural Gas Usage**.** An aggregate natural gas usage heat input will be calculated on an hourly basis and recorded in units of MMBtu/hr for boilers 4, 5 and 6 combined.

A.9. Supplemental Fuel Usage**.** An aggregate supplemental fuel usage rate will be calculated on an hourly basis and recorded in units of lbs/hr for boilers 4 and 5 combined for each of the following supplemental fuel types

* KATT composite Fuel (KATT, Amines, DME residue, 480 residue)
* AGS

A.10. Operation and Downtime Log**.** An operation and downtime log will be maintained indicating the operational status of each of the boilers 4 through 8 and the cogeneration facility

A.11. Sulfur Dioxide**.** Monthly records of sulfur dioxide emissions, based on fuel usage and sulfur content, shall be maintained and made available for inspection by the Department.

Subsection B. This section addresses the following emissions units.

E.U. ID No.	Brief Description
003	Boiler 8
004	Boiler 7

The boilers have been modified to incorporate low NOx burners and are fueled by natural gas, ethane rich natural gas, and Maleic Anhydride Production offgas. Each of the modified burners are rated for 388 MMBtu/hour and 225,000 pounds/hour steam production. Emissions are controlled by proper combustion controls. SO_2 emissions are controlled by sulfur content of fuel.

These emissions units are regulated under Rule 62-296.405 F.A.C., Fossil Fuel Steam Generators with more than 250 MMBtu heat input; however, the emission limitations have been adjusted as a result of emission offsets associated with the facility's cogeneration plant.

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

Essential Potential to Emit (PTE) Parameters

B.1. Capacity. The maximum operational heat input of each boiler is 388 MMBtu per hour. Heat input (MMBtu) is calculated using the previous year average natural gas fuel analysis provided by the vendor. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]
{Permitting note: The capacity limitations have been placed in the permit to identify the capacity of each unit for the purpose of confirming that emissions testing is conducted within 90 to 100 of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for capacity limitations. Instead, the owner or operator is expected to determine heat input whenever emission testing is required, in order to demonstrate what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emissions tests. Such capacity determinations may be based on measurements of process inputs, flow measurements and/or other data to calculate average hourly capacity.}

B.2. Methods of Operation - Fuels. These boilers may be fueled by natural gas, ethane rich natural gas or Maleic Anhydride Production offgas. The maximum total natural gas usage shall be limited to 1,100 million standard cubic feet per year for each boiler. Records of monthly total and annual total natural gas usageshall be maintained and available for Department inspection. [Rules 62-4.160(2) and 62-213.440(1), F.A.C.]

B.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.4. Visible Emissions. Visible emissions shall not exceed 20% opacity except for up to one six-minute period per hour of up to 27%.
[Rule 62-296.405(1)(a), F.A.C.]

B.5. Particulate Matter. Particulate matter emissions from each unit shall not exceed 0.1 pounds per MMBtu.
[Rule 62-296.405(1)(b), F.A.C.]

B.6. Carbon monoxide. Carbon monoxide emissions from each unit shall not exceed 54.8 pounds per hour.
[AO17-242265 and AC17-213376

B.7. Nitrogen oxides. Nitrogen oxides emissions from each unit shall not exceed 22.5 pounds per hour.
[AO17-242265 and AC17-213376]

B.8. Volatile organic compounds**.** Volatile organic compounds matter emissions from each unit shall not exceed 7.04 pounds per hour.
[AO17-242265 and AC17-213376]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

B.9. Emissions Tests. See common condition number **Z.1.**

B.10. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

B.11. Particulate Matter. The test method for particulate matter shall be EPA test method 5, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

B.12. Carbon Monoxide. The test method for carbon monoxide shall be EPA test method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

B.13. Nitrogen Oxides. The test method for nitrogen oxides shall be EPA test method 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

B.14. Volatile Organic Compounds. The test method for volatile organic compounds shall be EPA test method 25A, incorporated and adopted by reference in Chapter 62-297, F.A.C. Testing is required only upon permit renewal.
[Rule 62-297.401, F.A.C.]

B.15. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

B.16. Continuous Emissions Monitoring. Permittee shall operate and maintain a carbon monoxide (CO) continuous emission monitor (CEM) on the exhaust stack for measurement of CO concentration. The CEM shall be properly operated and maintained to ensure accurate and reliable monitoring, recording, and reporting data. Permittee shall implement and maintain a quality control program which, at a minimum, follows the quality assurance procedures set forth in 40 CFR Appendix F, Quality Assurance Procedures, and Appendix B, Performance Specifications. Such data may be used directly or indirectly for compliance determination. CO CEM data calculation is a rolling hourly average calculated every 15 min.

VOC and NOx compliance is assumed as long as CO CEMs data demonstrates compliance with the CO emission limit described in condition A.6.

[Rules 62-4.070 and 62-297.550, F.A.C. and AC17-250268 (maleic anhydride plant)]

B.17. Natural Gas Usage**.** Natural gas usage heat input will be calculated on an hourly basis and reported in units of MMBtu/hr for boilers 7 and 8.

{Permitting note: Records of maleic off-gas usage is a requirement of EU-079 condition C.6.}

Subsection C. This section addresses the following emissions units.

E.U. ID No.	**Brief Description**
076	Maleic Anhydride (MA) Plant

Operation of a maleic anhydride plant with a design capacity of 260 million pounds per year of maleic anhydride. The reaction is carried out in four reactors using butane as a raw material with off gases separated in two product recovery units and combusted in Boilers 7 and 8.

Approximately 6.5 million standard cubic feet per hour of off gas is emitted from each pair of reactors which contains approximately 9,000 pounds per hour of carbon monoxide (CO) and 7,000 pounds per hour of volatile organic compounds (VOC) at design rates. The balance of the off gas stream is H_20, $C0_2$, N_2 and 0_2. Emissions of CO and VOC are controlled by burning in Boilers 7 and 8. The two off gas headers are cross connected, but normal flow is from reactors 1 and 2 to boiler 7, and from reactors 3 and 4 to Boiler 8.

During startup, shutdown or malfunction of the maleic anhydride plant, waste gases are vented without control. This is required for safety. Such venting is conditionally allowed.

This emissions unit is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A, Kb, VV, and III; NESHAPs - 40 CFR 63 Subparts A, F, G and H, adopted and incorporated by reference in Rule 62-204.800, F.A.C.

Essential Potential to Emit (PTE) Parameters

C.1. Capacity. The maximum gas flow rate from the maleic anhydride to each boiler shall not exceed 6.5 MMscf/hour (13.0 MMscf/hour total to both boilers).
[Rules 62-4.160(2), 62-213.440(1), F.A.C. and permit AC17-250268]
{Permitting note: The capacity limitations have been placed in the permit to identify the capacity of each unit for the purpose of confirming that emissions testing is conducted within 90 to 100 of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for capacity limitations. Instead, the owner or operator is expected to determine maximum gas flow rate to boiler 7 & 8 whenever emission testing is required, in order to demonstrate what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emissions tests. Such capacity determinations may be based on measurements of process inputs, flow measurements and/or other data to calculate average hourly capacity.}

C.2. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

C.3. During startup, shutdown, and control system malfunctions this source shall not exceed the following emission limits:

Number Of Reactors	Startup			Shutdown			Malfunction		
	Maximum Vent Hrs.	Pounds		Maximum Vent Hrs.	Pounds		Maximum Vent Hrs.	Pounds	
		CO	VOC		CO	VOC		CO	VOC
1	1.5	2,625	2,625	1.5	1,313	1,313	6	10,500	10,500
1	1.5	5,250	5,250	(Second reactor on line, separate startup)					
2	4	7,000	7,000	4	3,500	3,500	6	21,000	21,000
3	6	10,500	10,500	6	5,250	5,250	6	31,500	31,500
4	8	14,000	14,000	8	7,000	7,000	6	42,000	42,000

[Permit AC17-250268]

C.4. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

C.5. Startup, Shutdown and Malfunction Log. A log shall be maintained of all uncontrolled VOC and CO emissions resulting from startup, shutdown, and malfunctions.
(Rules 62-4.070 and 62-210.700 F.A.C.)

C.6. Process Off-gas Rate. Monitor and record process off-gas flows to boilers 7 & 8 on an hourly basis (MMSCF/hr)

Subsection D. This section addresses the following emissions units.

E.U. ID No.	Brief Description
032	Cogeneration Plant

The cogeneration plant consists of one combustion turbine that exhausts through a heat recovery steam generator. The heat recovery steam generator supplies steam to the manufacturing operations and replaces steam generated by the existing boilers. The turbine, fueled by natural gas, turns a generator capable of producing a nominal 86 megawatts of electricity. Supplemental firing of natural gas at the heat recovery steam generator will supply additional steam, if needed. The combustion turbine employs steam injection to control NOx emissions. Low NOx burner design is incorporated into the duct burner in conformance with 40 CFR 60 Subpart. Operation of the combustion turbine using evaporative direct water spray fogging inlet air cooling is also authorized.

This emissions unit is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A, Db and GG, adopted and incorporated by reference in Rule 62-204.800, F.A.C.

Essential Potential to Emit (PTE) Parameters

D.1. Capacity. The maximum allowable heat input is 184 MMBtu per hour for the heat recovery steam generator duct burner. The maximum allowable heat input for the combustion turbine varies with the ambient air temperature as specified in Table A-1, attached and incorporated by reference. Table A-1 is used to determine rated capacity. Ambient temperatures other than table values can be linearly interpolated or extrapolated.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

D.2. Methods of Operation. This emissions unit shall be fueled by natural gas.
[Rules 62-4.160(2) and 62-213.440(1), F.A.C.]

D.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emissions Limitations and Standards

D.4. Visible emissions. Visible emissions shall not exceed 20% opacity under normal operation except for up to one six-minute period per hour during which opacity shall not exceed 27% opacity. [Rule 62-296.406(1), F.A.C. and permit AC17-213374]

D.5. Total combined NOx emissions from the cogeneration plant turbine and duct burner shall not exceed 106.6 pounds per hour at the maximum allowable heat input rate for the combustion turbine (as specified in Table A-1) and the maximum allowable operating rate of 184 MMBtu/hr heat input for the duct burner. [Rule 62-4.070, F.A.C., permits AC17-213374 and AO17-239459]

D.6. NOx emissions (expressed as NO_2) from the duct burner, less emissions creditable to the combustion turbine, shall not exceed 0.2 pounds per million Btu, i.e., 36.8 pounds per hour at the maximum allowable operating rate of 184 MMBtu per hour heat input.
[Rule 62-4.070, F.A.C., 40 CFR 60.44b(a)(4)i and AO17-239459]

D.7. Carbon monoxide. Carbon monoxide (CO) emissions shall not exceed 83.5 pounds per hour. [AC17-213374]

D.8. Volatile organic compound. Volatile organic compound (VOC) emissions shall not exceed 10.9 pounds per hour.
[AC17-213374]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

D.9. Emissions Tests. See common condition number **Z.1.**

D.10. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

D.11. Nitrogen Oxides. The test method for nitrogen oxides shall be EPA test method 7E, incorporated and adopted by reference in Chapter 62-297, F.A.C. Testing is required only upon permit renewal.
[Rule 62-297.401, F.A.C.]

D.12. Carbon monoxide . The test method for carbon monoxide shall be EPA test method 10, incorporated and adopted by reference in Chapter 62-297, F.A.C. Testing is required only upon permit renewal.
[Rule 62-297.401, F.A.C.]

D.13. Volatile organic compound. The test method for volatile organic shall be EPA test method 25A, incorporated and adopted by reference in Chapter 62-297, F.A.C. Testing is required only upon permit renewal.
[Rule 62-297.401, F.A.C.]

D.14. Determination of Process Variables**.** See common condition number **Z.2.**

D.15. A new condition establishing an alternative monitoring schedule is lieu of daily monitoring indicated by 40 CFR 60.334 is requested. It is Solutia's understanding that only EPA Region IV can approve the custom fuel monitoring program. This has been typically done recently by the New Source Review Section of FDEP in Tallahassee. The EPA Region IV has approved custom fuel monitoring schedules under more recent guidance for gas-fired turbine using pipeline natural gas. While the Cogeneration Plant is not an Acid Rain Unit as defined under 40 CFR Part 72, the fuel is pipeline natural gas. Solutia proposes the following as a Custom Fuel Monitoring Schedule:

1. A custom fuel monitoring schedule for natural gas may be used in lieu of the daily sampling requirements of 40 CFR 60.334 (b)(2) provided the following requirements are met:

   The permittee shall submit a monitoring plan, certified by signature of the Responsible Official, that commits to using a primary fuel of pipeline supplied natural gas (sulfur content less than 20 gr/100 scf as described in pursuant to 40 CFR 75.11(d)(2)).
   This custom fuel monitoring schedule will only be valid when pipeline natural gas is used as a primary fuel. If the primary fuel for these units is changed to a higher sulfur fuel, SO_2 emissions must be accounted for as required pursuant to 40 CFR 60.334(b)(2).

Periodic Monitoring

D.16. Natural Gas Usage**.** Natural gas usage heat input will be calculated on an hourly basis and recorded in units of MMBtu/hr.

D.17. Steam/Fuel Ratio**.** Monitor and record the steam to fuel ratio on an hourly basis.

Subsection E. This section addresses the following emissions units.

E.U. ID No.	Brief Description
060	Adipic Acid 485 BEPEX Dryer
061	Adipic Acid Dryer 405-A
062	Adipic Acid Dryer 405-B
063	Adipic Acid Dryer 465-A
064	Adipic Acid Dryer 465-B
079	Adipic Acid 485 NIRO Dryer

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

Essential Potential to Emit (PTE) Parameters

E.1. Adipic Acid Dryer Capacity

Dryer	EU-061 405A	EU-062 405B	EU-063 465A	EU-064 465B	EU-060 Bepex	EU-079 Niro
Exhaust air blower horsepower,(HP)	50	50	75	75	50	100
Exhaust air blower, design maximum flowrate, (SCFM, hourly average basis, as determined by EPA method 2 stack test)	8000	8000	10500	10500	10,200	10,500
Dryer exhaust scrubber, water minimum circulation flowrate (GPM, hourly average basis)	3000	3000	3000	3000	5500	NA
Exhaust air, bag filter model number	NA	NA	NA	NA	NA	2600+ sq. ft. filter area
Discharge air, design basis particulate concentration (grains/SCF, hourly average basis)	0.10	0.10	0.10	0.10	0.015	0.015

NA = not applicable

E.2. Common Conditions.

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

E.2.a. Visble Emissions. The emissions units listed above shall not exceed 5 percent opacity.
[Rule 62-297.620(4), F.A.C.]

E.2.b. Hours of Operation. The emissions units listed above are allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Test Methods and Procedures
{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

E.2.c. Emissions Tests. See common condition number **Z.1.**

E.2.d. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. The capacity for VE tests is normal operations.
[Rule 62-297.401, F.A.C.]

E.2.e. Particulate Matter. The test method for particulate matter shall be EPA test method 5, incorporated and adopted by reference in Chapter 62-297, F.A.C. Testing is required only upon permit renewal.
[Rule 62-297.401, F.A.C.]

E.2.f. Compliance with the mass emission standard may be assumed, and a waiver of the PM testing requirements may be granted, if visible emissions are not greater than 5 percent opacity. If the results of the visible emissions tests show greater than 5 percent opacity, the permittee shall conduct a particulates test within 30 days to show compliance with the mass emission standard of the Department.
[Rule 62-297.620(4), F.A.C.]

E.2.g. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

E.8. Reasonable Assurances The following work practices shall be followed to insure reasonable control of particulate matter:
(1) Srubbers or bag filters, associated with solids handling, are to be in service prior to commencement of activities such as loading, unloading, storing, handling or other industrially related activities.
(2) Operation logs shall include documentation that particulate matter control devices (hoods, fans, filters or similar equipment) are activated prior to initiation of solid material handling activities. This documentation will be maintained and made available for Department inspections.
(3) Visible emissions testing shall be conducted on an annual basis to provide reasonable assurance of system effectiveness. To perform the visible emissions testing, it will be necessary to have material handling ongoing at reasonable or typical activity levels. No operating rate limits will apply to this testing, however Solutia commits to ensure that operating rates are representative of normal operating conditions. A log of operating rates shall be maintained on a daily basis. The operating rates during testing shall be noted on the test report. These operating rate logs and visible emissions tests will also be maintained and will be made available for Department inspection.
[Rule 62-4.070, F.A.C., and permit AC17-262484]

E.9. Blower Capacity. Maintain records of blower capacity, motor size and model number for each dryer. Blower capacity will be confirmed with pitot tube during required PM testing.

E.10. Scrubber Water Flow. Maintain hourly average scrubber water flow rate for EU's 060-064.

Subsection F. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
002	Area II Adipic Acid Expansion - TRU/SCR1; existing TRU and new SCR (or equivalent) - SCR2; Backup new SCR (or equivalent) - Process Equipment; Product Synthesis, Refining and Raw Material Recovery

A ketone and alcohol mixture (KA, cyclohexanone/cyclohexanol) is oxidized with nitric acid to produce an Adipic Acid solution. The solution is refined by chilling due to vacuum evaporation, forming Adipic Acid crystals at the bottom of the process vessel. The resulting slurry is centrifuged to remove water and form a wet cake. The wet cake is redissolved in pure water and the purified Adipic Acid solution is sent to the Nylon Salt Strike or Drying and Product Loading operations. Emissions of CO and VOCs and NOx will be controlled by sending them to the TRU/SCR1 or the SCR2.

{Permitting note(s): (IMPORTANT REGULATORY CLASSIFICATIONS - the emissions unit is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A, VV, NNN and RRR; NESHAPs 40 CFR 61 Subparts A, and V; Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD))}

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

Essential Potential to Emit (PTE) Parameters

F.1.a. Capacity. The maximum allowable operating rates for each, the TRU/SCR1, and the SCR2, shall not exceed the rate of all combined process gases from the Area 471 gas phase hydroxylation reaction and product refining and raw material recovery processes, the Area I HALCON stream, and the Area II process gases, generated at the Area 471 maximum operating rate of 55,000 lbs Phenol/hr (hourly average basis), the Area I maximum operating rate of 82,000 lbs process air/hr (hourly average basis), and the Area II maximum operating rate of 119,059 lbs KA feed/hr (hourly average basis).
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C., AC application]
{Permitting note: The capacity limitations have been placed in the permit to identify the capacity of each unit for the purpose of confirming that emissions testing is conducted within 90 to 100 of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for capacity limitations. Instead, the owner or operator is expected to determine adipic acid production rate whenever emission testing is required, in order to demonstrate what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emissions tests. Such capacity determinations may be based on measurements of process inputs, flow measurements and/or other data to calculate average hourly capacity.}

F.1.b. Capacity. The process/operation rate for the Area II Process Equipment; Product Synthesis, Refining and Raw Material Recovery, shall not exceed the maximum operating rate of 119,059 lbs KA feed/hr (hourly average basis), up to 1,100 Million Pounds Adipic Acid produced per 12 months (1,100 MAR) on a twelve month rolling total basis. Permittee shall maintain records of KA feed on an hourly basis, monthly totals, and 30 day and 12 month rolling averages. Permittee shall also maintain records of adipic acid production on a daily basis, monthly totals and 12 month rolling totals. These records shall be made available for Department inspection.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C., AC application]

F.2.a. Methods of Operation - Gases Processed. The Area II TRU/SCR shall be used to control CO, VOC and NOx emissions from Area 471 processes and support activities, the Area I HALCON process offgas stream ,and the emissions from Area II.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-213.440(1), F.A.C.]

F.2.b. Methods of Operation - Fuels. The Area II TRU/SCR shall only use natural gas, ethane or butane as primary fuels.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-213.440(1), F.A.C.]

F.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year, as long as the annual production limit is observed. A log of TRU/SCR1, SCR2, NOx Compressor 1 and Backup NOx Compressor 2 on-line time shall be maintained and made available for department inspection. The log time-keeping requirement may be modified if, after compliance testing, it is shown that emissions from the TRU/SCR1 and the SCR2 are sufficiently equivalent to obviate this requirement.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

F.4. Up to an annual production capacity of 850 million lbs/year (850 MAR) of Adipic acid production, the NOx emission concentration for the TRU will not exceed 500 ppm 30 day rolling average. At production rates exceeding 850 MAR, the NOx emission concentration shall not exceed 150 ppm, on a rolling 24 hour average, from each of the TRU/SCR1 or the SCR2, and the annual total NOx emissions from both shall not exceed 236 tons/year on a rolling 12 month basis. This shall be demonstrated by means of a NOx Continuous Emissions Monitor (CEM), which is operated under a Department approved QC plan, while firing the process gases from Area I, Area 471 and Area II. This monitoring system shall be operational upon startup of the 1st phase of construction for reasonable assurance of estimates used in application.
[Rules 62-4.030, 62-4.070(3), F.A.C., Consent Order dated February 2, 1998, AC application]

Reasonable Assurances

F.5.a. Up to an annual production capacity of 850 million lbs/year (850 MAR) of Adipic acid production, the NOx emission concentration for the TRU will not exceed 500 ppm 30 day rolling average. At production rates exceeding 850 MAR, permittee shall demonstrate continuous compliance that the NOx emission shall not exceed 150 ppm, on a rolling 24 hour average, and 236 tons/year, on a rolling 12 month basis, from the exhaust stacks of the TRU/SCR1 and the SCR2. This shall be demonstrated by proper installation, maintenance and operation of Continuous Emission Monitors (CEMs) for NOx from the exhaust stacks of the TRU/SCR1 and SCR2, in conformance with a Department approved QC plan and annual CEMs RATA testing. CEMs readings shall be continuously recorded, and rolling 24 hour, 30 day and 12 month calculated averages shall be recorded and made available for Department inspection. Annual compliance testing may be waived if the Department receives reasonable assurance that the CEMs and data processing/recording systems have been functioning properly.
[Rules 62-4.030, 62-4.070(3), F.A.C., Consent Order dated February 2, 1998, AC Application]

F.5.b. Permittee shall implement and maintain a Department-approved Quality Control (QC) program which, at a minimum, follows the quality assurance procedures set forth in 40 CFR Appendix F, Quality Assurance Procedures, and Appendix B, Performance Specifications 2 and 6, to ensure the proper operation of the CEMs used to measure NOx concentrations and the instrumentation used to measure process parameters used to calculate the NOx emissions from the exhaust stacks of the TRU/SCR1 and the SCR2. Permittee shall submit a draft QC program for Department approval one hundred and eighty (180) days before startup of the first phase of the expansion.
[Rules 62-4.030, 62-4.070(3), F.A.C., Consent Order dated February 2, 1998, AC Application]

The following specific conditions apply to the NSPS emissions unit(s) listed above:

40 CFR 60 Requirements

F.6. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A, VV, NNN and RRR, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b), (d) & (e), F.A.C.]

The following specific conditions apply to the NESHAPs emissions unit(s) listed above:

40 CFR 61 Requirements

F.7. This emissions unit shall comply with all applicable requirements of 40 CFR 61 Subparts A, and V, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b), (d) & (e), F.A.C.]

NOTE: This emissions unit is also subject to applicable conditions contained in **Subsection C. Common Conditions.**

Subsection B. This section addresses the following emissions unit(s).

E.U. ID No.	**Brief Description**
090	Area II Adipic Acid Expansion - Fugitive Emissions

{Permitting note(s): (IMPORTANT REGULATORY CLASSIFICATIONS - the emissions unit is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A and VV; NESHAPs 40 CFR 61 Subparts A and V)}

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

40 CFR 60 Requirements

F.8. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A and VV, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b), (d) & (e), F.A.C.]

The following specific conditions apply to the NESHAPs emissions unit(s) listed above:

40 CFR 61 Requirements

F.9. This emissions unit shall comply with all applicable requirements of 40 CFR 61 Subparts A and V, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b), (d) & (e), F.A.C.]

NOTE: This emissions unit is also subject to applicable conditions contained in **Subsection C. Common Conditions.**

Common Conditions.

E.U. ID No.	**Brief Description**
002	Area II Adipic Acid Expansion - TRU/SCR1; existing TRU and new SCR (or equivalent) - SCR2; Backup new SCR (or equivalent) - Process Equipment; Product Synthesis, Refining and Raw Material Recovery
090	Area II Adipic Acid Expansion - Fugitive Emissions

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

Test Methods and Procedures

F.10.a. Emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. The compliance test protocol shall be determined by the DEP Rule or the EPA Regulation applicable to the specific Emission Unit, upon verification and approval of the additional information required by Specific Condition E.2. following design finalization. Such tests shall be scheduled within ninety (90) days after initial operation. The Department shall be notified at least fifteen (15) days prior to testing to allow witnessing. Results shall be submitted to the Department within forty-five (45) days after testing.
[Rules 62-4.070, 62-297.310(7), and 62-297.401(9), F.A.C.]

F.10.b. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C., Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7) F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing.
[Rules 62-297.310(7) and 62-297.620(1), F.A.C.]

F.10.c. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department.
[Rules 62-297.310(2) and 62-4.070, F.A.C.]

Reasonable Assurances

F.11. At production rates exceeding 850 MAR, permittee shall submit specific information including new equipment description and rule applicability analysis for updating the permit file as required by specific conditions in Subparts D, and E of this permit. This information shall include applicable emissions standards, compliance testing, reporting, recording and monitoring requirements for each emission unit. Permittee shall submit the required information for Department approval 180 days before startup of the 1st phase of expansion. The approved listing of applicable emissions standards, compliance testing, reporting, recording and monitoring requirements for each emission unit shall be incorporated, and become a part of, this construction permit and subsequent operating permits.
[Rules 62-4.030 and 62-4.070(3), F.A.C.]

F.12. At production rates exceeding 850 MAR, all appropriate emissions control systems; The Area II TRU/SCR1, the Area II backup NOx compressor (2), the SCR2, and the CEMs and their data processing/recording systems shall be in place and operational before each of the Area II process construction phases may be started up.
[Rule 62-4.070(3), F.A.C.]

F.13.a. At production rates exceeding 850 MAR, permittee shall conduct a testing program to re-evaluate the sources and amounts of HCN emitted by the Area II process TRU vent stream, upon completion of each of the major phases of construction.
[Rule 62-4.070(3), F.A.C.]

F.13.b. At production rates exceeding 850 MAR, permittee shall conduct a testing program to determine baseline emissions before construction, and emissions changes of NOx, VOC, PM and CO emitted by the Area II process TRU vent stream, upon completion of each of the major phases of construction.
[Rule 62-4.070(3), F.A.C.]

NSPS Common Conditions.

E.U. ID No.	**Brief Description**
002	Area II Adipic Acid Expansion - TRU/SCR1; existing TRU and new SCR (or equivalent) - SCR2; Backup new SCR (or equivalent) - Process Equipment; Product Synthesis, Refining and Raw Material Recovery
090	Area II Adipic Acid Expansion - Fugitive Emissions

The following specific conditions apply to the NSPS emissions unit(s) listed above:

40 CFR 60, - Requirements

F.14. These emissions units shall comply with applicable conditions of 40 CFR 60 Subparts A, Kb VV, NNN and RRR, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b),(d) & (e), F.A.C.]

F.15. At production rates exceeding 850 MAR, permittee shall submit, for department approval, at one hundred and eighty (180) days prior to startup, the following information to determine final applicability and standards for each emission unit:
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b),(d) & (e), F.A.C.]

40 CFR 60 Sp Kb
F.16.a. list of all new or modified Volatile Organic Liquid Vessels, including description of construction and emission control device(s), location, service, size, and characteristics of liquid stored (ref. to 40 CFR 60 Sp Kb, 60.116b), with a written determination of: 40 CFR 60 Sp Kb, 60.110b emission control device(s), 40 CFR 60 Sp Kb, 60.112b, testing and procedures requirements of 40 CFR 60 Sp Kb, 60.113b, and the reporting and recordkeeping requirements of 40 CFR 60 Sp Kb, 60.115b, as applicable to this emission unit and its segments.

40 CFR 60 Sp VV
F.16.b. list of all new or modified equipment (defined in ss 60.481) affected under 40 CFR 60 Sp VV, 60.480
affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60 Sp VV, 60.481), with a written determination of: standards requirements of 40 CFR 60 Sp VV, 60.482-(1_10), test methods and procedures of 40 CFR 60 Sp VV, 60.485 and the reporting and recordkeeping requirements of 40 CFR 60 Sp VV, 60.487, as applicable to this emission unit and its segments.

40 CFR 60 Sp NNN
F.16.c. list of all new or modified distillation equipment (defined in ss 60.661) affected under 40 CFR 60 Sp NNN, 60.660, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60 Sp VV, 60.661), with a written determination of the standards requirements of 40 CFR 60 Sp NNN, 60.662, monitoring of emissions and operations of 40 CFR 60 Sp NNN, 60.663 test methods and procedures of 40 CFR 60 Sp NNN, 60.664 and the reporting and recordkeeping requirements of 40 CFR 60 Sp NNN, 60.665, as applicable to this emission unit and its segments.

40 CFR 60 Sp RRR
F.16.d. list of all new or modified reactor process equipment (defined in ss 60.701) affected under 40 CFR 60 Sp RRR, 60.700, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60 Sp RRR, 60.701), with a written determination of: the standards requirements of 40 CFR 60 Sp RRR, 60.702, monitoring of emissions and operations of 40 CFR 60 Sp RRR, 60.703, test methods and procedures of 40 CFR 60 Sp RRR, 60.704 and the reporting and recordkeeping requirements of 40 CFR 60 Sp RRR, 60.705, as applicable to this emission unit and its segments.

NESHAPs Common Conditions.

E.U. ID No.	**Brief Description**
002	Area II Adipic Acid Expansion - TRU/SCR1; existing TRU and new SCR (or equivalent) - SCR2; Backup new SCR (or equivalent) - Process Equipment; Product Synthesis, Refining and Raw Material Recovery
090	Area II Adipic Acid Expansion - Fugitive Emissions

The following specific conditions apply to the NESHAPs emissions units listed above:

40 CFR 61, - Requirements

F.17. These emissions units shall comply with applicable conditions of 40 CFR 61 Subparts A and V, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b),(d) & (e), F.A.C.]

F.18. At production rates exceeding 850 MAR, permittee shall submit, for department approval, at least one hundred and eighty (180) days prior to startup, the following information to determine final applicability and standards for each emission unit:
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b),(d) & (e), F.A.C.]

40 CFR 61 Sp V
F.19. list of all new or modified equipment (defined in ss 61.241) affected under 40 CFR 61 Sp V, 61.240 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 61 Sp V, 61.241) with a written determination of: the standards requirements of 40 CFR 61 Sp V, 61.242-(1_11), test methods and procedures of 40 CFR 61 Sp V, 61.245, recordkeeping requirements of 40 CFR 61 Sp V, 61.246, and the reporting requirements of 40 CFR 61 Sp V, 61.247, as applicable to this emission unit and its segments.

Subsection G. This section addresses the following emissions units.

E.U. ID No.	Brief Description
005	Vaporizer No.1
007	Vaporizer No.2
008	Vaporizer No.3
009	Vaporizer No.4
010	Vaporizer No.5
011	Vaporizer No.6
013	Vaporizer No.7
075	Vaporizer No.8

Operation of eight vaporizers. Total capacity is 136 million Btu/hour heat input total for all vaporizers. There are no individual vaporizer limits beyond this total limit. These emissions units are primarily fueled by natural gas. No. 2 fuel oil with a maximum of 0.5 % sulfur by weight is allowed as an emergency fuel. Vaporizer No. 8 is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A and Dc., adopted and incorporated by reference in Rule 62-204.800, F.A.C.

Energy conservation features, which do not effect emissions, have been incorporated into the Vaporizer facility Vaporizer unit exhausts have been consolidated in some cases. The facility is still capable of exhausting through individual stacks, if necessary. The discharge arrangement is given below:

Source I.D. Number	Vaporizer Unit	Stack Number
EU-005	Vaporizer No.1	Stack No.4
EU-007	Vaporizer No.2	Stack No.2
EU-008	Vaporizer No.3	Stack No.5
EU-009	Vaporizer No.4	Stack No.4
EU-010	Vaporizer No.5	Stack No.5
EU-011	Vaporizer No.6	Stack No.6
EU-013	Vaporizer No.7	Stack No.6
EU-075	Vaporizer No.8	Stack No.8

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

Essential Potential to Emit (PTE) Parameters

G.1. Methods of Operation- Fuels. The primary fuel shall be natural gas. No. 2 fuel oil with a maximum of 0.5% sulfur by weight may be use as an emergency fuel only. The permittee shall immediately notify the Department of each emergency use of No. 2 fuel oil and if such use exceeds four days a visible emissions compliance test shall be conducted on each unit burning fuel oil. No. 2 fuel oil burned during routine interlock Preventive Maintenance is exempt from this notification requirement.
[Rules 62-4.160(2) and 62-213.440(1), F.A.C.]

G.2. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

G.3. Visible Emissions. Visible emissions shall not exceed 10% opacity under normal operating conditions. [Air Permit AO17-170108]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

G.4. Emissions Tests. See common condition number **Z.1.**

G.5. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C. Visible emissions testing is only required when buring No 2 fuel oil or upon Department request. No annual testing is required.
[Rule 62-297.401, F.A.C.]

G.6. Special Compliance Tests. If Department inspections observe visible emissions above 5% opacity on any vaporizer and/or stack, it shall be considered reason to believe the visible emissions standard could be violated; therefore, a special visible emissions compliance test shall be conducted to show compliance with the emission standard.
[Rule 62-297.310(7)(b), F.A.C. and permit AO17-170108]

G.7. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

B.7. Natural Gas Usage**.** An aggregate natural gas usage heat input will be calculated on an hourly basis and recorded in units of MMBtu/hr for vaporizers 1 through 8 combined.

Subsection H. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
081	Continuous Nylon Polymerization Lines
082	Batch Nylon Polymerization

Nylon salts are mixed, concentrated and polymerized to form a molten polymer by both continuous and batch processes. The molten polymer is solidified to nylon fiber from the continuous lines and flake products from the batch lines. Unconfined emissions of organic compounds occur during this solidification and are vented away from the working areas and discharged without controls.

The twelve continuous polymerization lines normally operate using an Evaporator/Reactor/Finisher process design or an alternative polymerization method, involving an Evaporator/Pre-reactor/Reactor/Finisher process design. Each continuous line has a separate evaporator. A portion of evaporator emissions is used to preheat the nylon salts, and the remaining emissions are normally fed to a distillation column shared by other yarn plant equipment. Pre-reactor steam and emissions are also fed to the distillation column control device. Reactor steam is condensed to produce process steam and the condensate is handled as wastewater. The emissions from the Finishing step are controlled by monomer scrubbers.

Four batch evaporators cyclically feed the batch lines' twelve autoclaves where the batch polymerization takes place. The autoclave emissions are also normally fed to the distillation column. The organics recovered by the distillation column are used as supplemental fuel in power boilers or routed to the plant process waste disposal system.

Essential Potential to Emit (PTE) Parameters

H.1. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

H.2. The maximum allowable emissions rate for VOCs is 715 lbs/day as a rolling annual average.
[Rules 62-4.070, 62-296.320(1)(a), F.A.C., and permit 0330040-001-AC]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

H.3. Emissions Tests. See common condition number **Z.1.**

H.4. VOC emissions testing shall be conducted every two years using the Yarn Plant Emissions Sampling Protocol, dated June 3, 1993.
[Rule 62-4.070, F.A.C. and permit 0330040-001-AC]

H.5. Emission factors shall be revalidated every two years. The results shall be submitted no later than 45 days after completion of testing.
[Rule 62-4.070, F.A.C., and permit 0330040-001-AC]

H.6. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

H.7. The permittee shall maintain a log of down time for each control device which controls emissions of organic compounds.
[Rule 62-4.070, F.A.C., and permit 0330040-001-AC]

H.8. The permittee shall calculate at a minimum once annually or as requested by the Department a "365 day moving average" of total organic emissions from EU-081 and EU-082 using current emissions factors. A summary graph identifying each day's average shall be attached to and submitted with each annual operating report.
[Rule 62-4.070, F.A.C., and permit 0330040-001-AC]

H.9. Distillation Column. The permittee shall monitor the operation and performance of the distillation column. As a minimum, the monitoring shall include the following:

a) monthly monitoring of off gas HMDA concentrations.

b) monitoring and maintaining a minimum acceptable column reflux flow of 5000 lbs/hr hourly average.

c) records shall be maintained and made available for Department inspection.

[Rule 62-4.070, F.A.C. and permit 0330040-001-AC]

Subsection I. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
020	Cyclohexane Oxidation Process

Cyclohexane is oxidized with air in two high-pressure reactor trains. Two high-pressure scrubbers reduce the loss of volatile organic compounds (VOC). Emissions are primarily VOC and carbon monoxide (CO). Further VOC and CO emissions reductions are effected by routing the emissions from the high-pressure scrubbers to a NOx thermal reduction unit when operating. The reactors are discharged to cyclohexane recovery, product refining, and distillation operations. Emissions from these operations are controlled by two low-pressure scrubbers which vent to atmosphere. The emissions from low-pressure scrubbers are of similar composition but lesser quantity than those from high-pressure scrubbers. Total process emissions of volatile organic compounds are estimated at 926 pounds per hour and emissions of carbon monoxide are estimated at 1,404 pounds per hour and are only determined during required emissions testing.

The Cyclohexane Oxidation Process has a cyclohexanone/cyclohexanol (KA) Recovery Column which functions as a separator for product KA, water and impurities. The overhead vapors pass through an overhead condenser into a decanter where the aqueous and hydrocarbon streams are separated. The aqueous phase is further processed for recovery. The hydrocarbon stream is routed to product streams for refining. The vapors from condenser and decanter are mixed with other streams to feed one of the low pressure scrubbers. The condenser system operates with the sump temperature below 50°C. The condenser sump temperature is monitored and recorded.

This emissions unit is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A and NNN; NESHAPs - 40 CFR 61 Subpart FF, adopted and incorporated by reference in Rule 62-204.800, F.A.C.

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

Essential Potential to Emit (PTE) Parameters

I.1. Capacity. The maximum allowable operating rate for the Cyclohexane Oxidation Process is 82,000 pounds per hour process air.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

I.2. Methods of Operation. Oil flow through each of the high-pressure scrubbers shall be maintained at or above 3600 pounds per hour during reactor train operation. Flow rate indicator values shall be monitored and averaged values logged at no larger than one hour intervals. Records shall be maintained and made available for Department inspection. Further VOC and CO emissions reductions will be made by routing the emissions from the scrubbers to the NOx Thermal Reduction Unit. The KA recovery column shall vent to the condenser and from there to the low pressure scrubbers. The KA recovery column/condenser shall maintain a total resource effectiveness value greater than 1 .0, as applicable under NSPS 40 CFR Part 60 Subpart NNN.
[Rules 62-4.070, 62-296.320(1), 62-204.800(7)63. and 62-213.440(1), F.A.C.]

I.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}
I.4. Emissions Tests. See common condition number **Z.1.**

I.5. Carbon monoxide and volatile organic compounds. Carbon monoxide and volatile organic compounds emissions tests shall be conducted in accordance with the approved alternative testing plan dated October 25, 1994. Testing is required only upon permit renewal.

I.7. Subpart NNN. For the KA Revcovery Column, the owner or operator shall comply with the testing method, recordkeeping, and reporting requirements under NSPS, 40 CFR 60, Subpart NNN, Standards of Performance of VOC emissions from SOCMI Distillation Processes.
[Rule 62-296.800 and 62-204.800(7)63. F.A.C. and permit AC17-247476]

Monitoring of Operations

I.8. For the KA Recovery Column applicable monitoring and recording devices shall be operated and maintained as per NSPS 40 CFR Part 60 Subpart NNN Regulations to monitor the operation of the condenser.
[Rules 62-4.070 and 62-204.800(7)63. F.A.C.]

Recordkeeping and Reporting Requirements

I.9. For the KA Recovery Column applicable reporting and record keeping requirements of NSPS 40 CFR Part 60 Subpart NNN Regulations shall be adhered to. Records shall be maintained and kept available for inspection by the Department.
[Rules 62-4.070 and 62-204.800(7)63. F.A.C.]

I.10. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

I.11. Process Air Rate. Monitor and record total process air rate on an hourly basis (lbs/hr air)

I.12. High-Pressure Scrubber Oil Flow Rate. Monitor and record high-pressure scrubber oil flow rate on an hourly basis (lbs/hr oil)

I.13. KA Recovery Column Condenser Sump Temperature. Monitor and record hourly average sump temperature on an hourly basis. (ave°C/hr)

Subsection J. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
049	Hydrogen Generating Plant #1

Hydrogen is used in the production of hexamethylene diamine and other nylon intermediates chemicals. A feedstock of natural gas or ethane-rich gas is desulfurized. The gas is then heated in the reformer fueled by natural gas and waste process gas. The combustion flue gases of the reformer are the only source of emissions. Particulate emissions are controlled by proper combustion and nitrogen oxides are controlled by use of low NOx burners.

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

Essential Potential to Emit (PTE) Parameters

J.1. Capacity. The maximum allowable operating rate is 180 MMBtu per hour heat input.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C. and AC17-271831]

J.2. Methods of Operation - Fuels. This emissions unit shall be fueled by natural gas and/or process waste gas.
[Rules 62-4.160(2) and 62-213.440(1), F.A.C.]

J.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Emission Limitations and Standards

{Permitting notes: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

J.4. Visible Emissions. Visible emissions shall be less than 20% opacity.
[Rule 62-296.320(4)(b), F.A.C.]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

J.5. Emissions Tests. See common condition number **Z.1.**

J.6. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

J.7. Determination of Process Variables**.** See common condition number **Z.2.**

Subsection K. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
040	Hexamethylene Diamine Synthesis and Refining
041	B and C Hexamethylene Diamine Stripper Distillation Column

Adiponitrile is hydrogenated to yield crude Hexamethylene Diamine (HMD). The HMD is then refined by vacuum distillation. A vacuum is achieved by staged steam jets. The water soluble HMD is discharged in the steam condensate to the wastewater system. The concentration of HMD in the noncondensible emissions is reduced in each stage.

The stripper distillation columns are subject to applicable requirements of 40 CFR Part 60, Subparts A and NNN, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Column head pressures are used as a surrogate parameter to control HMD emissions.

Essential Potential to Emit (PTE) Parameters

K.1. Hours of Operation. This emissions units are allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

K.2. All applicable requirements of 40 CFR Part 60 Subpart NNN, Standards for Performance for Volatile Organic Compound (VOC) Emissions for Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations, shall be adhered to for EU-041. Subpart NNN requirements that apply include the following:

K.2.a. A total resource effectiveness (TRE) index shall be maintained at a value greater than or equal to 1.0. Details of the calculation(s) shall be submitted with any testing required and when any process changes that may impact the TRE index are made.
[40CFR60.662(c)]

K.2.b. Continuous monitoring of stripper columns head pressure is required and serves as a surrogate parameter to control HMD emissions. The column head pressure shall be maintained at or below a maximum of 100mm Hg. Records of stripper column head pressure logged hourly shall be maintained and be available for inspection by the Department.
[Department approved alternative to 40CFR60.663(d)(2)(i)].

K.3. Condensation of steam and solution of HMD between stages of a series of steam vacuum jets are determined to be vapor control devices deemed necessary by the Department. The permittee shall maintain operations and maintenance of the jets and condensers sufficient to provide reasonable assurance that HMD emissions remain approximately at the levels of these measured values.
[Rules 62-4.070, 62-296.320(1)(a), F.A.C., and permit 0330040-004-AC]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

K.4. Emissions Tests. See common condition number **Z.1.**

K.5. The test method for HMD shall be EPA Methods 1, 2, 4 and 18 or 25A, and ASTM Methods D1946-77 and D2382-76., incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

K.6. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

K.7. EU-041 Head Pressure**.** Records of B & C stripper column head pressure logged hourly when the column is in service, shall be maintained and be available for inspection by the Department.

Subsection L. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
042	Nitric Acid Plant

Operation of a nitric acid plant with a maximum capacity of 1500 tons per day. NOx emissions are controlled by process operating conditions and/or use of a Selective Catalytic Reduction (SCR) NOx abatement device.

In the synthesis process, ammonia is oxidized in the presence of a catalyst to form NOx which is then converted to HNO3 by a reaction with water. Startup shutdown malfunction allowance is 3 hrs based on NSPS Subpart G rule.

This emissions unit is regulated under applicable portions of NSPS - 40 CFR 60 Subparts A, G, and Appendix F adopted and incorporated by reference in Rule 62-204.800, F.A.C.

Essential Potential to Emit (PTE) Parameters

L.1. Capacity. The maximum allowable operating rate is 1500 tons of 100% nitric acid produced per day.
[Rules 62-4.160(2), 62-210.200(PTE), F.A.C.]
{Permitting note: The capacity limitations have been placed in the permit to identify the capacity of each unit for the purpose of confirming that emissions testing is conducted within 90 to 100 of the unit's rated capacity (or to limit future operation to 110 percent of the test load), to establish appropriate emission limits and to aid in determining future rule applicability. Regular record keeping is not required for capacity limitations. Instead, the owner or operator is expected to determine nitric acid production rate whenever emission testing is required, in order to demonstrate what percentage of the rated capacity that the unit was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emissions tests. Such capacity determinations may be based on measurements of process inputs, flow measurements and/or other data to calculate average hourly capacity.}

L.2. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Monitoring of Operations

L.3. When the SCR Unit is not employed, the absorber column chilled water shall be monitored and water flow shall be maintained between 200 gal/min and 440 gal/min, and water temperature shall be maintained between 32 °F and 54 °F.
[Rule 62-4.070, F.A.C. and permit 0330040-003-AC]

L.4. Records of daily production, hours of operation, absorber column operating parameters and continuous emission monitor maintenance (down time, calibrations, and adjustments) shall be maintained and be available for inspection by the Department.
[Rule 62-4.070, F.A.C. and permit 0330040-003-AC]

L.5. The zero and span drift of the continuous emission monitor for NOx shall be checked at least once daily, and adjustments shall be made to zero and span whenever they exceed 2% and 2.5%, respectively. This shall be done consistent with 40 CFR 60.13(d).
[FAC Rule 62-204.800(7)(b)10, F.A.C. and 40 CFR 60.73(a) and permit 0330040-003-AC]

L.6. The Permittee shall routinely monitor performance of the SCR Unit to ensure compliance with the emission limit. The monitoring information shall include the following:
Y.6.a. Monitoring, logging and record keeping of

- SCR Inlet flow
- Ammonia flow to SCR (or ammonia valve position)
- Air flow to SCR

L.7. A conversion factor is established in accordance with 40 CFR 60.73 (lbs NOx/ton nitric acid per ppm). The conversion factor shall be reevaluated during each reference method performance test, and a written report included in the reference method test report.
[FAC Rule 62-4.070 and AC17-2179 - amended November 30, 1988, FAC Rule 62-204.800(7)(b)8, 40 CFR 60.73(b), Construction permit application signed August 12, 1996]

Emission Limitations and Standards

{Permitting note: Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

L.8. Visible Emissions. Visible emissions shall be less than 10% opacity.
[Rule 62-204.800(7)(b)10, F.A.C., 40 CFR 60.72(a)(2) and permit 0330040-003-AC]

L.9. The maximum allowable annual emission rate for NOx is 3.00 lb/Ton of 100% HNO3. The maximum allowable annual NOx emissions are 360 tons of NOx per year based on a 365 day rolling total amount as determined by the CEMs data and stack flow rate.
[Rule 62-4.070, F.A.C., and permit 0330040-003-AC]

Test Methods and Procedures

{Permitting note: Table 2-1, Summary of Compliance Requirements, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

L.10. Emissions Tests. See common condition number **Z.1.**

L.11. Visible Emissions. The test method for visible emissions shall be EPA test method 9, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

L.12. Nitrogen Oxides. The test method for nitrogen oxides shall be EPA test method 7, 7A, 7B, 7C or 7D, incorporated and adopted by reference in Chapter 62-297, F.A.C.
[Rule 62-297.401, F.A.C.]

L.13. Determination of Process Variables**.** See common condition number **Z.2.**

Periodic Monitoring

L.14. Continuous Emissions Monitoring. Permittee shall operate and maintain a nitrogen oxides (NOx) continuous emissions monitor (CEM) on the exhaust stack for measurement of NOx concentration. The pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d) shall be nitrogen dioxide (NO_2). The span value shall be 500 ppm of NO_2.
Records shall be kept for a 365 day rolling total amount calculated in tons of NOx/yr
[Rule 62-296.800(7)(b)10, F.A.C. and 40 CFR 60.73(a)].

Subsection M. This section addresses the following emissions unit(s).

E.U. ID No.	Brief Description
088	Area 480 KA Expansion - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare or equivalent and a backup unit

The VOC emission control equipment for the Area 480 process will be a flare or equivalent and a backup unit, probably also a flare.

{Permitting note(s): (IMPORTANT REGULATORY CLASSIFICATIONS - the emissions unit is regulated under applicable portions of NSPS - 40 CFR 60, Subparts A, Kb, VV, NNN, and RRR; NESHAPs 40 CFR 61 Subparts A and V; NESHAPs 40 CFR 63 Subparts A, F, G, H, and VV)}

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

M.1. Capacity. The maximum allowable operating rate for the VOC Control Flare, and its back-up, shall not exceed the rate of all combined process gases from the Area 480 process at the maximum permitted operating rate 54,795 lb/hr of KA mixture. (permitting note: 54,795 lb/hr is 120% of the annual average rate) Compliance shall be determined at the Area 480 maximum operating rate of 54,795 lb/hr of KA mixture. Permittee shall maintain hourly records of KA mixture production and ongoing 24-hour rolling average available for Department inspection.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C.]

M.2. Methods of Operation. The flare or equivalent (or the associated backup unit) shall be used to control VOC emissions from the Area 480 process.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-213.440(1), F.A.C.]

M.3. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year.
[Rules 62-4.030, 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Reasonable Assurances

M.4. The flare or equivalent and the associated backup unit shall be in place and operational, before the Area 480 process is brought into service.
[Rule 62-4.070(3), F.A.C.]

The following specific conditions apply to the NSPS emissions unit(s) listed above:

40 CFR 60 Requirements

M.5. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A, Kb, VV, NNN, and RRR, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b), (d) & (e), F.A.C.]

The following specific conditions apply to the NESHAPs emissions unit(s) listed above:

40 CFR 61 Requirements

M.6. This emissions unit shall comply with all applicable requirements of 40 CFR 61 Subparts A, and V, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b), (d) & (e), F.A.C.]

40 CFR 63 Requirements

M.7. This emissions unit shall comply with all applicable requirements of 40 CFR 63 Subparts A, F, G, H and VV, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(10)(b), (d) & (e), F.A.C.]

NOTE: This emissions unit is also subject to applicable conditions contained in **Subsection C. Common Conditions.**

E.U. ID No.	**Brief Description**
089	Area 480 KA Expansion - Fugitive Emissions

{Permitting note(s): (IMPORTANT REGULATORY CLASSIFICATIONS - the emissions unit is regulated under applicable portions of NSPS - 40 CFR 60, Subparts A and VV; NESHAPs 40 CFR 61 Subparts A and V; NESHAPs 40 CFR 63 Subparts A, and H)}

The following specific conditions apply to the NSPS emissions unit(s) listed above:

40 CFR 60 Requirements

M.8. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A and VV, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b), (d) & (e), F.A.C.]

The following specific conditions apply to the NESHAPs emissions unit(s) listed above:

40 CFR 61 Requirements

M.9. This emissions unit shall comply with all applicable requirements of 40 CFR 61 Subparts A and V, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b), (d) & (e), F.A.C.]

40 CFR 63 Requirements

M.10. This emissions unit shall comply with all applicable requirements of 40 CFR 63 Subparts A, and H, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(10)(b), (d) & (e), F.A.C.]

NOTE: This emissions unit is also subject to applicable conditions contained in **Subsection C. Common Conditions.**

Common Conditions.

E.U. ID No.	**Brief Description**
088	Area 480 KA Expansion - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare or equivalent and a backup unit
089	Area 480 KA Expansion - Fugitive Emissions

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

Test Methods and Procedures

M.11.a. Emissions tests are required to show compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. The compliance test protocol shall be determined by the DEP Rule or the EPA Regulation applicable to the specific Emission Unit, upon verification and approval of the additional information required by Specific Condition E.2., following design finalization. Such tests shall be scheduled within ninety (90) days after initial operation. The Department shall be notified at least fifteen (15) days prior to testing to allow witnessing. Results shall be submitted to the Department within forty-five (45) days after testing.
[Rules 62-4.070, 62-297.310(7), and 62-297.401(9), F.A.C.]

M.11.b. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C., Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7) F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing.
[Rules 62-297.310(7)(b), 62-297.310(8) and 62-297.620(1), F.A.C.]

M.11.c. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, then sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, then operation at higher capacities is allowed for no more than fifteen days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department.
[Rules 62-297.310(2) and 62-4.070, F.A.C.]

M.11.d. Emissions Unit 089 will be subject to leak detection and repair (LDAR) requirements, as applicable, pursuant to either 40 CFR 60 or 63. Emissions testing will be satisfied by conformance with these regulations.
[Rules 62-204.800(7)(b) and 62-204.800(10)(b), F.A.C., and Permittee Commitment]

Reasonable Assurances

M.12. Permittee shall submit specific information including new equipment description and rule applicability analysis for updating the permit file as required by specific conditions in Subparts D, E and F of this permit. This information shall include applicable emissions standards, compliance testing, reporting, recording and monitoring requirements for each emission unit. Permittee shall submit the required information for Department approval 180 days before startup of the 1st phase of expansion. The approved listing of applicable emissions standards, compliance testing, reporting, recording and monitoring requirements for each emission unit shall be incorporated, and become a part of, this construction permit and subsequent operating permits.
[Rules 62-4.030 and 62-4.070(3), F.A.C.]

M.13. The flare or equivalent and the associated backup unit shall be in place and operational, before the Area 480 process is brought into service.
[Rule 62-4.070(3), F.A.C.]

NSPS Common Conditions.

E.U. ID No.	Brief Description
088	Area 480 KA Expansion - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare or equivalent and a backup unit
089	Area 480 KA Expansion - Fugitive Emissions

The following specific conditions apply to the NSPS emissions unit(s) listed above:

40 CFR 60, - Requirements

M.14. These emissions units shall comply with applicable conditions of 40 CFR 60 Subparts A, Kb, VV, NNN and RRR, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b),(d) & (e), F.A.C.]

M.15. Permittee shall submit, for department approval, at least one hundred and eighty (180) days prior to startup, the following information to determine final applicability and standards for each emission unit:
[Rules 62-4.030, 62-4.070(3) and 62-204.800(7)(b),(d) & (e), F.A.C.]

40 CFR 60 Sp Kb
M.16.a. list of all Volatile Organic Liquid Vessels, including description of construction and emission control device(s), location, service, size, and characteristics of liquid stored (ref. to 40 CFR 60 Sp Kb, 60.116b), with a written determination of: 40 CFR 60 Sp Kb, 60.110b emission control device(s), 40 CFR 60 Sp Kb, 60.112b, testing and procedures requirements of 40 CFR 60 Sp Kb, 60.113b, and the reporting and recordkeeping requirements of 40 CFR 60 Sp Kb, 60.115b, as applicable to this emission unit and its segments.

40 CFR 60 Sp VV
M.16.b. list of all equipment (defined in ss 60.481) affected under 40 CFR 60 Sp VV, 60.480 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60 Sp VV, 60.481), with a written determination of: standards requirements of 40 CFR 60 Sp VV, 60.482-(1_10), test methods and procedures of 40 CFR 60 Sp VV, 60.485 and the reporting and recordkeeping requirements of 40 CFR 60 Sp VV, 60.487, as applicable to this emission unit and its segments.

40 CFR 60 Sp NNN
M.16.c. list of all distillation equipment (defined in ss 60.661) affected under 40 CFR 60 Sp NNN, 60.660, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60 Sp VV, 60.661), with a written determination of the standards requirements of 40 CFR 60 Sp NNN, 60.662, monitoring of emissions and operations of 40 CFR 60 Sp NNN, 60.663 test methods and procedures of 40 CFR 60 Sp NNN, 60.664 and the reporting and recordkeeping requirements of 40 CFR 60 Sp NNN, 60.665, as applicable to this emission unit and its segments.

40 CFR 60 Sp RRR

M.16.d. list of all reactor process equipment (defined in ss 60.701) affected under 40 CFR 60 Sp RRR, 60.700, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60 Sp RRR, 60.701), with a written determination of: the standards requirements of 40 CFR 60 Sp RRR, 60.702, monitoring of emissions and operations of 40 CFR 60 Sp RRR, 60.703, test methods and procedures of 40 CFR 60 Sp RRR, 60.704 and the reporting and recordkeeping requirements of 40 CFR 60 Sp RRR, 60.705, as applicable to this emission unit and its segments.

NESHAPs Common Conditions.

E.U. ID No.	**Brief Description**
088	Area 480 KA Expansion - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare or equivalent and a backup unit
089	Area 480 KA Expansion - Fugitive Emissions

The following specific conditions apply to the NESHAPs emissions units listed above:

40 CFR 61, - Requirements

M.17. These emissions units shall comply with applicable conditions of 40 CFR 61 Subparts A and V, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b),(d) & (e), F.A.C.]

M.18. Permittee shall submit, for department approval, at least one hundred and eighty (180) days prior to startup, the following information to determine final applicability and standards for each emission unit:
[Rules 62-4.030, 62-4.070(3) and 62-204.800(9)(b),(d) & (e), F.A.C.]

40 CFR 61 Sp V
M.19.b. list of all equipment (defined in ss 61.241) affected under 40 CFR 61 Sp V, 61.240 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 61 Sp V, 61.241) with a written determination of: the standards requirements of 40 CFR 61 Sp V, 61.242-(1_11), test methods and procedures of 40 CFR 61 Sp V, 61.245, recordkeeping requirements of 40 CFR 61 Sp V, 61.246, and the reporting requirements of 40 CFR 61 Sp V, 61.247, as applicable to this emission unit and its segments.

Hazardous Organic NESHAPs (HON) Common Conditions.

E.U. ID No.	Brief Description
088	Area 480 KA Expansion - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare or equivalent and a backup unit
089	Area 480 KA Expansion - Fugitive Emissions

The following specific conditions apply to the HON/NESHAPs emissions units listed above:

40 CFR 63, - Requirements

M.20. These emissions units shall comply with applicable conditions of 40 CFR 63 Subparts A, F, G, H and VV, attached and incorporated by reference.
[Rules 62-4.030, 62-4.070(3) and 62-204.800(10)(b),(d) & (e), F.A.C.]

M.21. Permittee shall submit, for department approval, at least one hundred and eighty (180) days prior to startup, the following information to determine final applicability and standards for each emission unit:
[Rules 62-4.030, 62-4.070(3) and 62-204.800(10)(b),(d) & (e), F.A.C.]

40 CFR 63 Sp F
M.22.a. list of all equipment (defined in ss 63.101) affected under 40 CFR 63 Sp F, 63.100 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63 Sp F, 63.100), with a written determination of the standards requirements of 40 CFR 63 Sp F, 63.102, and compliance, reporting and recordkeeping requirements of 40 CFR 63 Sp F, 63.103 through 105, as applicable to this emission unit and its segments.

40 CFR 63 Sp G
M.22.b. list of all equipment (defined in ss 63.111) affected under 40 CFR 63 Sp G, 63.110 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63 Sp G, 63.111),with a written determination of the standards requirements of 40 CFR 63 Sp G, 63.112 and 63.113, monitoring requirements of 40 CFR 63 Sp G, 63.114 and 63.115, test methods and procedures of 40 CFR 63 Sp G, 63.116, reporting and recordkeeping requirements of 40 CFR 63 Sp G, 63.117 for group and TRE determinations and performance tests, the periodic reporting and recordkeeping requirements of 40 CFR 63 Sp G, 63.118, and,
storage vessel emission control provisions of 40 CFR 63 Sp G, 63.119, 63.120 and 63.121,
storage vessel reporting requirements of 40 CFR 63 Sp G, 63.122,
transfer operations emission control provisions of 40 CFR 63 Sp G, 63.126,
transfer operations monitoring requirements of 40 CFR 63 Sp G, 63.127,

transfer operations test methods and procedures of 40 CFR 63 Sp G, 63.128,
transfer operations reporting and recordkeeping for tests and compliance status of 40 CFR 63 Sp G, 63.129,
transfer operations periodic reporting and recordkeeping of 40 CFR 63 Sp G, 63.130,
process wastewater provisions of 40 CFR 63 Sp G, 63.131 through 139,
process wastewater general provisions of 40 CFR 63 Sp G, 63.132,
process wastewater wastewater tanks provisions of 40 CFR 63 Sp G, 63.133,
process wastewater surface impoundments provisions of 40 CFR 63 Sp G, 63.134,
process wastewater containers provisions of 40 CFR 63 Sp G, 63.135,
process wastewater individual drain systems provisions of 40 CFR 63 Sp G, 63.136,
process wastewater oil-water separators provisions of 40 CFR 63 Sp G, 63.137,
process wastewater treatment processes provisions of 40 CFR 63 Sp G, 63.138,
process wastewater control devices provisions of 40 CFR 63 Sp G, 63.139,
process wastewater inspection and operations monitoring provisions of 40 CFR 63 Sp G, 63.143,
process wastewater provisions for test methods, group applicability and determinations of 40 CFR 63 Sp G, 63.144,
process wastewater provisions for test methods and compliance of 40 CFR 63 Sp G, 63.145,
process wastewater reporting requirements of 40 CFR 63 Sp G, 63.146,
process wastewater recordkeeping requirements of 40 CFR 63 Sp G, 63.147,
leak inspection provisions of 40 CFR 63 Sp G, 63.148,
emissions averaging provisions of 40 CFR 63 Sp G, 63.150,
initial notification and implementation plan requirements of 40 CFR 63 Sp G, 63.151,
general reporting and continuous records requirements of 40 CFR 63 Sp G, 63.152,
as applicable to this emission unit and its segments.

40 CFR 63 Sp H
M.22.c. list of all equipment (defined in ss 63.161) affected under 40 CFR 63 Sp H, 63.160 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63 Sp H, 63.161) with a written determination of the general and specific equipment standards requirements of 40 CFR 63 Sp H, 63.162 through 63.174, quality improvement program of 40 CFR 63 Sp H, 63.175 through 63.176, alternative emissions limitations of 40 CFR 63 Sp H, 63.177 through 63.179, test methods and procedures of 40 CFR 63 Sp H, 63.180, recordkeeping requirements of 40 CFR 63 Sp H, 63.181, and the reporting requirements of 40 CFR 63 Sp H, 63.182, as applicable to this emission unit and its segments.

40 CFR 63 Sp VV
M.22.d. list of all equipment (defined in ss 63.1041) affected under 40 CFR 63 Sp VV, 63.1040 affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63 Sp VV, 63.1041) with a written determination of the standards requirements of 40 CFR 63 Sp VV, 63.1043 and 63.1044, test methods and procedures of 40 CFR 63 Sp VV, 63.1046, inspection and monitoring requirements of 40 CFR 63 Sp VV, 63.1047, recordkeeping requirements of 40 CFR 63 Sp VV, 63.1048, reporting requirements of 40 CFR 63 Sp VV, 63.1049, as applicable to this emission unit and its segments.

Subsection Z. Common Conditions.

{Permitting Note: The following conditions are placed here as a convenience and to avoid duplication. See specific conditions in Subsections A through Y for applicability.}

Z.1. Test Methods and Procedures

Emissions tests are required to show continuing compliance with the standards of the Department. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Tests shall be conducted annually, unless otherwise specified in specific conditions. Results shall be submitted to the Department within 45 days after testing. The Department shall be notified at least 15 days prior to testing to allow witnessing.
[Rule 62-297.310, F.A.C.]

Testing of emissions shall be conducted with the emissions unit operating at permitted capacity, which is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. If it is impracticable to test at permitted capacity, an emissions unit may be tested at less than the minimum permitted capacity (i.e., at less than 90 percent of the maximum operation rate allowed by the permit); in this case, subsequent emissions unit operation is limited to 110 percent of the test load until a new test is conducted, provided however, operations do not exceed 100 percent of the maximum operation rate allowed by the permit. Once the emissions unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity.
[Rules 62-297.310(2) & (2)b., F.A.C.]

Z.2. Determination of Process Variables.

The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.
[Rule 62-297.310(5), F.A.C.]