Ascend Performance Materials Operations LLC
Pensacola Plant
Facility ID No. 0330040
Escambia County

Title V Air Operation Permit Revision

Permit No. 0330040-040-AV
(Revision of Title V Air Operation Permit No. 0330040-037-AV)

Permitting and Compliance Authority:

State of Florida
Department of Environmental Protection
Air Resource Management, Northwest District

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July 7, 2014

Title V Air Operation Permit Revision
Permit No. 0330040-040-AV

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Environmental Protection
Northwest District
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Pensacola, Florida 32502

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

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Secretary

July 7, 2014

PERMITTEE:
Ascend Performance Materials Operations LLC
3000 Old Chemstrand Road
Cantonment, Florida 32533

Permit No. 0330040-040-AV
Pensacola Plant
Facility Id No. 0330040
Title V Air Operation Permit Revision

The purpose of this permit is to revise the Title V permit for the above referenced facility and incorporate the terms and conditions of Title V permit 0330040-027-AC, permit 0330040-028-AC and permit 0330040-031-AC. The Pensacola Plant is located in Escambia County at 3000 Old Chemstrand Road, Cantonment, Florida. UTM Coordinates: Zone 16, 476.0 km East and 3385.0 km North; and, Latitude: 30° 35' 56" North and Longitude: 87° 15' 01" West.

The 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, 62-213. The above named permittee is hereby authorized to operate the facility in accordance with the terms and conditions of this permit.

Initial Effective Date: May 30, 2012
Revision Effective Date: July 4, 2014
Renewal Application Due Date: October 17, 2016
Expiration Date: May 30, 2017

____/s/_____
J. Charles Harp
Program Administrator
Waste Management/Air Resources
Northwest District

JCH/ha/m

Section I. Facility Information

This permit revises Title V air operation permit 0330040-037-AV, effective May 30, 2012, and incorporates the terms and conditions of Title V air construction permit 0330040-027-AC, issued January 3, 2008, permit 0330040-028-AC, issued May 19, 2008, permit 0330040-031-AC, issued March 16, 2009, and permit 0330040-036-AC, issued June 9, 2011.

Ascend submitted application No. 0330040-036-AC to increase the permitted annual capacity for adipic acid production in Emissions Unit 002 from 850 MAR (million pounds annual rate) adipic acid to 1080 MAR. Project Milestones for Permit 0330040-036-AC are as follows:

(1) New Therminol vaporizer

(2) New No. 2 Hydrogen generating plant and Flare

(3) Conversion of both nylon fiber lines to pellets

(4) Completion of the projects required to achieve 1080 MAR adipic

This permit revision incorporates the new No. 2 hydrogen generating plant and Flare. The other project milestones have not been completed and are not a part of this revision.

Permit 0330040-027-AC authorized modernization of the front end controls in buildings 403 and 463, replaced condensers on the two double-effect concentrating stills, replaced the D-still, replaced the Still Feed Tank and the 403 Absorber Feed Tank, and converted Area II from double to triple crystallization, analogous to the urethane-grade adipic process where the adipic is crystallized a third time. Permit 0330040-031-AC allowed the modification of 0330040-027-AC to update past actual and future projected actual NOx emissions from those given in 0330040-027-AC.

Permit 0330040-028-AC authorized construction of a nitric acid storage tank and upgrade of the NOX compressor system air intercooler in the Nitric Acid Plant.

Subsection A. Facility Description

Ascend Performance Materials Operations LLC manufactures various intermediate chemicals and products, including adipic acid, nylon fibers, nylon resins, hexamethylene diamine, and maleic anhydride. 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. Ascend operates a maleic anhydride facility, not part of the nylon process, which is owned by Huntsman Petrochemical Corporation.

Boilers Nos. 4, 5 and 6 are manufactured by Combustion Engineering and rated at 241 MMBtu/hour heat input. 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 requirements of 40 CFR 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(1)(c)1.f (SO_2 aggregate limitation) and 62-296.406, F.A.C. (Fossil Fuel Steam Generators with less than 250 MMBtu heat input).

Boilers Nos. 7 and 8 were modified to incorporate low NOx burners and are fueled by natural gas, ethane rich natural gas, maleic anhydride production off gas, and pentane vapor stream. Each of the modified burners is 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.

Boiler No. 9 is a natural gas fired boiler with a maximum rated heat input of 344 MMBtu per hour and 250,000 pounds per hour steam and operates without an SCR unit. The packaged boiler is manufactured by Indeck Power Equipment Company/Volcano Technologies, Inc., Model No. A5-250-S. This boiler is subject to 40 CFR 60 subpart Db. NOx emissions are controlled with low NOx burners and flue gas recirculation. Permittee has a maximum annual fuel limitation of 1,845,732 thousand standard cubic feet per 12-month rolling period (MSCF/yr) of natural gas. The heat input shall not exceed 219.1 MMBtu/hr (monthly basis) which is 63.7 % of the maximum heat input of 344 MMBtu/hr. The boiler is restricted to 63.7% of capacity until an SCR is added.

Maleic Anhydride (MA) Plant operates 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 Boiler Nos. 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 CO and 7,000 pounds per hour of VOC at design rates. The balance of the off gas stream is H_2O, CO_2, N_2 and O_2. Emissions of CO and VOC are controlled by burning in Boilers Nos. 7 and 8. The two off gas headers are cross connected, but normal flow is from Reactors 1 and 2 to Boiler No. 7 and from Reactors 3 and 4 to Boiler No. 8. During startup, shutdown or malfunction of the Maleic Anhydride (MA) Plant, waste gases are vented without control for safety reasons. Such venting is conditionally allowed. This emissions unit is regulated under applicable portions of 40 CFR 60 Subparts A (General Provisions), VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry), and Subpart III (Standards of Performance for VOC Emissions From the Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes); 40 CFR 63 Subparts A (General Provisions), Subpart F (National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry), Subpart G (National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater) and Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks). Permittee shall also comply with all the applicable standards and requirements of 40 CFR 63 Subpart FFFF (Miscellaneous Organic Manufacturing).

Cogeneration Plant consists of one combustion turbine that exhausts through a heat recovery steam generator with duct burner. 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 as defined in 40 CFR 60.331(u), turns a generator capable of producing a nominal 86 megawatts of electricity. Supplemental firing of natural gas at the heat recovery steam generator supplies additional steam, if needed. The combustion turbine employs steam injection to control NO_x emissions. The duct burner is equipped with a low NO_x burner. 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 40 CFR 60 Subpart A (General Provisions), Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units) and Subpart GG (Standards of Performance for Stationary Gas Turbines), and 40 CFR 64, Compliance Assurance Monitoring for NO_x.

Adipic Acid Drying uses steam as the heat supply. Particulate emissions are controlled by bag filters and/or scrubbers. These emissions units are regulated under Rule 62-296.320, F.A.C., for PM and Rule 62-297.620(4), F.A.C., which waives a PM stack test if VE tests are less than an alternate standard of 5% opacity.

Adipic Acid Process oxidizes a ketone and alcohol mixture (KA, cyclohexanone/cyclohexanol) 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 re-dissolved 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, VOC and NO_x are controlled by sending them to the TRU/SCR I or the SCR II. The SCR II, a backup control device, controls only NOx

when the TRU/SCR I is out of service. Both the primary and the backup control devices are equipped with continuous emissions monitoring systems (CEMS). Heat recovered from the TRU/SCR I vent stream is used to produce 650 psig steam in a heat recovery boiler. This emissions unit is regulated under applicable portions of 40 CFR 60 Subparts A (General Provisions), Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry), Subpart NNN (Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry), and Rule 212.400(5), F.A.C., Prevention of Significant Deterioration (PSD).

Eight Vaporizers with a total capacity of 136 million Btu/hour heat input produce Therminol vapor which supplies heat to the nylon production process. There are no individual Vaporizer limits beyond this total limit. These emissions units are primarily fueled by natural gas. Except for vaporizer No. 8, Number 2 fuel oil with a maximum of 0.5 % sulfur by weight is allowed as an emergency fuel. Vaporizers 1-7 predate the NSPS. Vaporizer No. 8 is regulated under applicable portions of 40 CFR 60 Subparts A and Dc, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Because vaporizer No. 8 will combust only natural gas with no fuel oil for emergency backup, it is subject only to the notification and fuel recordkeeping requirements in 40 CFR 60.48c. 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.

Nylon Polymerization Lines: Hexamethylene diamine is reacted with adipic acid to form hexamethylene diammonium adipate, or nylon salt. The salt is heated and water is evaporated to form nylon 6,6 polymer by both continuous and batch processes. The molten polymer is solidified to nylon fiber from the continuous lines and to 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. VOC generated during evaporation and reaction steps are controlled using a distillation column. VOC generated during the finishing and spinning step (monomer) is either vented away from the work area and discharged without controls or controlled using water scrubbers. Particulate matter is also generated in this process either as a result of flake handling or condensation of uncontrolled monomer. Heat recovery is used to produce steam. Continuous nylon polymerization lines (CP) 24, 25, 26, 27, 28 and 29 are six of 12 existing CP lines that have converted the finished product processing (spinning or pelletizer) from nylon fiber to a flake (pellet) product. Unconfined emissions of organic compounds occur during the solidification and are vented away from the working areas and discharged without controls. The 12 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. Monomer scrubbers control the emissions from the Finishing step. Four batch evaporators cyclically feed the batch lines' 12 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. The modifications to CP lines 24, 25, 26 and 27 increased volatile organic compounds (VOC) and particulate matter (PM) emissions, with the increase in VOCs being covered by permit no. 0330040-017-AC, issued April 19, 2005. PM emissions increased a total of 1.53 tons per year emitted uncontrolled. The flow rates from permit 0330040-025-AC (CP 28 and 29 conversion to pelletizing), using an estimated 0.003 grains per scf results in a total PM emissions increase of 1.45 tons per year uncontrolled. VOC emissions from nylon polymerization for EU Nos. 081 and 082 are controlled by the Distillation Column. The VOC emissions limitation of 715 pounds per day, as a rolling annual average, contained in Specific Condition H.2 of Title V permit no. 0330040-002-AV, remains unchanged.

Cyclohexane Oxidation Process: Ascend produces cyclohexanone/cyclohexanol, a ketone and alcohol mixture, as an intermediate chemical in the production of adipic acid. Cyclohexane is oxidized with air in two high-pressure reactor trains. Emissions are primarily VOC and CO. Two high-pressure scrubbers recover the

cyclohexane from the reactor off gas. Further VOC and CO emissions reductions are effected by routing the emissions from the high-pressure scrubbers to a NOx thermal reduction unit (TRU) 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 the atmosphere. The emissions from the low-pressure scrubbers are of similar composition but lesser quantity than those from high-pressure scrubbers. Total process emissions from all scrubbers of volatile organic compounds are estimated at 926 pounds per hour and emissions of carbon monoxide are estimated at 1,404 pounds per hour. The emissions of VOC and CO are normally controlled in a TRU identified as part of EU I.D. No. 002 (Adipic Acid Plant) in the facility's Title V permit. When the TRU is down or during other process upsets, the VOC and CO emissions are vented into the atmosphere. A thermal oxidizer, the Organic BackUp Device, or OBUD, is used as a backup device to control the VOC and CO emissions from the Halcon process area during times when the TRU is down or during other process upset conditions. The thermal oxidizer system is designed for 99% destruction of VOC and 98% destruction of CO. The oxidizer has a primary mixing chamber and two nozzle mix burners. The natural gas burners supplement the heat provided in the waste gas stream, and provide mixing and turbulence. The oxidizer operates between 1,300 - 1,500°F, depending upon exact flow conditions, with a minimum of a 1-second dwell time to maximize VOC destruction. Exhaust gases from the oxidizer are discharged through a stub stack to the atmosphere. The thermal oxidizer is subject to incinerator requirements of Rule 62-296.401(1), F.A.C. 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 subject to the following regulations: 40 CFR 60 Subpart A (General Provisions); Subpart NNN (Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry); 40 CFR 61 Subpart FF (National Emission Standard for Benzene Waste Operations); 40 CFR 64, Compliance Assurance Monitoring (CAM), for CO and VOC; and Rule 62-296.401(1), F.A.C.

Hydrogen Generating Plant No. 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 de-sulfurized. The gas then is 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 NO_x burners. This emissions unit is regulated under Chapter 62-213 as an EPA major source of air pollution and by Rule 62-296.320(4)(b), F.A.C., for visible emissions.

Hexamethylene Diamine Synthesis: Adiponitrile is hydrogenated to yield crude Hexamethylene Diamine (HMD). The HMD then is 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 non-condensable emissions is reduced in each stage. The stripper distillation columns are subject to applicable requirements of 40 CFR 60, Subpart A (General Provisions) and Subpart NNN (Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry). 40 CFR 60.662(c) allows a facility to maintain a total resource effectiveness (TRE) index greater than 1.0 without the use of VOC emission control devices. Column head pressures are used as a surrogate parameter to maintain TRE index.

Nitric Acid Plant operates 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 then is converted to nitric acid by a reaction with water. Startup, shutdown and malfunction allowance is 3 hours based on 40 CFR 60 Subpart G. This emissions unit is regulated under applicable portions of 40 CFR 60 Subpart A (General Provisions) and Subpart G (Standards of Performance for Nitric Acid Plants).

Area 480 KA reacts phenol with hydrogen in a gas phase hydrogenation reaction for conversion to cyclohexanone/cyclohexanol mixture (KA). The KA is used in adipic acid production. Process emissions are primarily VOC. Fugitive emissions are VOC, primarily cyclohexanone and cyclohexanol; and HAP, primarily phenol. The VOC emission control equipment for the Area 480 process consists of an enclosed Flare and an enclosed Backup Flare. This emissions unit is regulated under applicable portions of 40 CFR 60, Subpart A (General Provisions); Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which construction, reconstruction, or modification commenced after July 23, 1984), Subpart VV (Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry); Subpart NNN (Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry); Subpart RRR (Standards of Performance for VOC Emissions From Synthetic Organic Chemical Manufacturing Industry Reactor Processes); 40 CFR 61 Subpart A (General Provisions); Subpart V (National Emission Standard for Equipment Leaks); and 40 CFR 63 Subpart A (General Provisions); Subpart F (National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry); Subpart G (National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater); Subpart H (National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks); and Subpart VV (National Emission Standards for Oil-Water Separators and Organic-Water Separators). This emissions unit has been on long-term shutdown. The facility will be required to notify the Department seven days prior to startup.

Chemical Storage Tanks 486TA19 for methanol, and 480TA602 for off-spec oil, have volumes of 35,800 gallons and 50,000 gallons, respectively. These tanks are regulated by 40 CFR 60 Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels [Including Petroleum Liquid Storage Vessels] for which construction, reconstruction, or modification commenced after July 23, 1984).

Dimethyl Ester (DME) Production Unit. An adipic acid manufacturing by-product stream consisting of adipic, glutaric and succinic acids (AGS) is reacted with methanol to produce dimethyl ester. Off-gases are pyrolyzed in the hydrogen plant reformer furnace. Air emissions occur only during unplanned shutdowns of the hydrogen plant No. 1 reformer furnace or malfunctions of the DME production unit that prevent transfer of off gasses to the reformer furnace.

Hydrogen Generating Plant No. 2 (NEW): Hydrogen is used in the production of hexamethylene diamine and other nylon intermediates chemicals. A feedstock of natural gas or ethane-rich gas is de-sulfurized. The new hydrogen generating plant has a maximum heat input of 160 MMBtu/hour and uses steam methane reforming technology. The furnace (process heater) is fueled by purge gas using natural gas as a trim fuel. Pressure swing absorbers (PSA's) are used to purify the hydrogen gas; and the purge gas, consisting of CO, methane and hydrogen, which is separated from the hydrogen by the PSA's, is the primary furnace fuel. The combustion flue gases of the reformer are the only source of emissions. Particulate emissions are cont furnace rolled by proper combustion and nitrogen oxides are controlled by use of low NO_x burners. This emissions unit is regulated by Rule 62-296.320(4)(b), F.A.C., for visible emissions. The hydrogen plant is equipped with a waste heat recovery boiler. The hydrogen plant reformer furnace is subject to the requirements of 40 CFR 63, Subpart DDDDD – NESHAP for Industrial, Commercial and Institutional Boilers and Process Heaters, referred to as Major Source Boiler MACT.
Note: The Hydrogen Generating Plant No. 2 reformer furnace meets the definition of process heater as defined by 40 CFR 63.7575.

Hydrogen Generating Plant No. 2 Flare (NEW): The hydrogen generating plant flare is used to destroy combustibles during periods of startup, shutdown, and malfunction. The flare has three natural gas pilots, each rated at 150 standard cubic feet of natural gas per hour.

Reciprocating Internal Combustion Engines
This Title V facility contains stationary reciprocating internal combustion engines (RICE) that are subject to 40 CFR 63, Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines:

Facility Location	Engine Type	Mfgr / Model Year	Brake hp	Fuel
No. 6 Fire Pump	Emergency	1964/2004	290	Diesel
No. 5 Fire Pump	Emergency	2004	290	Diesel
Radio Backup Generator	Emergency	2005	27.3	Diesel
Emergency Sump Pump	Emergency	2000	115	Diesel
601 Emergency Generator	Emergency	1978	69	LP

Pursuant to 40 CFR 63.6602, these RICE are subject to 40 CFR 63 Subpart ZZZZ because they are existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions. The Permittee must comply with the emission limitations and other requirements in Table 2c to NESHAP Subpart ZZZZ which apply to these engines.

Also included in this permit are miscellaneous unregulated and insignificant emissions units and activities.

Subsection B. Summary of Emissions Units

EU No.	Brief Description
Regulated Emissions Units	
003	Boiler No. 8
004	Boiler No. 7
014	Boiler No. 4
015	Boiler No. 5
016	Boiler No. 6
099	Boiler No. 9
049	Hydrogen Generating Plant No. 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
090	Adipic Acid Process- Fugitive Emissions
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
088	Area 480 KA Expansion
089	Area 480 KA Expansion- Fugitive Emissions
097	NSPS Storage Tanks
077	Dimethyl Ester (DME) Production Unit
103	Hydrogen Generating Plant No. 2
104	Hydrogen Plant No. 2 Flare
108	Existing Reciprocating Internal Combustion Engines (RICE)

Subsection C. Applicable Regulations

Based on the Title V air operation permit revision application received April 15, 2014, this facility is a major source of hazardous air pollutants (HAP).

A summary of applicable regulations is shown in the following table.

Regulation	EU No(s).
Rule 62-210.370(3), F.A.C.	Facility-Wide
Rule 62-210.700, F.A.C.	Facility-Wide
Rule 62-213.205, F.A.C.	Facility-Wide
Rule 62-213.440, F.A.C.	Facility-Wide
Rule 62-296.320(1), (2), & (4), F.A.C.	Facility-Wide
Rule 62-297.310, F.A.C.	Facility-Wide
Rule 62-4.070, F.A.C.	014, 015, 016, 076, 032, 060, 061, 062, 063, 064, 079, 002, 081, 082, 020, 040, 041, 042, 088, 089
Rule 62-4.160(2), F.A.C.	014, 015, 016, 003, 004, 099, 076, 032, 060, 061, 062, 063, 064, 079, 002, 005, 007, 008, 009, 010, 011, 013, 075, 081, 082, 020, 049, 040, 041, 042, 088, 097, 077,103,104
Rule 62-204.800, F.A.C.	003, 004, 099, 032, 060, 061, 062, 063, 064, 079, 002, 005, 007, 008, 009, 010, 011, 013, 075, 020, 040, 041, 088, 089, 077, 103
Rule 62-210.200(PTE), F.A.C.	014, 015, 016, 003, 004, 099, 076, 032, 060, 061, 062, 063, 064, 079, 002, 005, 007, 008, 009, 010, 011, 013, 075, 081, 082, 020, 049, 040, 041, 042, 088, 097, 077, 103,104
Rule 62-210.370, F.A.C.	005, 007, 008, 009, 010, 011, 013, 075

Rule 62-210.900, F.A.C.	005, 007, 008, 009, 010, 011, 013, 075
Rule 62-212.300, F.A.C.	014, 015, 016, 003, 004, 099, 032, 005, 007, 008, 009, 010, 011, 013, 075
Rule 62-212.400, F.A.C.	014, 015, 016, 003, 004, 099, 032, 060, 061, 062, 063, 064, 079, 002, 005, 007, 008, 009, 010, 011, 013, 075, 081, 082, 020, 040, 041, 088
Rule 62-212.700, F.A.C.	076
Rule 62-213,410, F.A.C.	042
Rule 62-213.440, F.A.C.	014, 015, 016, 003, 004, 099, 076, 032, 060, 061, 062, 063, 064, 079, 005, 007, 008, 009, 010, 011, 013, 075, 081, 082, 020, 049, 040, 041, 088, 077, 103,104
Rule 62-296.320, F.A.C.	060, 061, 062, 063, 064, 079, 081, 082, 020, 049, 040, 041, 077, 103,104
Rule 62-296.401, F.A.C.	020
Rule 62-296.405, F.A.C.	014, 015, 016, 003, 004
Rule 62-296.406, F.A.C.	014, 015, 016, 032
Rule 62-297.401, F.A.C.	014, 015, 016, 003, 004, 099, 032, 060, 061, 062, 063, 064, 079, 002, 005, 007, 008, 009, 010, 011, 013, 075, 020, 049, 042, 103,104
Rule 62-297.620, F.A.C.	060, 061, 062, 063, 064, 079
Rule 62-297.520, F.A.C.	003, 004
40 CFR 60 Subpart A	076, 032, 022, 075, 020, 040, 041, 042, 088, 089, 099, 097, 090, 002
40 CFR 60 Subpart Db	032, 099
40 CFR 60 Subpart Dc	075
40 CFR 60 Subpart G	042
40 CFR 60 Subpart Kb	097
40 CFR 60 Subpart GG	032
40 CFR 60 Subpart VV	089, 076,090
40 CFR 60 Subpart NNN	002, 020, 041, 088
40 CFR 60 Subpart III	076
40 CFR 60 Subpart RRR	088,
40 CFR 60 Appendix B	002, 042, 099
40 CFR 60 Appendix F	002, 042, 099
40 CFR 63 Subpart A	076, 088, 089, 002, 020, 040, 041, 076, 077, 103, 108
40 CFR 63 Subpart F	076, 088, 089, 076, 077
40 CFR 63 Subpart G	076, 088,
40 CFR 63 Subpart H	076, 089
40 CFR 63 Subpart SS	077, 020
40 CFR 63 Subpart UU	077
40 CFR 63 Subpart YY	077, 020

40 CFR 63 Subpart FFFF	076, 002, 020, 040, 041, 077
40 CFR 63 Subpart DDDDD	103
40 CFR 63 Subpart ZZZZ	108
40 CFR 64	032, 020
PSD-FL-055	076
OGC 97-2066	002

The following conditions apply facility-wide to all emission units and activities:

FW1. Appendices. Permittee shall comply with all documents identified in Section IV, Appendices, listed in the Table of Contents. Each document is an enforceable part of this permit unless otherwise indicated.
[Rule 62-213.440, F.A.C.]

Emissions and Controls

FW2. Not federally Enforceable. Objectionable Odor Prohibited. No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.
[Rule 62-296.320(2) and 62-210.200(Definitions), F.A.C.]

FW3. General Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. Permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds or organic solvents without applying known and existing vapor emission control devices or systems deemed-necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]

FW4. General Visible Emissions. No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]

FW5. Unconfined Particulate Matter. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction; alteration; demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include: Paving and maintenance of roads, parking areas and yards; posting of speed signs; application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; landscaping or planting of vegetation; and enclosure or covering of conveyor systems. [Rule 62-296.320(4)(c), F.A.C. and permits 0330040-017-AC, 0330040-020-AC, 0330040-021-AC, and 0330040-023-AC]

Annual Reports and Fees
See Appendix RR, Facility-wide Reporting Requirements for additional details.

FW6. Electronic Annual Operating Report and Title V Annual Emissions Fees. The information required by the Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's Division of Air Resource Management. Each Title V source shall submit the annual operating report using the DEP's Electronic Annual Operating Report (EAOR) software, unless the Title V source claims a technical or financial hardship by submitting DEP Form No. 62-210.900(5) to the DEP Division of Air Resource Management instead of using the reporting software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. Each Title V source must pay between January 15 and April 1 of each year an annual emissions fee in an amount determined as set forth in subsection 62-213.205(1), F.A.C. The annual fee shall only apply to those regulated pollutants, except carbon monoxide and greenhouse gases, for which an allowable numeric emission-limiting standard is specified in the source's most recent construction permit or operation permit. Upon completing the required EAOR entries, the EAOR Title V Fee Invoice can be printed by the source showing which of the reported emissions are subject

to the fee and the total Title V Annual Emissions Fee that is due. The submission of the annual Title V emissions fee payment is also due (postmarked) by April 1st of each year. A copy of the system-generated EAOR Title V Annual Emissions Fee Invoice and the indicated total fee shall be submitted to: **Major Air Pollution Source Annual Emissions Fee, P.O. Box 3070, Tallahassee, Florida 32315-3070.** Additional information is available by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm . [Rules 62-210.370(3), 62-210.900 & 62-213.205, F.A.C.; and, §403.0872(11), Florida Statutes (2013)]

{Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor . If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us .}

{Permitting Note: The Title V Annual Emissions Fee form (DEP Form No. 62-213.900(1)) has been repealed. ***A separate Annual Emissions Fee form is no longer required to be submitted by March 1st each year.****}*

FW7. Annual Statement of Compliance. Permittee shall submit an annual statement of compliance to the compliance authority at the address shown on the cover of this permit within 60 days after the end of each calendar year during which the Title V permit was effective. [Rules 62-213.440(3)(a)2. & 3. and (3)(b), F.A.C.]

FW8. Prevention of Accidental Releases (Section 112(r) of CAA).

a. As required by Section 112(r)(7)(B)(iii) of the CAA and 40 CFR 68, 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. As required under Section 252.941(1)(c), F.S., the owner or operator shall report to the appropriate representative of the Department of Community Affairs (DCA), as established by department rule, 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 United States Environmental Protection Agency under Section 112(r)(6) of the CAA.
c. The owner or operator shall submit the required annual registration fee to the DCA on or before April 1, in accordance with Part IV, Chapter 252, F.S., and Rule 9G-21, F.A.C.
d. Any required written reports, notifications, certifications, and data required to be sent to the DCA, should be sent to: Department of Community Affairs, Division of Emergency Management, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2100, Telephone: (850) 413-9921, Fax: (850) 488-1739.
e. Any Risk Management Plans, original submittals, revisions, or updates to submittals, should be sent to: RMP Reporting Center, Post Office Box 10162, Fairfax, VA 22038, Telephone: (703) 227-7650.
f. Any required reports to be sent to the National Response Center, should be sent to: National Response Center, EPA Office of Solid Waste and Emergency Response, USEPA (5305 W), 401 M Street SW, Washington, D.C. 20460, Telephone: (800) 424-8802.
g. Send the required annual registration fee using approved forms made payable to: Cashier, Department of Community Affairs, State Emergency Response Commission, 2555 Shumard Oak Boulevard, Tallahassee, FL 32399-2149

[Part IV, Chapter 252, F.S.; and, Rule 9G-21, F.A.C.]

FW9. Unless otherwise specified by rule or specific condition, Permittee shall maintain 95% 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 or loss of data capture due to other causes. [Permit 0330040-002-AV]

FW10. Actual Emissions Reporting: Permit 0330040-035-AC was based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C., for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., Permittee is subject to the following monitoring, reporting and recordkeeping provisions.

a. Permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of ten years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit, and consistent with the methods used to estimate projected emissions for this project.

b. Permittee shall report to the Department within 60 days after the end of each calendar year during the ten-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

1) The name, address and telephone number of the owner or operator of the major stationary source;

2) The annual emissions as calculated pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;

3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and

4) Any other information that the owner or operator wishes to include in the report.

c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

For this project, the Department requires the annual reporting of actual NO_X, CO, PM, VOC and SO_2 emissions for the following units:

EU No.	Brief Description
003	Boiler No. 8
004	Boiler No. 7
014	Boiler No. 4
015	Boiler No. 5
016	Boiler No. 6
099	Boiler No. 9
100	Boiler No. 10
049	Hydrogen Generating Plant No. 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
090	Adipic Acid Process- Fugitive Emissions
032	Cogeneration Plant

040	Hexamethylene Diamine Synthesis and Refining
041	B and C Hexamethylene Diamine Stripper Distillation Column
081	Continuous Nylon Polymerization Lines
082	Batch Nylon Polymerization
042	Nitric Acid Plant
088	Area 480 KA Expansion, P2K
097	40 CFR 60 Kb VOL Tank Inventory
077	Dimethyl Ester (DME) Production Unit
103	Hydrogen Generating Plant No. 2
104	Hydrogen Plant No. 2 Flare

UNREGULATED EMISSIONS UNITS

050	Adipic Acid Bulk Loading No. 1, Building 346
051	Adipic Acid Bulk Loading No. 2
080	Adipic Acid Building 373 Loading
045	Adipic Acid Building 465 Boxing/Bagging

[Permit application No. 0330040-036-AC, and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
014	Boiler No. 4 - 241 MMBtu/hour - started up in 1953
015	Boiler No. 5 - 241 MMBtu/hour - started up in 1956
016	Boiler No. 6- 241 MMBtu/hour - started up in 1957

Boilers No. 4, No. 5 and No. 6 are manufactured by Combustion Engineering and rated at 241 MMBtu/hour heat input. These boilers are normally fueled by natural gas and ethane rich natural gas. No. 6 fuel oil is an alternate fuel that may contain blended on-specification used oil as supplemental fuel. The used oil must meet the requirements of 40 CFR Part 279.11 - Standards for the Management of Used Oil. Boilers 4 and 5 may also burn as supplemental fuels AGS (a mixture of organic acids from deep well waste stream), KATT (a mixture of organic esters), Area 480 residue, DME (Dimethyl Esters), and amines. Particulate emissions are controlled by proper combustion control. SO_2 emissions are controlled by sulfur content of fuel. The boilers are regulated under Rules 62-296.405(1)(c)1.f., F.A.C. - (SO_2 aggregate) and 62-296.406 F.A.C., Fossil Fuel Steam Generators with less than 250 MMBtu heat input.

Essential Potential to Emit (PTE) Parameters

A.1. Permitted Capacity. The maximum allowable heat input rate is as follows:

EU No.	MMBtu/hr Heat Input	Fuel Type
014, 015, 016	723	Fuels noted in Methods of Operation
014, 015, 016	864*	Fuels noted in Methods of Operation

*During periods of outage of the cogeneration plant (EU 032).

Records of heat input shall be maintained and made available for Department inspection. [Rules 62-4.160(2), 62-204.800, and 62-210.200(PTE), F.A.C.]

A.2. Heat Input Limit. For a period of ten years from the effective date of this permit, total heat input for EU 003, 004, 014, 015, 016, 032 and 099 shall not exceed 16,360,362 MMBtu/yr from all fuels in any 12-month rolling period. The heating value of the various fuels is determined as follows:

Natural Gas: Calculated from steam generation and boiler efficiency (82%) minus heat input from other fuels

No. 6 Fuel Oil: Based on suppliers' higher heating value (certificate of analysis)

KATT: Assume 12, 500 Btu/lb

Other Fuels: Higher heating value based on fuel analysis if burned

[Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit application 0330040-036-AC]

A.3. Methods of Operation
The fuels that are allowed to be burned in these units are:
(1) Natural gas, or ethane-rich natural gas,
(2) No. 6 fuel oil**,
(3) On-specification 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 279.11. "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°F minimum

(4) Supplemental Fuels
The following supplemental fuels may be burned in Boiler No. 4 and/or Boiler No. 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 No. 4 and/or Boiler No. 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.
4. Supplemental fuels shall be sampled with results submitted with the application for renewal of this permit. Supplemental fuels not analyzed upon permit renewal remain authorized for burning. The resumption of burning of these supplemental fuels requires an analysis provided to the Department seven days prior to use.

** 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 conducted 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.

[Rules 62-4.070, 62-4.160(2), and 62-213.440(1), F.A.C. and 40 CFR 279.11]

A.4. Hours of Operation. These emissions units may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

A.5. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

A.6. Visible Emissions. 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.7. Sulfur Dioxide. The aggregate maximum total sulfur dioxide emissions from Boiler Nos. 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.]

A.8. Emissions Limitation for SO_2. For a period of ten years from January 4, 2011 (the effective date of permit 0330040-035-AC), SO_2 emissions from all emission units affected by permit 0330040-035-AC shall not result in emissions increases of 25 or more tons per year. For a period of ten years from the effective date of this permit, the project SO_2 emissions from fuel oil firing shall not exceed 4,628.91 TPY in any 12-month rolling period. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

Test Methods and Procedures

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

A.10. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Recordkeeping and Reporting Requirements

A.11. Natural Gas Usage. An aggregate natural gas usage heat input shall be calculated on an hourly basis and recorded in units of MMBtu/hr for Boiler Nos. 4, 5 and 6 combined. [Rules 62-4.070 and 62-213.440(1), F.A.C.]

A.12. Supplemental Fuel Usage. An aggregate supplemental fuel usage rate shall be calculated on an hourly basis and recorded in units of lbs/hr for Boiler Nos. 4 and 5 combined for each of the following supplemental fuel types:

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

[Rules 62-4.070 and 62-213.440(1), F.A.C.]

A.13. Operation and Downtime Log. An operation and downtime log shall be maintained indicating the operational status of each of Boiler Nos. 4, 5 and 6. Operation and downtime logs shall be maintained indicating the status of Boiler Nos. 7 and 8 (EU's 004 & 003), and the Cogeneration Facility (EU 032). [Rules 62-4.070 and 62-213.440(1), F.A.C.]

A.14. 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.

A.15. Fuel Records: To demonstrate compliance with the heat input limit, records of monthly total and annual total combustion of natural gas, No. 6 fuel oil, on-spec used oil, AGS, KATT, DME, Amines and Area 480 residue shall be maintained and available for Department inspection. Total heat input, PM/PM10 and PM2.5 emissions for EU 003, 004, 014, 015, 016, 032 and 099 will be calculated monthly for the prior twelve months. Records will be maintained of all analyses and calculations used in determining the heating value of each fuel. [Rules 62-4.070 and 62-213.440(1), F.A.C., and permit application 0330040-036-AC]

A.16. Actual Emissions Reporting for SO_2. Permittee shall maintain and submit to the Department on an annual basis for a period of ten years from January 4, 2011 (the effective date of permit 0330040-035-AC),

information demonstrating in accordance with Rule 62-212.300(1)(e), F.A.C., that the operation of emissions units EU 014, 015 and 016 did not result in emissions increases of 25 tons/year for SO_2. Permittee shall maintain and submit to the Department on an annual basis for a period of ten years from the effective date of this permit, information demonstrating in accordance with Rule 62-212.300(1)(e), F.A.C., that the operation of emissions units EU 014, 015 and 016 did not result in total SO_2 emissions from fuel oil firing in excess of 4,628.91 TPY in any 12-month rolling period. Permittee shall use the same calculation methodology of emissions as outlined in the application and used to report emissions in Annual Operating Reports pursuant to Rules 62-210.370 and 62-210.900(5), F.A.C. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
003	Boiler No. 8, 515 MMBtu/hour
004	Boiler No. 7, 515 MMBtu/hour

Boilers No. 7 and No. 8 were manufactured by Babcock & Wilcox and were originally rated for 515 MMBtu/hour heat input. Boilers No. 7 and No. 8 started up in 1961 and 1965, respectively. The boilers have been modified to incorporate low NOx burners and are fueled by natural gas, ethane rich natural gas, maleic anhydride production off gas and pentane vapor stream. Each of the modified burners is rated for 388 MMBtu/hour and 225,000 pounds/hour steam production. Emissions are controlled by proper combustion controls. The boilers 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.

Essential Potential to Emit (PTE) Parameters

B.1. Permitted Capacity. The maximum allowable heat input rate is as follows:

EU No.	MMBtu/hr Heat Input	Fuel Type
003	388	Natural gas
004	388	Natural gas

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.]

B.2. Heat Input Limit. For a period of ten years from the effective date of this permit, total heat input for EU 003, 004, 014, 015, 016, 032 and 099 shall not exceed 16,360,362 MMBtu/yr from all fuels in any 12-month rolling period. The heating value of the various fuels is determined as follows:

Natural Gas: Use previous year's average higher heating value

Maleic Off Gas: Analyzer data is used to compute a higher heating value

Pentane Vapor Stream: combined and metered with the natural gas and uses natural gas higher heating value

[Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit application 0330040-036-AC]

B.3. Methods of Operation
The fuels that are allowed to be burned in these units are:
(1) Natural gas - The maximum total natural gas usage shall be limited to 1,100 million standard cubic feet per year for each boiler (Boiler No. 7 and Boiler No. 8). Records of monthly total and annual total natural gas usage and landfill gas from Perdido Landfill usage shall be maintained and available for Department inspection.
(2) Ethane rich natural gas
(3) maleic anhydride production off-gas - The maximum maleic anhydride off gas to each boiler shall not exceed 6.5 MMSCF/hr (13.0 MMSCF/hr total).
(4) pentane vapor stream
[Rules 62-4.160(2), 62-210.200(PTE), and 62-213.440(1), F.A.C., , permit AC17-250268 and Permittee letter dated June 22, 2006]

{Permitting Note: see Maleic Anhydride, EU 076, for maleic anhydride production off-gas monitoring and recordkeeping}

B.4. Hours of Operation. These emissions units are allowed to operate continuously (8,760 hours/year). [Rule 62-210.200(PTE), F.A.C.]

B.5. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

B.6. 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.7. Particulate Matter. Particulate matter emissions from each boiler (Boiler No. 7 and Boiler No. 8) shall not exceed 0.1 pounds per MMBtu. [Rule 62-296.405(1)(b), F.A.C.]

B.8. Carbon Monoxide. Carbon monoxide emissions from each boiler (Boiler No. 7 and Boiler No. 8) shall not exceed 54.8 pounds per hour. [permits AO17-242265 and AC17-213376]

B.9. Nitrogen Oxides. Nitrogen oxides emissions from each boiler (Boiler No. 7 and Boiler No. 8) shall not exceed 22.5 pounds per hour. [permits AO17-242265 and AC17-213376]

B.10. Volatile Organic Compounds. Volatile organic compounds matter emissions from each boiler (Boiler No. 7 and Boiler No. 8) shall not exceed 7.04 pounds per hour. [permits AO17-242265 and AC17-213376]

B.11. Emissions Limitation for SO_2. For a period of ten years from January 4, 2011 (the effective date of permit 0330040-035-AC), SO2 emissions from activities allowed by permit 0330040-035-AC shall not result in emissions increases of 25 or more tons per year. For a period of ten years from the effective date of this permit, the project SO_2 emissions from fuel oil firing shall not exceed 4,628.91 TPY in any 12-month rolling period. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

Continuous Monitoring Requirements

B.12. 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 60 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 minutes. VOC and NO_x compliance is assumed as long as CO CEM data demonstrates compliance with the CO emission limit. [Rules 62-4.070 and 62-297.520(5), F.A.C., and permit AC17-250268 (re: EU 076)]

Test Methods and Procedures

B.13. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
5	Method for Determining Particulate Matter Emissions
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources {Note: The method shall be based on a continuous sampling train.}
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above methods are described in 40 CFR 60 Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rule 62-297.401(5), (7)(e), (9), (10), & (25)(a), F.A.C.]

B.14. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Recordkeeping and Reporting Requirements

B.15. Operation and Downtime Log. An operation and downtime log shall be maintained indicating the operational status of Boilers Nos. 7 and 8. Operation and downtime logs shall be maintained indicating the status of Boilers Nos. 4, 5 and 6 and the Cogeneration Facility. [Rules 62-4.070 and 62-213.440(1), F.A.C.]

B.16. Natural Gas Usage. Natural gas usage heat input shall be calculated on an hourly basis and reported in units of MMBtu/hr for Boilers Nos. 7 and 8. [Rules 62-4.070 and 62-213.440(1), F.A.C.]
{Permitting Note: Records of maleic off-gas usage is a requirement of EU 076, Maleic Anhydride.}

B.17. Fuel Records: To demonstrate compliance with the heat input limit, records of monthly total and annual total natural gas/pentane vapor stream and maleic anhydride production off gas usage shall be maintained and available for Department inspection. Total heat input, PM/PM10 and PM2.5 emissions for EU 003, 004, 014, 015, 016, 032 and 099 will be calculated monthly for the prior 12 months. Records will be maintained of all analyses and calculations used in determining the heating value of each fuel. [Rules 62-4.070 and 62-213.440(1), F.A.C., and permit application 0330040-036-AC]

B.18. Actual Emissions Reporting for SO_2. Permittee shall maintain and submit to the Department on an annual basis for a period of ten years from January 4, 2011 ()(e), F.A.C., the effective date of permit 0330040-035-AC), information demonstrating in accordance with Rule 62-212.300(1that this emissions unit's operation did not result in emissions increases of 25 tons/year for SO_2. Permittee shall use the same calculation methodology of emissions as outlined in the application and used to report emissions in Annual Operating Reports pursuant to Rules 62-210.370 and 62-210.900(5), F.A.C. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
099	Boiler No. 9, 344 million Btu per hour

Boiler No. 9 is a natural gas fired packaged boiler, manufactured by Indeck Power Equipment Company/Volcano Technologies, Inc., Model No. A5-250-S. The boiler has a maximum heat input of 344 million Btu per hour, with a design rating of 250,000 pounds per hour steam, but is limited to operate up to a maximum of 63.7 % rated heat input until pollution control devices are added. The restricted annual heat input of 63.7% of design provides assurance that PSD thresholds will not be exceeded. Ascend will adhere to fuel (natural gas) limitation of 1,845,732 MSCF/yr (12-month rolling period). The boiler was started up in May 2007.

Boiler No. 9 operates without an SCR unit. NO_X emissions are controlled with low NOx burners, flue gas recirculation. Boiler No. 9 is subject to 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units. The SO_2, PM, and opacity emission limits of 40 CFR 60 Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, are not applicable as natural gas is the only combusted fuel. NO_X emissions are limited by 40 CFR 60 Subpart Db to 0.2 pounds per MMBtu. A CEM is required by 40 CFR 60 Subparts Db for NOx monitoring.

Essential Potential to Emit (PTE) Parameters

C.1. Permitted Capacity. The maximum allowable heat input rate (monthly basis) is as follows:

EU No.	MMBtu/hr Heat Input	Fuel Type
099	344	Natural gas

[Rules 62-4.160(2), 62-204.800, 62-210.200(PTE), F.A.C.; and, permit 0330040-022-AC]

C.2. Heat Input Limit. For a period of ten years from the effective date of this permit, total heat input for EU 003, 004, 014, 015, 016, 032 and 099 shall not exceed 16,360,362 MMBtu/yr from all fuels in any 12-month rolling period. The natural gas heating value is the previous year's higher heating value. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit application 0330040-036-AC]

C.3. Methods of Operation
The fuel that is allowed to be burned in this unit is natural gas. Boiler No. 9 shall not exceed 1,845,732 thousand standard cubic feet per 12-month rolling period of natural gas. [Rules 62-4.160(2), 62-212.400(12)(b) - Source Obligation, and 62-213.440(1), F.A.C.; and, permit 0330040-022-AC]

C.4. Hours of Operation. This emissions unit may operate continuously (8,760 hours/year), provided the above fuel limitations are not exceeded. [Rule 62-210.200(PTE), F.A.C., permit 0330040-022-AC]

C.5. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

C.6. Nitrogen oxide emissions are limited to 34.6 tons per year. [Permit 0330040-022-AC]

C.7. Carbon monoxide emissions are limited to 93.9 tons per year. [Permit 0330040-022-AC]

40 CFR 60 Subpart Db Requirements

C.8. Nitrogen oxide emissions are limited to 0.20 pounds per million Btu (lb/MMBtu) (30-day rolling average. [40 CFR 60.44b(a)(1)ii., 40 CFR 60.44b(i) and 40 CFR 60.46b(e)(3) and permit 0330040-022-AC]

Continuous Monitoring Requirements

C.9. Permittee is required to install, calibrate, maintain, and operate a continuous monitoring system, and record the output of the system, for measuring nitrogen oxides emissions discharged to the atmosphere. The procedures under 40 CFR 60.13 (Attachment 40 CFR 60 Subpart A - General provisions) shall be followed for installation, evaluation, and operation of the continuous monitoring system. The continuous monitoring systems shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates. Span values for nitrogen oxides CEM is 500 ppm. When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data shall be obtained by using standby monitoring systems, Method 7, Method 7A, or other approved reference methods to provide emission data for a minimum of 75 percent of the operating hours in each steam generating unit operating day, in at least 22 out of 30 successive steam generating unit operating days. [Rule 62-297.401(7), F.A.C., and 40 CFR 60.48b(a)]

Test Methods and Procedures

C.10. Permittee shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for Permittee. Notification may be electronically submitted to nwdair@dep.state.fl.us. 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, 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, operation at higher capacities is allowed for no more than 15 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), 62-297.310 (7) and 62-4.070, F.A.C.]

C.11. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

C.12. Compliance with the nitrogen oxides emission standards shall be determined through performance testing of the NO_X CEMS. The 30-day average emission rate is calculated as the average of all hourly emissions data recorded by the CEMS during the 30-day test period. A new 30-day rolling average emission rate is calculated each operating day as the average of all of the hourly nitrogen oxides emission data for the preceding 30 operating days. [40 CFR 60.46b(c), (e)(1), and (e)(3)]

Recordkeeping and Reporting Requirements

C.13. Permittee must keep records of the daily and monthly fuel (natural gas) used by the Boiler and annual NO_X and CO emissions. An annual capacity factor, determined on a 12-month rolling average basis, shall be calculated, with a new annual capacity factor calculated at the end of each calendar month. Annual NO_X and CO emissions shall comply with limits set forth above. [Rules 62-4.160(2), 62-213.440(1), F.A.C., 40 CFR 60.49b(d) and permit 0330040-022-AC]

C.14. Fuel Records: To demonstrate compliance with the heat input limit, records of monthly total and annual total combustion of natural gas shall be maintained and available for Department inspection. Total heat input, PM/PM10 and PM2.5 emissions for EU 003, 004, 014, 015, 016, 032 and 099 will be calculated monthly on 12-month rolling average basis. Records will be maintained of all analyses and calculations used in determining the heating value of each fuel. [Rules 62-4.070 and 62-213.440(1), F.A.C., and permit application 0330040-036-AC]

C.15. Permittee shall maintain records of the following information for each steam generating unit operating day:

(1) Calendar date.
(2) The average hourly nitrogen oxides emission rates (ng/J or lb/million Btu heat input) measured or predicted.
(3) The 30-day average nitrogen oxides emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.
(4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards with the reasons for such excess emissions as well as a description of corrective actions taken.
(5) Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of corrective actions taken.
(6) Identification of the times when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data.
(7) Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
(8) Identification of the times when the pollutant concentration exceeded full span of the continuous monitoring system.
(9) Description of any modifications to the continuous monitoring system that could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3.
(10) Results of daily CEMS drift tests and quarterly accuracy assessments as required by 40 CFR 60 Appendix F, Procedure 1 (attached).

All records shall be maintained for a period of two years following the date of such record. [40 CFR 60.49b(g) and 60.49b(o)]

C.16. Permittee shall submit semiannual reports containing the information recorded in specific condition **C.13**. Electronic reports may be submitted with a Department approved format. Reports shall be postmarked by the 30th day following the end of the reporting period. [40 CFR 60.49b]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
076	Maleic Anhydride (MA) Plant

The Maleic Anhydride (MA) Plant started up in 1983 and operates 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/hour CO and 7,000 pounds/hour VOC at design rates. The balance of the off gas stream is H20, C02, N2 and 02. Emissions of CO and VOC are controlled by burning off gases in Boilers 7 and 8. The two off gas headers are cross connected, but normal flow is reactors 1 and 2 to Boiler 7, and reactors 3 and 4 to Boiler 8.

During startup, shutdown or malfunction of the Maleic Anhydride (MA) Plant, waste gases are vented without control for safety reasons. Such venting is conditionally allowed.

This emissions unit is regulated under applicable portions of 40 CFR 60 Subparts A - General Provisions, VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, and Subpart III - Standards of Performance for VOC Emissions From the Synthetic Organic Chemical Manufacturing Industry Air Oxidation Unit Processes; 40 CFR 63 Subparts A - General Provisions, Subpart F - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry, Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, Subpart H - National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks and Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, adopted and incorporated by reference into this permit.

Essential Potential to Emit (PTE) Parameters

D.1. Permitted Capacity. The maximum allowable gas flow rate is as follows:

EU No.	MMSCF/hr	Gas Type
076	6.5	MA production off gases

The maximum gas flow rate from the Maleic Anhydride Plant to each boiler shall not exceed 6.5 MMSCF/hr (13.0 MMSCF/hr total to both Boilers Nos. 7 and 8). [Rules 62-4.160(2), 62-210.200(PTE), and 62-213.440(1), F.A.C., and permit AC17-250268]

D.2. Hours of Operation. These emissions units are allowed to operate continuously (8,760 hours/year). [Rule 62-210.200(PTE), F.A.C.]

D.3. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

D.4. During startup, shutdown, and control system malfunctions this source shall not exceed emissions resulting from a production rate of 130 MM pounds MA per year and shall comply with the following emission limits.

- Emissions shall not exceed 1,750 pounds of either VOC (calculated as butane) or CO per reactor hour for startups and malfunctions; or 875 pounds of either VOC or CO per reactor hour for shutdowns;
- No more than one and one-half reactor hours shall be used for an individual Reactor startup or shutdown;
- No more than eight reactor hours shall be used for a total production startup; and
- No more than six hours shall be used during a control system malfunction to allow sufficient time to trouble shoot and correct the problem.

These limits and formulas are reflected in the following table:

Number Of Reactors	Startup			Shutdown			Malfunction		
	Maximum Vent Hrs.	Pounds CO	Pounds VOC	Maximum Vent Hrs.	Pounds CO	Pounds VOC	Maximum Vent Hrs.	Pounds CO	Pounds 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 and PSD Determination PSD-FL-055]

Monitoring of Operations

D.5. Process Off-gas Rate. Permittee shall monitor and record process off-gas flows to Boilers Nos. 7 & 8 on an hourly basis (MMSCF/hr). [Rules 62-4.070 and 62-213.440(4), F.A.C.]

Recordkeeping and Reporting Requirements

D.6. 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]

Other Requirements

D.7. Permittee shall comply with all the applicable standards and requirements of 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, attached and incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)63., F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
032	Cogeneration Plant

The cogeneration plant started up in 1993 and consists of one combustion Turbine that exhausts through a heat recovery steam Generator with duct burner. 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 as defined in 40 CFR 60.331(u), 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 NO_x emissions. The duct burner is equipped with a low NO_x burner. 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 40 CFR 60 Subpart A - General Provisions, Subpart Db - Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units and Subpart GG - Standards of Performance for Stationary Gas Turbines, adopted and incorporated by reference into this permit, and 40 CFR 64 Compliance Assurance Monitoring for NO_x.

Essential Potential to Emit (PTE) Parameters

E.1. Permitted Capacity. The maximum allowable heat input rate is as follows:

EU No.	MMBtu/hr Heat Input	Fuel Type
032 duct burner	184	Natural gas

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.]

E.2. Heat Input Limit. For a period of ten years from the effective date of this permit, total heat input for EU 003, 004, 014, 015, 016, 032 and 099 shall not exceed 16,360,362 MMBtu/yr from all fuels in any 12-month rolling period. The natural gas heating value is the previous year's higher heating value. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit application 0330040-036-AC]

E.3. Methods of Operation. Natural gas is allowed to be burned in this unit. [Rules 62-4.160(2) and 62-213.440(1), F.A.C.]

E.4. Hours of Operation. This emissions unit may operate continuously (8,760 hours/year). [Rule 62-210.200(PTE), F.A.C.]

E.5. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

E.6. 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]

E.7. Nitrogen Oxides. Total combined NO_x 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., and permits AC17-213374 and AO17-239459]

E.8. Nitrogen Oxides. NO_x 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 permit AO17-239459]

E.9. Carbon Monoxide. Carbon monoxide (CO) emissions shall not exceed 83.5 pounds per hour. [Permit AC17-213374]

E.10. Volatile Organic Compound. Volatile organic compound (VOC) emissions shall not exceed 10.9 pounds per hour. [permit AC17-213374]

E.11. Emissions Limitation for SO_2. For a period of ten years from January 4, 2011 (the effective date of permit 0330040-035-AC), SO2 emissions from activities allowed by permit 0330040-035-AC shall not result in emissions increases of 25 or more tons per year. For a period of ten years from the effective date of this permit, the project SO_2 emissions from fuel oil firing shall not exceed 4,628.91 TPY in any 12-month rolling period. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

Monitoring of Operations

E.12. Natural Gas Usage. Natural gas usage heat input shall be calculated on an hourly basis and recorded in units of MMBtu/hr. [Rule 62-213.440(4), F.A.C.]

E.13. Steam/Fuel Ratio. Monitor and record the steam to fuel ratio on an hourly basis. [Rules 62-213.440(4), and 62-210.700, F.A.C.]

Compliance Assurance Monitoring (CAM) Requirements

E.14. This emissions unit is subject to the CAM requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64; and, Rules 62-204.800(12) and 62-213.440(1)(b)1.a., F.A.C.]

Test Methods and Procedures

E.15. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources
10	Determination of Carbon Monoxide Emissions from Stationary Sources

Method	Description of Method and Comments
	{Note: The method shall be based on a continuous sampling train.}
20	Determination of Nitrogen Oxides, Sulfur Dioxide and Diluent Emissions from Stationary Gas Turbines
25A	Method for Determining Gaseous Organic Concentrations (Flame Ionization)

The above methods are described in 40 CFR 60 Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rule 62-297.401(7)(e), (9), (10), (20), & (25)(a), F.A.C.]

E.16. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. Stack tests for NO_X, SO_2, CO, VOC, and VE shall be conducted once before permit renewal, but prior to the permit application renewal due date, such that the stack test report can be submitted with the permit renewal application. [Rule 62-297.310, F.A.C.]

Recordkeeping and Reporting Requirements

E.17. Operation and Downtime Log. An operation and downtime log shall be maintained indicating the operational status of the Cogeneration Facility. Operation and downtime logs shall be maintained indicating the status of Boilers Nos. 4, 5 and 6 (EUs 014, 015 & 016), and Boilers Nos. 7 and 8 (EUs 004 & 003). [Rules 62-4.070 and 62-213.440(1), F.A.C.]

E.18. Fuel Records: To demonstrate compliance with the heat input limit, records of monthly total and annual total combustion of natural gas shall be maintained and available for Department inspection. Total heat input, PM/PM10 and PM2.5 emissions for EU 003, 004, 014, 015, 016, 032 and 099 will be calculated monthly for the prior 12 months. Records will be maintained of all analyses and calculations used in determining the heating value of each fuel. [Rules 62-4.070 and 62-213.440(1), F.A.C., and permit application 0330040-036-AC]

E.19. Actual Emissions Reporting for SO_2**.** Permittee shall maintain and submit to the Department on an annual basis for a period of ten years from January 4, 2011 (the effective date of permit 0330040-035-AC), information demonstrating in accordance with Rule 62-212.300(1)(e), F.A.C., that this emissions unit's operation did not result in emissions increases of 25 tons/year for SO_2. Permittee shall use the same calculation methodology of emissions as outlined in the application and used to report emissions in Annual Operating Reports pursuant to Rules 62-210.370 and 62-210.900(5), F.A.C. [Rules 62-212.300(1)(e) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
060	Adipic Acid 485 BEPEX Dryer - started up in 1992
061	Adipic Acid Dryer 405A - started up in 1953
062	Adipic Acid Dryer 405B - started up in 1953
063	Adipic Acid Dryer 465A - started up in 1958
064	Adipic Acid Dryer 465B - started up in 1958
079	Adipic Acid 485 NIRO Dryer - started up in 1996

Adipic acid is dried using steam as the heat supply. Particulate emissions are controlled by bag filters and/or scrubbers. These emissions units are regulated under Rule 62-296.320, F.A.C., for PM and Rule 62-297.620(4), F.A.C., which waives a PM stack test if VE tests are less than an alternate standard of 5% opacity.

Essential Potential to Emit (PTE) Parameters

F.1. Operating Rates. The maximum and minimum operating rates of these emissions units is as follows:

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 flow rate, (SCFM, hourly average basis, as determined by EPA method 2 stack test)	8,000	8,000	10,500	10,500	10,200	10,500
Dryer exhaust scrubber, water minimum circulation flow rate (PPH, hourly average basis)	3,000	3,000	3,000	3,000	5,500	NA
Exhaust air, bag filter model number	NA	NA	NA	NA	NA	2,600 + 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

Should testing determine that the scfm deviates from that listed in the above Table, the equivalent allowable Discharge Air design basis particulate concentration (grains/scf, hourly average basis) shall be calculated using the following equation:

Equivalent Allowable grains/SCF = (Table Exhaust Air Flow Rate * Table Discharge Air design basis particulate concentration) / Testing Exhaust Air Flow Rate (dscfm) as determined by EPA Method 2

[Rules 62-4.160(2) and 62-210.200(PTE), F.A.C., and permit 0330040-016-AC]

F.2. Permitted Capacity. The combined process/operation rate for the Adipic Acid Drying, EU 060, 061, 062, 063, 064, and 079, shall not exceed the amount given in the Company Confidential Appendix in Million Pounds

dried Adipic Acid per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE), and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

F.3. Hours of Operation. The emissions units listed above are allowed to operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

F.4. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

F.5. Visible Emissions. The emissions units listed above shall not exceed 5% opacity. [Rule 62-297.620(4), F.A.C.]

F.6. Particulate Matter (PM).

DRYER	EU 061 405A	EU 062 405B	EU 063 465A	EU 064 465B	EU 060 Bepex	EU 079 Niro
Discharge air, design basis particulate concentration (grains/SCF, hourly average basis)	0.10	0.10	0.10	0.10	0.015	0.015

For Equivalent Allowable grains/SCF see "Operating Rates" under Essential Potential to Emit Parameters in this subsection. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

Monitoring of Operations

F.7. Reasonable Assurances. The following work practices shall be followed to insure reasonable control of particulate matter: Scrubbers 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. Solids material handling equipment shall be interlocked to shut down if the PM control devices are not operational. [Rule 62-4.070, F.A.C.]

F.8. Blower Capacity. Maintain records of blower capacity, motor size and model number for each dryer. Blower capacity shall be confirmed with pitot tube during required particulate matter testing. [Rule 62-213.440(4), F.A.C.]

F.9. Scrubber Water Flow. Maintain hourly average scrubber water flow rate for EU's 060, 061, 062, 063, and 064. [Rule 62-213.440(4), F.A.C.]

Test Methods and Procedures

F.10. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
5	Method for Determining Particulate Matter Emissions

Method	Description of Method and Comments
9	Visual Determination of the Opacity of Emissions from Stationary Sources

Rolling average
The above methods are described in 40 CFR 60 Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. [Rule 62-297.401(5) & (9), F.A.C.]

F.11. Compliance with the dryer's design 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, Permittee shall conduct a particulates matter test within 30 days to show compliance with the dryer's design standard. [Rule 62-297.620(4), F.A.C.]

F.12. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. Stack tests for PM and VE testing are conducted once before permit renewal, but prior to the permit application renewal due date, such that the stack test report can be submitted with the permit renewal application. [Rule 62-297.310, F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
002	Area II Adipic Acid - Process Equipment; Product Synthesis, Refining and Raw Material Recovery, TRU/SCRI, SCRII

The Area II Adipic Acid process oxidizes a ketone and alcohol mixture (KA, cyclohexanone/cyclohexanol) 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 re-dissolved in pure water and the purified Adipic Acid solution is sent to the Nylon Salt Strike or Drying and Product Loading operations. The Area II Adipic Acid process started up in 1953. Emissions of CO, VOC and NO_x are controlled by sending them to the TRU/SCR I or the SCR II. The SCR II, a backup control device, controls only NOx when the TRU/SCR I is out of service. Both the primary and the backup control devices are equipped with continuous emissions monitoring systems (CEMS). Heat recovered from the TRU/SCR I vent stream is used to produce 650 psig steam in a heat recovery boiler.

This emissions unit is regulated under applicable portions of 40 CFR 60 Subparts A - General Provisions, Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, Subpart NNN - Standards of Performance for Volatile Organic Compound Emissions from Synthetic Organic Chemical Manufacturing Industry, adopted and incorporated by reference into this permit; 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, and Rule 212.400(5), F.A.C. - Prevention of Significant Deterioration (PSD).

Essential Potential to Emit (PTE) Parameters

G.1. Capacity. The maximum allowable operating rates for each, TRU/SCR I, and SCR II, shall not exceed the rate of all combined process gases from the Area I HALCON stream, and the Area II process gases, the Area I maximum operating rate of 82,000 lbs process air/hr (hourly average basis), and the Area II maximum operating rate of 98,000 lbs KA feed/hr (hourly average basis). [Rules 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C., permit AC17-262486, Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

G.2. Permitted 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 98,000 lbs KA feed/hr (hourly average basis), up to 990 Million Pounds Adipic Acid produced per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE), and 62-212.400(12), F.A.C., amendment to permit AC17-262486, Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

G.3. Methods of Operation - Gases Processed. The Area II TRU/SCR I shall be used to control CO, VOC and NO_x emissions from the Area I HALCON process off gas stream, and the emissions from Area II. [Rules 62-4.070(3), 62-4.160(2) and 62-213.440(1), F.A.C.]

G.4. Methods of Operation - Fuels. The Area II TRU/SCR I shall only use natural gas, ethane or butane as primary fuels. [Rules 62-4.070(3), 62-4.160(2) and 62-213.440(1), F.A.C.]

G.5. 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/SCR I and SCR II, NO_x Compressor 1 and Backup NO_x 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/SCR I and the SCR II are sufficiently equivalent to obviate this requirement. [Rules 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C.]

G.6. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

G.7. The NO_x emission concentration shall not exceed 500 ppm, on a 30-day rolling average, from each of the TRU/SCR I or SCR II. This shall be demonstrated by means of a NO_x Continuous Emissions Monitor (CEM), which is operated under a Department approved QC plan, while firing the process gases from Area I and Area II. [Rules 62-4.070(3), F.A.C.; Consent Order OGC File No. 97-2066, executed February 2, 1998; and permits AC17-262486 and 0330040-018-AV]
{Permitting Note: This emission unit had been issued permit 0330040-011-AC to expand production. Upon completion of the construction the NO_x limitation would have been lowered to 150 ppm. The authorized expansion work was not done, and therefore, the NO_x limit remains at 500 ppm. The only portion of this permit completed was that required by Consent Order OGC File No. 97-2066, executed February 2, 1998.}

G.8. During startup, shutdown and control system malfunctions (SSM) this source shall comply with the following emission limits:

	Startup			**Shutdown**			**Malfunction**		
Control Devices	Maximum Vent Hrs	Pounds NO	Pounds NO_2	Maximum Vent Hrs	Pounds NO	Pounds NO_2	Maximum Vent Hrs	Pounds NO	Pounds NO_2
NO_x Compressor 1/ Backup NO_x Compressor	2	1,302	1,996	2	1,302	1,996	2	1,302	1,996
TRU/SCR I/SCR II	2	1,302	1,996	2	1,302	1,996	2	1,302	1,996

The maximum venting hours for the above control device groupings (i.e., NO_X Compressor 1 /Backup NO_X Compressor group and TRU/SCR I/SCR II group) or any single control device shall not exceed two hours in any 24-hour period**.** During TRU SSM, the control unit may vent up to three hours in any 24-hour period provided Permittee demonstrates to the Department's satisfaction that the incident was beyond the control of the facility. Permittee shall submit a justification, for Department review and approval, outlining the extenuating circumstances for venting events beyond two hours. Permittee shall submit with the justification a statement regarding whether or not emission limits were exceeded and an estimate of emissions (pounds NO and NO_2) during the SSM. In no case shall the emission limits in table above be violated. [Rules 62-4.160(2) and 62-210.700(1), F.A.C., and permit 0330040-017-AC]
{Permitting Note: Two hours in any 24-hour period is an accumulative total, not per event.}

G.9. NO_x Emissions. Total NO_x emissions from EU 002 shall not exceed 610 TPY, on a 12-month rolling total. NO_x emissions from the stacks of TRU/SCR I and SCR II shall be demonstrated by means of a NO_x Continuous Emissions Monitor (CEM), which is operated under a Department approved QC plan, while firing the process gases from Area I and Area II. [Rules 62-4.070(3), and 62-212.400(12), F.A.C., Consent Order OGC File No. 97-2066, executed February 2, 1998, permits AC17-262486 and 0330040-018-AV, Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

{Permitting Note: This emissions unit had been issued permit 0330040-011-AC to expand production. Upon completion of the construction the NO_x limitation would have been lowered to 150 ppm. The authorized expansion work was not done, and therefore, the NO_x limit remains at 500 ppm. The only portion of this permit completed was that required by Consent Order OGC File No. 97-2066, executed February 2, 1998.}

Excess Emissions

G.10. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C., and permit 0330040-017-AC]

G.11. Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest. [Rule 62-210.700(5), F.A.C., and permit 0330040-017-AC]

G.12. In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report. [Rule 62-210.700(6), F.A.C., and permit 0330040-017-AC]

Monitoring of Operations

G.13. Startup, Shutdown, and Malfunction Log. A log shall be maintained of all uncontrolled NO and NO_2 emissions resulting from startup, shutdown and control system malfunctions. Emission records shall be maintained and available for inspection by the Department. [Rules 62-4.160(2) and 62-210.700(1), F.A.C., and permit 0330040-017-AC]

G.14. Continuous Compliance - NO_x Emissions Concentrations. Permittee shall demonstrate continuous compliance that the NO_x emissions concentration from each of the TRU/SCR I or SCR II stacks do not exceed 500 ppm on a 30-day rolling average by proper maintenance and operation of Continuous Emission Monitors (CEMs) for NOx from the exhaust stacks of the TRU/SCR I and SCR II, in conformance with a Department approved QC plan and annual CEMs RATA testing. CEMs readings shall be recorded continuously, and rolling 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 62-4.070(3), F.A.C., Consent Order OGC File No. 97-2066, executed February 2, 1998, Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

Test Methods and Procedures

G.15. Emissions tests are required to show compliance with the standards of the Department if Permittee does not provide reasonable assurance that the CEMs and data processing/recording systems have been functioning properly. The test method for nitrogen oxides shall be an EPA test method which is incorporated and adopted by reference in Rule 62-297.401(7), F.A.C. If Method 7C or 7D is used, the sampling time shall be at least 1 hour. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Such tests shall be conducted once during each federal fiscal year (1 Oct - 30 Sept). The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing. [Rules 62-4.070, 62-297.310(7), and 62-297.401(7), F.A.C.]

G.16. Volatile Organic Compounds (VOC) emissions tests are required to show compliance with the standards of the Department at the TRU/SCR I and SCR II INLET and OUTLET. The test method for VOC emissions shall be EPA Method 25A, incorporated and adopted by reference in Rule 62-297.401(7), F.A.C. The test results must provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate.

Such tests shall be conducted once during each federal fiscal year (1 Oct - 30 Sept). The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing. A special requirement for the first test conducted under this permit shall be to run a standard sample with a known KA concentration through the sampling train to determine and report testing methodology accuracy. [Rules 62-4.070, 62-297.310(7), and 62-297.401(7), F.A.C. , and permit 0330040-035-AC]

G.17. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Recordkeeping and Reporting Requirements

G.18. KA feed and Adipic Acid Production. Permittee shall maintain records of KA feed on an hourly and 12 month rolling averages. Permittee shall also maintain records of adipic acid production on monthly totals and 12-month rolling totals. Permittee shall also maintain records of adipic acid sales monthly totals and 12-month rolling totals. These records shall be made available for Department inspection. [Rules 62-4.070(3), 62-4.160(2) and 62-210.200(PTE), F.A.C., amendment to permit AC17-262486, and permit 0330040-035-AC]

Other Requirements

40 CFR 60 Requirements

G.19. These emissions units shall comply with all applicable requirements of 40 CFR 60 Subparts A, VV, and NNN, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(8)(b)51 and 63, (d) and (e), F.A.C.]

G.20. Permittee shall comply with all the applicable standards and requirements of 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, attached and incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)63., F.A.C.]

EU I.D.	Brief Description
090	Area II Adipic Acid - Fugitive Emissions

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

40 CFR 60 Requirements

G.21. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A and VV, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(8)(b)51., (d) and (e), F.A.C.]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
005	Vaporizer No. 1 - started up in 1953
007	Vaporizer No. 2 - started up in 1953
008	Vaporizer No.3 - started up in 1953
009	Vaporizer No.4 - started up in 1953
010	Vaporizer No.5 - started up in 1953
011	Vaporizer No.6 - started up in 1953
013	Vaporizer No.7 - started up in 1989
075	Vaporizer No. 8 - started up in 1993

Eight Vaporizers with a total capacity of 136 million Btu/hour heat input produce Therminol vapor which supplies heat to the nylon production process. There are no individual Vaporizer limits beyond this total limit. These emissions units are primarily fueled by natural gas. Except for vaporizer No. 8, Number 2 fuel oil with a maximum of 0.5 % sulfur by weight is allowed as an emergency fuel. Vaporizers 1 through 7 predate the NSPS. Vaporizer No. 8 is regulated under applicable portions of 40 CFR 60 Subparts A and Dc, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Because vaporizer No. 8 will combust only natural gas with no fuel oil for emergency backup, it is subject only to the notification and fuel recordkeeping requirements in 40 CFR 60.48c.

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:

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

Essential Potential to Emit (PTE) Parameters

H.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. 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.]

H.2. Permitted Capacity. The combined process/operation rate for the Vaporizers, EU's 005, 007, 008, 009, 010, 011, 013 and 075, shall not exceed the maximum operating flow rate given in the Company Confidential Appendix in million scf per year of natural gas based on a heating value of 1020 Btu/scf and a 12-month rolling total basis. [Rules 62-4.030, 62-4.070(3), 62-4.160(2), 62-210.200(PTE) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

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

H.4. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

H.5. Visible Emissions. Visible emissions shall not exceed 10% opacity under normal operating conditions. [Permit AO17-170108]

Monitoring of Operations

H.6. Natural Gas Usage. An aggregate natural gas usage heat input shall be calculated on an hourly basis and recorded in units of MMBtu/hr for Vaporizers 1 through 8 combined. [Rule 62-213.440(4), F.A.C.]

Test Methods and Procedures

H.7. Visible Emissions. The test method for visible emissions shall be EPA test method 9 (30 minute), incorporated and adopted by reference in Chapter 62-297, F.A.C. On each Vaporizer burning No. 2 fuel oil, if such use exceeds four days, a visible emissions compliance test shall be conducted. Further, visible emissions compliance tests shall be conducted upon Department request. No annual visible emissions compliance testing is required. [Rule 62-297.401, F.A.C.]

H.8. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Subsection I. Emissions Units 081 & 082

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
081	Continuous Nylon Polymerization Lines – started up in 1953
082	Batch Nylon Polymerization – started up in 1953

Hexamethylene diamine is reacted with adipic acid to form hexamethylene diammonium adipate, or nylon salt. The salt is heated and water is evaporated to form nylon 6,6 polymer by both continuous and batch processes. The molten polymer is solidified to nylon fiber from the continuous lines and to 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. VOC generated during evaporation and reaction steps are controlled using a distillation column. VOC generated during the finishing and spinning step (monomer) is either vented away from the work area and discharged without controls or controlled using water scrubbers. Particulate matter is also generated in this process either as a result of flake handling or condensation of uncontrolled monomer. Heat recovery is used to produce steam.

The 12 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. Monomer scrubbers control the emissions from the Finishing step.

Four batch evaporators cyclically feed the batch lines' 12 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.

Permit 0330040-017-AC increased Vydyne CP line productivity increase by boiling off additional water from the process, and converted Dryer No.7 into solid state polymerization by heating with Therminol versus water.

Permits 0330040-020-AC; 0330040-021-AC, 0330040-023-AC and 0330040-025-AC which converted four of 12 existing CP lines, 24, 25, 26, and 27 from nylon fiber to a flake (pellet) product and debottleneck CP lines 26 and 27 to increase the combined operating rate of these four CP lines to 27,000 pounds per hour.

Permit 0330040-020-AC converted CP 27 to a pelletizing line by sharing the dewatering dryer, the air conveying system to the blenders, and the air conveying system to the packaging equipment added during the CP 27 conversion project and increased the air flow rates (1,000 to 2,200 SCFM) of the pellet air convey system for CP lines 1 and 2.

Permit 0330040-021-AC converted CP 26 to a pelletizing line by sharing the dewatering dryer, the continuous dryer, the air conveying system to the continuous dryer, the air conveying system to the blenders, and the air conveying system to the packaging equipment added during the CP 27 conversion project (Permit 0330040-020-AC) and increased the air flow rates of the shared equipment, and increased the air flow rate (1,000 to 2,200 SCFM) of the pellet air convey system for CP lines 1 and 2.

Permit 0330040-023-AC converted CP 24, 25, 26, and 27 to a flake (pellet) product. CP 26 and 27 were debottlenecked to increase the combined operating rate of these four CP lines to 27,000 pounds per hour, There are increases of VOC and PM emissions, with VOCs covered by permit 0330040-017-AC. PM potential

emissions are estimated at 0.48 tons per year at CP 24 and 25 dryers, 1.04 tons per year at CP 24 and 25 air convey systems and 0.01 tons per year at CP26 and 27 continuous dryer for a total of 1.53 tons per year emitted uncontrolled.

Permit 0330040-025-AC converted CP lines 28 and 29 to flake (pellet). The conversion consisted of the removal of fiber spinning components and commingling of the CP 28 and CP 29 nylon polymer output and use of a strand pelletizer, addition of an air conveying system to four new blenders (silos), and addition of two air conveying system to a new bulk, box and bag packaging area. Total PM emissions increase by 1.45 tons per year uncontrolled.

These emissions units are regulated under Rule 62-296.320(1)(a), F.A.C., for volatile organic compounds emissions (VOC) or organic solvents emissions, which requires the use of known and existing vapor emission control devices or systems deemed necessary and ordered by the Department.

VOC emissions limit of 715 pounds per day remains unchanged and in effect.

Essential Potential to Emit (PTE) Parameters

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

I.2. Permitted Capacity. The combined process/operation rate for EU's 081 and 082 shall not exceed the maximum operating rate given in the Company Confidential Appendix in million pounds nylon per year based on a 12-month rolling total basis, as measured by nylon salt fed to polymerization. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE), and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

I.3. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

I.4. The maximum allowable emissions rate for VOC is 715 lbs/day as a rolling annual average. This limit includes reasonable down time of up to 10% of the total operations time for necessary operation and maintenance. As long as the emission limit is met, down time is not considered a violation of this permit. [Rules 62-4.070, 62-210.700, 62-296.320(1)(a), F.A.C., and permits AO17-240490 and 0330040-001-AC]

Monitoring of Operations

I.5. Permittee shall maintain a log of down time for each control device, which controls emissions of organic compounds. [Rules 62-4.070, 62-213.440(4), F.A.C., and permit 0330040-001-AC]

I.6. Permittee shall calculate at a minimum once annually or as requested by the Department, a 365-day rolling average of total organic emissions from EU-I.D. Nos. 081 and 082 using current emissions factors. A summary graph identifying each day's average shall be attached to and submitted with each annual operating report. [Rules 62-4.070, 62-213.440(4), F.A.C., and permit 0330040-001-AC]

I.7. Distillation Column. 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 5,000 lbs/hr hourly average.
c) Records shall be maintained and made available for Department inspection.
[Rules 62-4.070, 62-213.440(4), F.A.C., and permit 0330040-001-AC]

Test Methods and Procedures

I.8. VOC emissions testing shall be conducted biennially (every two years) using the Yarn Plant Emissions Sampling Protocol. Notification of the testing including the latest Yarn Plant Emissions Sampling Protocol shall be provided per Rule 62-297.310, F.A.C. [Rule 62-4.070, F.A.C., and permit 0330040-001-AC]

I.9. Emission factors shall be revalidated biennially (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]

I.10. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
020	Cyclohexane Oxidation Process (Halcon)

The Cyclohexane Oxidation Process, started up in 1965, produces cyclohexanone/cyclohexanol, a ketone and alcohol mixture, as an intermediate chemical in the production of adipic acid, and for outside sales. Cyclohexane is oxidized with air in two high-pressure reactor trains. Two high-pressure scrubbers recover the cyclohexane from the reactor off gas. 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 (TRU) 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 the atmosphere. The emissions from the low-pressure scrubbers are of similar composition but lesser quantity than those from high-pressure scrubbers. Total process emissions from all scrubbers of volatile organic compounds are estimated at 926 pounds per hour and emissions of carbon monoxide are estimated at 1,404 pounds per hour.

Permit 0330040-017-AC installed a new thermal oxidizer, the Organic BackUp Device, or OBUD, is used as a backup device to control the VOC and CO emissions from the Halcon process area during times when the TRU is down or during other process upset conditions. The OBUD burners use natural gas and it is designed for 99% & 98% destruction efficiencies of VOC and CO, respectively, operating between 1,300-1,500°F with a 1-second dwell time. The OBUD thermal oxidizer is subject to incinerator requirements of Rule 62-296.401(1), F.A.C.

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 subject to the following regulations: 40 CFR 60 Subpart A - General Provisions; Subpart NNN - Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry; adopted and incorporated by reference into this permit; 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, 40 CFR 64 - Compliance Assurance Monitoring (CAM), for CO and VOC; and Rule 62-296.401(1), F.A.C.

Essential Potential to Emit (PTE) Parameters

J.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., and permit AC17-247476]

J.2. Methods of Operation. Oil flow through each of the high-pressure scrubbers shall be maintained at or above 3,600 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. VOC and CO emissions are reduced by venting the high pressure scrubbers to the NOx TRU or thermal oxidizer. 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 40 CFR 60 Subpart NNN. [Rules 62-4.070, 62-296.320(1), 62-204.800(8)(b)63., (d) and (e) 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. [Rule 62-210.200(PTE), F.A.C.]

J.4. Permitted Capacity. The process/operation rate for the Cyclohexane Oxidation Process (Halcon), EU 020, shall not exceed the maximum operating rate given in the Company Confidential Appendix in million pounds KA per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

J.5. Permitted Capacity. The process/operation rate for the Cyclohexane Oxidation Process (Halcon), EU 020, and the Area 480 KA Expansion, EU 088, apportioned to Adipic Acid Synthesis, EU 002, shall not exceed the combined maximum operating rate given in the Company Confidential Appendix in million pounds KA per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

J.6. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

J.7. Visible Emissions. Visible emissions from the backup thermal oxidizer shall not exceed 5% opacity except for up to 20% for one three-minute period during any hour. [Rule 62-296.401(1)(a), F.A.C., and permit 0330040-017-AC]

J.8. Volatile Organic Compounds. VOC emissions from the backup thermal oxidizer shall not exceed 10.4 pounds per hour, based on a 24-hour average, or 45.5 tons per year, based on a 12-month rolling total. Emissions calculations shall be conducted monthly to demonstrate compliance with the VOC limit. Emission records shall be maintained and available for inspection by the Department. [Rules 62-4.160(2), 62-210.200(PTE), F.A.C., permit 0330040-017-AC and PSD Avoidance]

J.9. Carbon Monoxide. CO emissions from the backup thermal oxidizer shall not exceed 28.1 pounds per hour, based on a 24-hour average, or 123 tons per year, based on a 12 month rolling total. Emissions calculations shall be conducted monthly to demonstrate compliance with the CO limit. Emission records shall be maintained and available for inspection by the Department. [Rules 62-4.160(2), 62-210.200(PTE), F.A.C., and permit 0330040-017-AC]
{Permitting Note: VOC and CO emissions have been revised to reflect emission reductions from an "emissions netting analysis", public noticed in permit 0330040-017-AC for the Cyclohexane Oxidation Process. CO and VOC emission reductions were reported as 311.4 tons per year and 119.4 tons per year, respectively. Corrected reductions of CO and VOC emissions from the Cyclohexane Oxidation Process are 74.4 tons per year and 54.5 tons per year, respectively (Ascend letter received by the Department on July 27, 2007). These revised emissions reductions do not change any specific condition of permits 0330040-017-AC or 0330040-018-AV or PSD considerations of subsequent projects.}

Monitoring of Operations

J.10. Thermal Oxidizer Temperature. When process gases are being controlled by the backup thermal oxidizer, a minimum temperature of 1,300 degrees Fahrenheit shall be maintained. Temperature shall be monitored and recorded continuously, and the records made available for Department inspection. The temperature devices shall be certified by the manufacturer to be accurate to within ± 1 percent of the temperature being measured. The above minimum temperature set point may be adjusted upon demonstration of compliance (current stack test). Any change to the temperature set point is subject to Department approval. [Rules 62-4.160(2), 62-213.440(1), 62-213.440(4)(a), F.A.C., and permit 0330040-017-AC]

J.11. For the KA Recovery Column applicable monitoring and recording devices shall be operated and maintained as per 40 CFR 60 Subpart NNN regulations to monitor the operation of the condenser. [Rules 62-4.070 and 62-204.800(8)(b)63., (d) and (e), F.A.C.]

J.12. Process Air Rate. Monitor and record total process air rate on an hourly basis (lbs/hr air). [Rules 62-4.070 and 62-213.440(4), F.A.C.]

J.13. High-Pressure Scrubber Oil Flow Rate. Monitor and record high-pressure scrubber oil flow rate on an hourly basis (lbs/hr oil). [Rules 62-4.070 and 62-213.440(4), F.A.C.]

J.14. KA Recovery Column Condenser Sump Temperature. Monitor and record hourly-average sump temperature on an hourly basis (ave. °C/hr). [Rules 62-4.070 and 62-213.440(4), F.A.C.]

J.15. This emissions unit is subject to the CAM requirements contained in the attached Appendix CAM. Failure to adhere to the monitoring requirements specified does not necessarily indicate an exceedance of a specific emissions limitation; however, it may constitute good reason to require compliance testing pursuant to Rule 62-297.310(7)(b), F.A.C. [40 CFR 64; and, Rules 62-204.800(12) and 62-213.440(1), F.A.C.]

Test Methods and Procedures

J.16. 40 CFR 60 Subpart NNN. For the KA Recovery Column, the owner or operator shall comply with the testing method, recordkeeping, and reporting requirements under 40 CFR 60 Subpart NNN - Standards of Performance of VOC emissions from SOCMI Distillation Processes. [Rule 62-204.800(8)(b)63., (d) and (e), F.A.C., and permit AC17-247476]

J.17. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Recordkeeping and Reporting Requirements

J.18. For the KA Recovery Column applicable reporting and record keeping requirements of 40 CFR 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(8)(b)63., (d) and (e), F.A.C.]

Other Requirements

40 CFR 63 Subpart FFFF Requirements

J.19. Permittee shall comply with all the applicable standards and requirements of 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, attached and incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)63., F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
049	Hydrogen Generating Plant No. 1

Hydrogen Generating Plant No. 1 started up in 1975. Hydrogen is used in the production of hexamethylene diamine and other nylon intermediates chemicals. A feedstock of natural gas or ethane-rich gas is de-sulfurized. The gas then is 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 NO_x burners.

This emissions unit is regulated under Chapter 62-213, as an EPA major source of air pollution and by Rule 62-296.320(4)(b), F.A.C., for visible emissions.

Essential Potential to Emit (PTE) Parameters

K.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 permit AC17-271831]

K.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.]

K.3. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

K.4. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

K.5. Visible Emissions. Visible emissions shall be less than 20% opacity. [Rule 62-296.320(4)(b), F.A.C.]

Test Methods and Procedures

K.6. Visible Emissions. The test method for visible emissions shall be EPA test method 9 (30 minute), incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401(9), F.A.C.]

K.7. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
040	Hexamethylene Diamine Synthesis and Refining – started up in 1953
041	B and C Hexamethylene Diamine Stripper Distillation Column – modified B started in 1997, new C started in 1993

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 non-condensable emissions is reduced in each stage.

The stripper distillation columns are subject to applicable requirements of 40 CFR 60 Subpart A - General Provisions and Subpart NNN - Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry, and 40 CFR 63 Subpart FFFF - M National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, adopted and incorporated by reference into this permit. 40 CFR 60.662(c) allows a facility to maintain a total resource effectiveness (TRE) index greater than 1.0 without the use of VOC emission control devices. Column head pressures are used as a surrogate parameter to maintain TRE index.

Essential Potential to Emit (PTE) Parameters

L.1. Hours of Operation. These emissions units are allowed to operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

L.2. Total Resource Effectiveness Index. 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. [40 CFR 60.662(c)]

L.3. Continuous monitoring of stripper columns head pressure is required and serves as a surrogate parameter to control HMD emissions. The maximum column head pressure shall be maintained at or below 100 mm Hg. Records of stripper column head pressure logged hourly shall be maintained and be available for inspection by the Department. [Department approved alternative to 40 CFR 60.663(e)(2)(i)]

L.4. 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. Permittee shall maintain operations and maintenance of the jets and condensers sufficient to minimize HMD emissions pursuant to the Specific Condition in this subsection addressing the Total Resource Effectiveness Index. [Rules 62-4.070, 62-296.320(1)(a), F.A.C., and permit 0330040-004-AC]

L.5. Permitted Capacity. The process/operation rate for the HMD Synthesis and Stripper Distillation Column, EU's 040 and 041, shall not exceed the maximum operating rate given in the Company Confidential Appendix in million pounds HMD per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

L.6. Permittee shall comply with all the applicable standards and requirements of 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, attached and incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)63., F.A.C.]

L.7. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Monitoring of Operations

L.8. 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. [Rules 62-4.070 and 62-213.440(4), F.A.C.]

Test Methods and Procedures

L.9. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

Other Requirements

L.10. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subpart NNN - Standards for Performance for Volatile Organic Compound (VOC) Emissions for Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations. [Rules 62-4.070(3) and 62-204.800(8)(b)63., (d) and (e), F.A.C.]

L.11. TRE Index Value Verification. Permittee shall recalculate the TRE index value whenever process changes are made. Recalculated TRE index values less than or equal to 1.0, require performance testing. [Rules 62-4.070(3), F.A.C., and 40 CFR 60.664(g)]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
042	Nitric Acid Plant

The nitric acid plant started up in 1977 and has a maximum capacity of 1,500 tons per day. Ammonia is oxidized in the presence of a catalyst to form NO_x, which is then converted to nitric acid by a reaction with water. NO_x emissions are controlled by process operating conditions and/or use of a Selective Catalytic Reduction (SCR) NO_x abatement device. Startup, shutdown and malfunction allowance is three hours based on 40 CFR 60 Subpart G. This emissions unit is regulated under applicable portions of 40 CFR 60 Subpart A - General Provisions and Subpart G - Standards of Performance for Nitric Acid Plants, adopted and incorporated by reference into this permit.

Essential Potential to Emit (PTE) Parameters

M.1. Capacity. The maximum allowable operating rate is 1,500 tons of 100% nitric acid produced per day. [Rules 62-4.160(2), 62-210.200(PTE), F.A.C., and permit 0330040-035-AC]

M.2. Methods of Operation. The SCR unit shall be operating whenever the Nitric Acid Plant is in operation. When the SCR unit is not employed, the absorber column chilled water shall be monitored and water flow shall be maintained at a minimum of 200 gallons per minute or higher, and water temperature shall be maintained at 54°F or lower. [Rule 62-213.410, F.A.C., and permit 0330040-003-AC]

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

M.4. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

M.5. No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any affected facility any gases which:

(1) Contain nitrogen oxides, expressed as NO_2, in excess of 1.5 kg per metric ton of acid produced (3.0 lb per ton), the production being expressed as 100 percent nitric acid. The maximum allowable annual NO_x emissions are 360 tons of NO_x per year based on a 365-day rolling total amount as determined by the CEMs data and stack flow rate. Records shall be kept for a 365-day rolling total amount calculated in tons of NO_x per year.

(2) Exhibit 10 percent opacity, or greater.

[40 CFR 60.72(a)(1) and (2) and permit 0330040-003-AC]

Startup, Shutdown and Control System Malfunctions/Excess Emissions

M.6. During startup, shutdown and control system malfunctions this source shall comply with the following emission limits:

	Startup		Shutdown		Malfunction	
Maximum Vent Hours	Pounds NO	Pounds NO_2	Pounds NO	Pounds NO_2	Pounds NO	Pounds NO_2
3	643.5	594	643.5	594	643.5	594

The maximum venting hours shall not exceed three hours in any 24-hour period. [40 CFR 60.73(e), Rule 62-210.700(1), F.A.C., and permit 0330040-017-AC]

M.7. Startup, Shutdown, and Malfunction Log. A log shall be maintained of all uncontrolled NO and NO_2 emissions resulting from startup, shutdown and control system malfunctions. Emission records shall be maintained and available for inspection by the Department. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permit 0330040-017-AC]

M.8. Excess emissions which are caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure which may reasonably be prevented during startup, shutdown, or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C., and permit 0330040-017-AC]

M.9. Considering operational variations in types of industrial equipment operations affected by this rule, the Department may adjust maximum and minimum factors to provide reasonable and practical regulatory controls consistent with the public interest. [Rule 62-210.700(5), F.A.C., and permit 0330040-017-AC]

M.10. In case of excess emissions resulting from malfunctions, each owner or operator shall notify the Department in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report. [Rule 62-210.700(6), F.A.C., and permit 0330040-017-AC]

Monitoring of Operations

M.11. 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., 40 CFR 60.73(c) and permit 0330040-003-AC]

M.12. The zero and span drift of the continuous emission monitor for NO_x shall be checked at least once daily, and adjustments made in accordance 40 CFR 60.13(d). [40 CFR 60.73(a) and permit 0330040-003-AC]

M.13. Permittee shall routinely monitor the performance of the SCR unit to ensure compliance with the emission limit. The following monitoring information shall be maintained and available for inspection by the Department:

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

[Rule 62-4.070, F.A.C., and permit 0330040-003-AC]

M.14. The owner or operator shall establish a conversion factor for the purpose of converting monitoring data into units of the applicable standard (kg/metric ton, lb/ton). The conversion factor shall be established by measuring emissions with the continuous monitoring system concurrent with measuring emissions with the applicable reference method tests. Using only that portion of the continuous monitoring emission data that

represents emission measurements concurrent with the reference method test periods, the conversion factor shall be determined by dividing the reference method test data averages by the monitoring data averages to obtain a ratio expressed in units of the applicable standard to units of the monitoring data, i.e., lb/ton per ppm. The conversion factor shall be reestablished during any performance test under 40 CFR 60.8 or any continuous monitoring system performance evaluation under 40 CFR 60.13(c). [40 CFR 60.73(b)]

Continuous Monitoring Requirements

M.15. Continuous Emissions Monitoring. The source owner or operator shall calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides (NO_x). The pollutant gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d) of this part shall be nitrogen dioxide (NO_2). The span value shall be 500 ppm of NO_2. [40 CFR 60.73(a)]

Test Methods and Procedures

M.16. Test Methods. Required tests shall be performed in accordance with the following reference methods:

Method	Description of Method and Comments
7	Determination of Nitrogen Oxide Emissions from Stationary Sources - 40 CFR 60 Appendix A
7A	Determination of Nitrogen Oxide Emissions from Stationary Sources - Ion Chromatographic Method - 40 CFR 60 Appendix A
7B	Determination of Nitrogen Oxide Emissions from Stationary Sources (Ultraviolet Spectrophotometry) - 40 CFR 60 Appendix A
7C	Determination of Nitrogen Oxide Emissions from Stationary Sources - Alkaline-Permanganate/ Colorimetric Method - 40 CFR 60 Appendix A
7D	Determination of Nitrogen Oxide Emissions from Stationary Sources - Alkaline-Permanganate/Ion Chromatographic Method - 40 CFR 60 Appendix A
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources (Instrumental Analyzer Procedure) - 40 CFR 60, Appendix A
9	Visual Determination of the Opacity of Emissions from Stationary Sources - 40 CFR 60 Appendix A

The above methods are described in 40 CFR 60 Appendix A, and adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department. If Method 7C or 7D is used, the sampling time shall be at least one hour. If Method 7E is used, NO_2 must be used as the calibration gas. [Rule 62-297.401(7), (7)(a), (7)(b), (7)(c), (7)(d), (7)(e), & (9) F.A.C., 40 CFR 60.74(c), 40 CFR 60.13(i) and EPA letter dated December 22, 2008]

M.17. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310, F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
088	Area 480 KA - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare and Backup Flare

Area 480 KA started up in 2001. This process reacts phenol with hydrogen in a gas phase hydrogenation reaction for conversion to cyclohexanone/cyclohexanol mixture (KA). The KA is used in adipic acid production. Process emissions are primarily VOC. Fugitive emissions are VOC, primarily cyclohexanone and cyclohexanol; and HAP, primarily phenol. VOC emission control equipment for the Area 480 KA process consists of an enclosed Flare and an enclosed Backup Flare.

This emissions unit is regulated under applicable portions of 40 CFR 60 Subpart A - General Provisions; Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which construction, reconstruction, or modification commenced after July 23, 1984, Subpart VV - Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry, Subpart NNN - Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemical Manufacturing Industry, Subpart RRR - Standards of Performance for VOC Emissions From Synthetic Organic Chemical Manufacturing Industry Reactor Processes, and 40 CFR 63 Subpart A - General Provisions, Subpart F - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry, Subpart G - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater, and Subpart H - National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks, adopted and incorporated by reference into this permit.

Essential Potential to Emit (PTE) Parameters

N.1. Capacity. The maximum allowable operating rate for the VOC Control Flare and Backup Flare, shall not exceed the rate of all combined process gases from the Area 480 KA process at the maximum permitted operating rate 54,795 lb/hr of KA mixture. Compliance shall be determined at the Area 480 KA maximum operating rate of 54,795 lb/hr of KA mixture. Permittee shall maintain hourly records of KA mixture production and a 24-hour rolling average available for Department inspection. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permit application 0330040-035-AC]
{Permitting Note: 54,795 lb/hr is 120% of the annual average rate. The maximum permitted annual rate is 200,000 ton/yr}

N.2. Permitted Capacity. The process/operation rate for the Area 480 KA (P2K) Synthesis, EU 088, shall not exceed 400 million pounds KA per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE), and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

N.3. Permitted Capacity. The process/operation rate for the Cyclohexane Oxidation Process (Halcon), EU 020, and the Area 480 KA Expansion, EU 088, apportioned to Adipic Acid Synthesis, EU 002, shall not exceed the combined maximum operating rate given in the Company Confidential Appendix in million pounds KA per year based on a 12-month rolling total basis. [Rules 62-4.070(3), 62-4.160(2), 62-210.200(PTE) and 62-212.400(12), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-035-AC]

N.4. Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C.]

N.5. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Other Requirements

N.6. The Flare or Backup Flare shall be used to control VOC emissions from the Area 480 KA process. [Rules 62-4.070(3), 62-4.160(2) and 62-213.440(1), F.A.C.]

40 CFR 60 (NSPS) Requirements

N.7. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A, Kb, NNN, and RRR, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(8)(b)16, 63, and 67, (d) and (e), F.A.C.]

40 CFR 63 (NESHAP) Requirements

N.8. This emissions unit shall comply with all applicable requirements of 40 CFR 63 Subparts A, F, G, and H, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)1, 2, 3, (d)1 and (e), F.A.C.]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
089	Area 480 KA - Fugitive Emissions

40 CFR 60 (NSPS) Requirements

N.9. This emissions unit shall comply with all applicable requirements of 40 CFR 60 Subparts A and VV, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(8)(b)51, (d) and (e), F.A.C.]

40 CFR 63 (NESHAP) Requirements

N.10. This emissions unit shall comply with all applicable requirements of 40 CFR 63 Subparts A and H, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)3, (d)1, and (e), F.A.C.]

NSPS and NESHAP Common Conditions

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
088	Area 480 KA - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare and Backup Flare
089	Area 480 KA - Fugitive Emissions

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

Test Methods and Procedures

N.11. Waiver of flare performance testing was granted in DEP letter dated June 29, 2001. Demonstration that the flare will operate within the requirements of 40 CFR 63.11 was made in support of the waiver. [Rule 62-4.070, F.A.C.]

N.12. Area 480 KA - Fugitive Emissions (EU 089) are subject to leak detection and repair (LDAR) requirements, as applicable, pursuant to 40 CFR 60 Subpart VV and 40 CFR 63 Subpart H. Emissions testing shall be satisfied by conformance with these regulations. [Rules 62-204.800(8)(b) a51. and 62-204.800(11)(b)3., (d) and (e), F.A.C.]

NSPS Common Conditions

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
088	Area 480 KA - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare and Backup Flare
089	Area 480 KA - Fugitive Emissions

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

40 CFR 60 (NSPS) Requirements

N.13. These emissions units shall comply with applicable conditions of 40 CFR 60 Subparts A, Kb, VV, NNN and RRR, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(8)(b)16., 51., 63., 67., (d) and (e), F.A.C.]

40 CFR 60 (NSPS) Subpart Kb

N.14. Permittee shall maintain 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 60.116b), with a written determination of: 40 CFR 60.110b emission control device(s), 40 CFR 60.112b, testing and procedures requirements of 40 CFR 60.113b, and the reporting and recordkeeping requirements of 40 CFR 60.115b, as applicable to this emission unit and its segments. [Rule 62-204.800(8)(b)16., F.A.C., and 40 CFR 60 Subpart Kb]

40 CFR 60 (NSPS) Subpart VV

N.15. Permittee shall maintain a list of all equipment (defined in 40 CFR 60.481) affected under 40 CFR 60.480, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60.481), with a written determination of: standards requirements of 40 CFR 60.482-(1-10), test methods and procedures of 40 CFR 60.485 and the reporting and recordkeeping requirements of 40 CFR 60.487, as applicable to this emission unit and its segments. [Rule 62-204.800(8)(b)51., F.A.C., and 40 CFR 60 Subpart VV]

40 CFR 60 (NSPS) Subpart NNN

N.16. Permittee shall maintain a list of all distillation equipment (defined in 40 CFR 60.661) affected under 40 CFR 60.660, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60.661), with a written determination of the standards requirements of 40 CFR 60.662, monitoring of emissions and operations of 40 CFR 60.663 test methods and procedures of 40 CFR 60.664 and the reporting and recordkeeping requirements

of 40 CFR 60.665, as applicable to this emission unit and its segments. [Rule 62-204.800(8)(b)63., F.A.C., and 40 CFR 60 Subpart NNN]

40 CFR 60 (NSPS) Subpart RRR

N.17. Permittee shall maintain a list of all reactor process equipment (defined in 40 CFR 60.701) affected under 40 CFR 60.700, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 60.701), with a written determination of: the standards requirements of 40 CFR 60.702, monitoring of emissions and operations of 40 CFR 60.703, test methods and procedures of 40 CFR 60.704 and the reporting and recordkeeping requirements of 40 CFR 60.705, as applicable to this emission unit and its segments. [Rule 62-204.800(8)(b)67., F.A.C., and 40 CFR 60 Subpart RRR]

Hazardous Organic NESHAPs (HON) Common Conditions

The specific conditions in this section apply to the following emissions units:

EU No.	Brief Description
088	Area 480 KA - Product Synthesis, Refining and Raw Material Recovery and all related ancillary equipment and systems - VOC Control Flare and Backup Flare
089	Area 480 KA - Fugitive Emissions

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

40 CFR 63 (HON/NESHAPs) Requirements

N.18. These emissions units shall comply with applicable conditions of 40 CFR 63 Subparts A, F, G, and H, incorporated by reference. [Rules 62-4.070(3) and 62-204.800(11)(b)1, 2, 3, (d)1. and (e), F.A.C.]

40 CFR 63 (HON/NESHAPs) Subpart F

N.19. Permittee shall maintain a list of all equipment (defined in 40 CFR 63.101) affected under 40 CFR 63.100, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63.100), with a written determination of the standards requirements of 40 CFR 63.102, and compliance, reporting and recordkeeping requirements of 40 CFR 63.103 through 105, as applicable to this emission unit and its segments. [Rule 62-204.800(11)(b)1., F.A.C., and 40 CFR 63 Subpart F]

40 CFR 63 (HON/NESHAPs) Subpart G

N.20. Permittee shall maintain a list of all equipment (defined in 40 CFR 63.111) affected under 40 CFR 63.110, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63.111), with a written determination of the standards requirements of 40 CFR 63.112 and 63.113, monitoring requirements of 40 CFR 63.114 and 63.115, test methods and procedures of 40 CFR 63.116, reporting and recordkeeping requirements of 40 CFR 63.117 for group and TRE determinations and performance tests, the periodic reporting and recordkeeping requirements of 40 CFR 63.118, and, storage vessel emission control provisions of 40 CFR 63.119, 63.120 and 63.121, storage vessel reporting requirements of 40 CFR 63.122, transfer operations emission control provisions of 40 CFR 63.126, transfer operations monitoring requirements of 40 CFR 63.127, transfer operations test methods and procedures of 40 CFR 63.128, transfer operations reporting and recordkeeping for tests and compliance status of 40 CFR 63.129, transfer operations periodic reporting and recordkeeping of 40 CFR 63.130, process wastewater provisions of 40 CFR 63.131 through 139, process wastewater general provisions of 40 CFR 63.132, process wastewater tanks provisions of 40 CFR 63.133, process wastewater surface

impoundments provisions of 40 CFR 63.134, process wastewater containers provisions of 40 CFR 63.135, process wastewater individual drain systems provisions of 40 CFR 63.136, process wastewater oil-water separators provisions of 40 CFR 63.137, process wastewater treatment processes provisions of 40 CFR 63.138, process wastewater control devices provisions of 40 CFR 63.139, process wastewater inspection and operations monitoring provisions of 40 CFR 63.143, process wastewater provisions for test methods, group applicability and determinations of 40 CFR 63.144, process wastewater provisions for test methods and compliance of 40 CFR 63.145, process wastewater reporting requirements of 40 CFR 63.146, process wastewater recordkeeping requirements of 40 CFR 63.147, leak inspection provisions of 40 CFR 63.148, emissions averaging provisions of 40 CFR 63.150, initial notification and implementation plan requirements of 40 CFR 63.151, general reporting and continuous records requirements of 40 CFR 63.152, as applicable to this emission unit and its segments. [Rule 62-204.800(11)(b)2., F.A.C., and 40 CFR 63 Subpart G]

40 CFR 63 (HON/NESHAPs) Subpart H

N.21. Permittee shall maintain a list of all equipment (defined in 40 CFR 63.161) affected under 40 CFR 63.160, affected equipment location, service, size, and characteristics of material(s) handled (ref. to 40 CFR 63.161) with a written determination of the general and specific equipment standards requirements of 40 CFR 63.162 through 63.174, quality improvement program of 40 CFR 63.175 through 63.176, alternative emissions limitations of 40 CFR 63.177 through 63.179, test methods and procedures of 40 CFR 63.180, recordkeeping requirements of 40 CFR 63.181, and the reporting requirements of 40 CFR 63.182, as applicable to this emission unit and its segments. [Rule 62-204.800(11)(b)3., F.A.C., and 40 CFR 63 Subpart H]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
097	NSPS Storage Tanks

40 CFR 60 Subpart Kb Volatile Organic Liquid (VOL) Tanks Inventory - 5/23/2000				
[for tanks constructed, modified or reconstructed after July 23, 1984, with volumes over 10,600 gallons, Which are subject to 40 CFR 60 Subpart Kb, VOL Tank regulations]				
Tank Number	**Facility ID Number**	**Tank Volume (Kgal)**	**Tank Contents**	**NSPS Applicability**
486TA19	77	35.8	Methanol	Subpart Kb requirements met by use of floating roof design.
480TA602	480	50	Off-Spec. Oil	Subject to Kb with emission controlled by the Area 480 primary or backup flare

This emissions unit consists of two storage tanks, Tank 486TA19 for methanol, and Tank 480TA602 for off-spec oil, with volumes of 35,800 gallons and 50,000 gallons, respectively. These tanks started operating in July 1994 and 2001, respectively. These tanks are regulated by 40 CFR 60 Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels [Including Petroleum Liquid Storage Vessels] for which construction, reconstruction, or modification commenced after July 23, 1984).

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

Essential Potential to Emit (PTE) Parameters

O.1. Hours of Operation. These emissions units may 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

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

O.2. 40 CFR 60 Subpart Kb Provisions. Permittee shall maintain 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 60.116b), with a written determination of: 40 CFR 60.110b emission control device(s), 40 CFR 60.112b, testing and procedures requirements of 40 CFR 60.113b, and the reporting and recordkeeping requirements of 40 CFR 60.115b, as applicable to this emission unit and its segments. [Rule 62-204.800(8)(b), F.A.C., and 40 CFR 60 Subpart Kb]

The specific conditions in this section apply to the following emissions unit:

EU No.	Brief Description
077	Dimethyl Ester (DME) Production Unit – started up in 1994

An adipic acid manufacturing by-product stream consisting of adipic, glutaric and succinic acids (AGS) is reacted with methanol to produce dimethyl ester. Off-gases are pyrolyzed in the hydrogen plant reformer furnace. Air emissions occur only during unplanned shutdowns of the hydrogen plant No. 1 reformer furnace or malfunctions of the DME production unit that prevent transfer of off gasses to the reformer furnace.

This emissions unit is regulated by 40 CFR 63 Subpart F - National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry, 40 CFR 63 Subpart SS - National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process, 40 CFR 63 Subpart UU - National Emission Standards for Equipment Leaks - Control Level 2 Standards, 40 CFR 63 Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories: Generic Maximum Achievable Control Technology Standards, 40 CFR 63 Subpart FFFF - National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, all 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

P.1. Capacity. The maximum allowable operating rate is 30 million pounds per year of 80% AGS. [Rules 62-210.200(PTE) and 62-4.160(2), F.A.C., and permit AC17-229192]

P.2. Methods of Operation. DME process air emissions shall be controlled during temporary outages of the Hydrogen Plant No. 1 reformer furnace by a Calgon Activated Carbon Bed Vapor Pac unit. Permittee may use one or two carbon beds to achieve the desired minimum 90% VOC removal efficiency. [Rules 62-213.440(1), and 62-296.320(1)(a), F.A.C., AC 17-229921, Superseded by AO17-263462, Superseded by FDEP Letter of Approval effective November 29, 1995, Superseded by FDEP Letter of Approval Effective May 16, 1996] *{Permitting Note: Carbon is replaced on frequency per the MON NOCS, which, based on current testing, is after 96 hours for 1 canister or 172 hours for 2 canisters in series.}*

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

P.4. Determination of Process Variables. See Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310(2), F.A.C.]

Test Methods and Procedures

P.5. Emissions Tests. See Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. [Rule 62-297.310(2), F.A.C.]

Other Requirements

40 CFR 63 Subpart F Requirements

P.6. 40 CFR 63.104 - Heat exchange system requirements
Permittee shall monitor each heat exchange system used to cool process equipment in Emission Unit ID No. 077 Dimethyl Esters (DME), according to the provisions of 40 CFR 63.104(b) and 63.104(b)(1) through (b)(6). If a leak is detected according to the criteria of 40 CFR 63.104(b), Permittee shall comply with the requirements of paragraphs 40 CFR 63.104(d)(1) and (d)(2), except as provided in 40 CFR 63.104(e). [40 CFR 63.2490]

40 CFR 63 Subpart SS Requirements

P.7. 40 CFR 63.983 - Closed vent systems
Permittee shall design and operate, at all times emissions are vented to, or collected by, each closed vent system to collect the regulated material vapors from Emission Unit ID. No. 077. The collected regulated material vapors are routed to a Calgon Activated Carbon Bed Vapor Pac Unit. [63.2505(b)(1)]
{Permitting Note: The Hydrogen Plant (Emissions Unit I.D. No. 47) is not regulated under 40 CFR 63 Subpart SS, per the fuel gas exemption in the definition of Batch Process Vent.}

P.8. 40 CFR 63.998 - Recordkeeping requirements
Permittee shall comply with the applicable recordkeeping requirements of 40 CFR 63.998(d). [40 CFR 63.2470]

40 CFR 63 Subpart UU Requirements

P.9. 40 CFR 63.1025 - "Valves in Gas and Vapor Service and In Light Liquid Service Standards"
Except as specified in 40 CFR 63.1021(b), 63.1025(e),or 63.2480, Permittee shall monitor all valves in accordance with 40 CFR 63.1025(b)(1) through (b)(4) and 63.1025(e). If a leak is detected, Permittee shall repair the leak as specified in 40 CFR 63.1024. Permittee shall monitor a repaired valve according to the provisions of 40 CFR 63.1025(d)(2).

P.10. 40 CFR 63.1026 - Pumps in light liquid service standards
Except as provided in 40 CFR 63.1026(e), Permittee shall monitor each pump, associated with Emission Unit ID No. 077, monthly in accordance with 40 CFR 63.1023(b)(1) through (b)(6). If the instrument reading indicates a leak is detected, 10,000 ppmv or more, as specified in 40 CFR 63.2480(b)(5), it shall be repaired using the procedures in 40 CFR 63.1024. In addition, each pump shall be visually inspected for leaks weekly and inspection results shall be recorded in accordance with 40 CFR 63.1026(b)(4). If a leak is visually detected, Permittee shall comply with the provisions of 40 CFR 63.1026(b)(4)(i) and (ii). [40 CFR 63.2480(b)(5)]

P.11. 40 CFR 63.1030 - "Pressure Relief Devices In Gas And Vapor Service Standards"
Except during pressure releases as provided in 40 CFR 63.1030(c) or 63.1030(d), 63.1030(e), 63.1036, or 63.1037, Permittee shall operate each pressure relief device, associated with Emission Unit ID No. 077, with an instrument reading of less than 500 parts per million as measured by the method specified in 40 CFR 63.1023(b) and, as applicable, 40 CFR 63.1023(c). After each pressure release, the pressure relief device shall be returned to a condition indicated by an instrument reading of less than 500 parts per million, as soon as practical, but no later than 5 calendar days after each pressure release, except as provided in 40 CFR 63.1024(d). The pressure relief device shall be monitored no later than five calendar days after the pressure to confirm the condition indicated by an instrument reading of less than 500 parts per million above background, as measured by the method specified in 40 CFR 63.1023(b) and, as applicable, 40 CFR 63.1023(c). Permittee shall record the dates and results of the required monitoring required following a pressure release including the background level measured and the maximum instrument reading measured during the monitoring. [40 CFR 63.2480(a)]

40 CFR 63 Subpart YY Requirements

P.12. 40 CFR 63.1111 - Startup, shutdown, and malfunction
Permittee shall maintain a current startup, shutdown, and malfunction plan in accordance with 40 CFR 63.1111. This plan shall be maintained on-site and available for Department inspection.

40 CFR 63 Subpart FFFF Requirements

P.13. 40 CFR 63.2450 - What are my general requirements for complying with this Subpart?
For each absorber used to control organic compounds with water as a scrubbing fluid, Permittee shall monitor and record flow using a flow meter capable of providing a continuous record of the absorber influent liquid flow. [40 CFR 63.2450(k)(5)(i)]

P.14. 40 CFR 63.2450(p) - General Requirements
Permittee shall only open safety devices, when conditions require opening such devices to avoid an unsafe condition, as defined in 40 CFR 63.2550. [40 CFR 63.2450(p)]

P.15. 40 CFR 63.2460 - What requirements must I meet for batch process vents?
Permittee shall reduce uncontrolled organic HAP emissions from one or more batch process vents within the DME process by venting through a closed-vent system to carbon canisters. Compliance with these emission limitations shall be demonstrated in accordance with all applicable provisions of 40 CFR 63.2460(c).

P.16. 40 CFR 63.2520 - Reporting Requirements
Permittee shall submit each applicable report in Table 11 to 40 CFR 63 subpart FFFF according to the schedule specified in Table 11 and 40 CFR 63.2520(b) of the same subpart unless the Department has approved a different schedule. Each Compliance Report shall contain the information requested by 40 CFR 63.2520(e)((1) through (e)(10), as applicable.

P.17. Recordkeeping Requirements
Permittee shall maintain the records required by 40 CFR 63.252(b),(c),(e), (f), (g), and (j).

P.18. 40 CFR 63.2540 - Applicable Provisions of 40 CFR Part 63
Permittee shall comply with all applicable provisions of 40 CFR 63 subpart A “General Provisions” as provided in Table 12 to 40 CFR 63 subpart FFFF.

The specific conditions in this section apply to the following emissions unit:

ID No.	Emission Unit Description
103	Hydrogen Generating Plant No. 2 – started up in 2013
104	Hydrogen Plant No. 2 Flare – started up in 2013

EU 103 - Hydrogen Generating Plant No. 2: The hydrogen generating plant has a maximum heat input of 160 MMBtu/hour and uses steam methane reforming technology. The furnace (process heater) is fueled by purge gas, uses natural gas as a trim fuel, and has a continuous oxygen trim system. Pressure swing absorbers (PSA's) are used to purify the hydrogen gas; and the purge gas, consisting of CO, methane and hydrogen, which is separated from the hydrogen by the PSA's, is the primary furnace fuel. 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 NO_x burners. This emissions unit is regulated by Rule 62-296.320(4)(b), F.A.C., for visible emissions. The hydrogen plant is equipped with a waste heat recovery boiler. The Hydrogen Plant No. 2 reformer furnace is subject to the requirements of 40 CFR 63, Subpart DDDDD – NESHAP for Industrial, Commercial and Institutional Boilers and Process Heaters, referred to as Major Source Boiler MACT.
The Hydrogen Generating Plant No. 2 reformer furnace meets the definition of process heater as defined by 40 CFR 63.7575.

EU 104 - Hydrogen Generating Plant No. 2 Flare: The hydrogen generating plant flare is used to destroy combustibles during periods of startup, shutdown, and malfunction. The flare has three natural gas pilots, each rated at 150 standard cubic feet of natural gas per hour. During periods of plant startup, shutdown or malfunction of the hydrogen generating plant, combustibles from the hydrogen plant are routed to the flare for destruction.

Essential Potential to Emit (PTE) Parameters

Q.1. Capacity. The maximum allowable operating rate is 160 MMBtu per hour heat input. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permit 0330040-036-AC]

Q.2. Methods of Operation - Fuels. Natural gas and PSA purge gas may be combusted in the furnace. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permit 0330040-036-AC]

Q.3. Hours of Operation. This emissions unit may operate continuously, i.e., 8,760 hours/year. [Rule 62-210.200(PTE), F.A.C. and permit 0330040-036-AC]

Q.4. Emissions Unit Operating Rate Limitation After Testing. See the related testing provisions in Combined Appendices, Appendix TR, Facility-wide Testing Requirements. [Rule 62-297.310(2), F.A.C.]

Equipment Limitations and Standards

Q.5. During periods of plant startup, shutdown or malfunction, the Permittee may divert combustibles from the hydrogen generating plant to the flare for destruction. [Rules 62-4.070(3) and 62-210.200(PTE), F.A.C., and permit 0330040-036-AC]

Emission Limitations and Standards

Unless otherwise specified, the averaging times are based on the specified averaging time of the applicable test method.

Q.6. Visible Emissions. Visible emissions shall be less than 20% opacity. [Rule 62-296.320(4)(b), F.A.C.]

Test Methods and Procedures

Q.7. Visible Emissions. The test method for visible emissions shall be EPA test method 9 (30 minute), incorporated and adopted by reference in Chapter 62-297, F.A.C. [Rule 62-297.401(9), F.A.C.]

Q.8. Common Testing Requirements. Unless otherwise specified, tests shall be conducted in accordance with the requirements and procedures specified in Combined Appendices, Appendix TR, Facility-Wide Testing Requirements, of this permit. Stack tests for VE shall be conducted once before permit renewal, but prior to the permit application renewal due date, such that the stack test report can be submitted with the permit renewal application. [Rule 62-297.310, F.A.C. and permit 0330040-036-AC]]

Recordkeeping and Reporting Requirements

Q.9. Operational Data: The permittee shall maintain records of total heat input rate to the furnace, hourly average heat input rate to the furnace, and quantities of natural gas and PSA purge gas combusted in the furnace and in the flare on a monthly basis. Hourly heat input rate to the furnace shall be averaged monthly over the actual total operating hours for that month. Records of determination of heating value for the natural gas and PSA gas combusted shall also be kept. These records shall be maintained for Department inspection for a period of five years. [Rules 62-210.200(PTE) and 62-4.070(3), F.A.C. and Application 0330040-036-AC]

Q.10. PSD Avoidance - Emissions Reporting. This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (11), F.A.C., for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., this emissions unit is subject to the "Actual Emissions Reporting" provisions in Section 2, Administrative Requirements for NO_X, CO, PM/PM10, PM2.5, VOC and SO_2. [Rule 62-212.300(1)(e), F.A.C., Requested by Permittee to avoid PSD Review, and permit 0330040-036-AC]

40 CFR 63 (NESHAP) Subpart DDDDD

40 CFR 63.7500: What emission limitations, work practice standards, and operating limits must I meet?

Q.11. You must meet each emission limit and work practice standard in Tables 3 to NESHAP Subpart DDDDD that applies to your boiler or process heater. [40 CFR 63.7500(a)(1)]

Q.12. At all times, you must operate and maintain any affected source (as defined in § 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. [40 CFR 63.7500(a)(3)(e)]

Q.13. If your process heater has a continuous oxygen trim system that maintains an optimum air to fuel ratio, and the unit is in the units designed to burn gas 1, you must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540 to demonstrate continuous compliance. [40 CFR 63.7540(a)(12)]

The specific conditions in this section apply to the following emissions units:

E.U. ID	Brief Description
108	Existing Reciprocating Internal Combustion Engines (RICE)

This emission unit consists of five emergency stationary reciprocating internal combustion engines. These RICE each have a rating of less than 500 brake HP, are located at a major source of hazardous air pollutants (HAP), and were constructed before June 12, 2006. Therefore, they are *existing* stationary RICE, pursuant to 40 CFR 63.6590(a)(1)(ii), and must comply with applicable requirements of Table 2c to 40 CFR 63 Subpart ZZZZ (40 CFR 63.6602).

The following table provides important details for this emissions unit:

Facility Location	Engine Type	Mfgr / Model Year	Brake HP	Fuel
No. 6 Fire Pump	Emergency	1964/2004	290	Diesel
No. 5 Fire Pump	Emergency	2004	290	Diesel
Radio Backup Generator	Emergency	2005	27.3	Diesel
Emergency Sump Pump	Emergency	2000	115	Diesel
601 Emergency Generator	Emergency	1978	69	LP

Emission Limitations and Operating Requirements

R.1. The owner or operator of an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions must comply with the applicable emission limitations and operating limitations in Table 2c to 40 CFR 63 Subpart ZZZZ as follows:

1. For Emergency Stationary CI & SI RICE: The Permittee must meet the following requirements:
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first;
   b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

2. During periods of startup you must:
Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.

[40 CFR 63.6602 and Table 2c to 40CFR63 Subpart ZZZZ]

Monitoring of Operations

R.2. If you own or operate stationary RICE at a major source of HAP emissions, you must comply with the monitoring, installation, collection, operation, and maintenance requirements in 40 CFR 63.6625 as follows:

1. If you own or operate existing emergency stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e)]

2. If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

3. If you own or operate a stationary CI engine that is subject to the work, operation or management practices in Table 2c to 40 CFR 63 Subpart ZZZZ, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this Subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this Subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(i)]

4. If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to 40 CFR 63 Subpart ZZZZ or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. [40 CFR 63.6625(j)]

Recordkeeping and Reporting Requirements

R.4. You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan. [40 CFR63.6655(e)]

The Following Appendices Are Enforceable Parts of This Permit:

The Following Appendices Are Enforceable Parts of This Permit:

Combined Appendices.

- Appendix A, Abbreviations, Acronyms, Citations, and Identification Numbers
- Appendix I, List of Insignificant Emissions Units and/or Activities
- Appendix ICE, Requirements for Internal Combustion Engines
- Appendix RR, Facility-wide Reporting Requirements
- Appendix TR, Facility-wide Testing Requirements
- Appendix TV, Title V General Conditions
- Appendix U, Unregulated Emissions Units and/or Activities
- Appendix CAM, General Conditions
- Appendix CAM Plan
- Table A-1, Cogeneration Plant Heat Input
- 40 CFR 60 Subpart A
- 40 CFR 60 Subpart Db
- 40 CFR 60 Subpart Dc
- 40 CFR 60 Subpart G
- 40 CFR 60 Subpart Kb
- 40 CFR 60 Subpart GG
- 40 CFR 60 Subpart VV
- 40 CFR 60 Subpart III
- 40 CFR 60 Subpart NNN
- 40 CFR 60 Subpart RRR
- 40 CFR 60 Appendix B
- 40 CFR 60 Appendix F
- 40 CFR 63 Subpart A
- 40 CFR 63 Subpart F
- 40 CFR 63 Subpart G
- 40 CFR 63 Subpart H
- 40 CFR 63 Subpart SS
- 40 CFR 63 Subpart UU
- 40 CFR 63 Subpart YY
- 40 CFR 63 Subpart FFFF
- 40 CFR 63 Subpart DDDDD
- 40 CFR 63 Subpart ZZZZ
- 40 CFR 64

The following attachments are included for convenient reference:

Referenced Attachments. At End

- FIGURE 1 - Summary Report - Gaseous and Opacity Excess Emission and Monitoring System Performance (40 CFR 60, July, 1996)
- Table H, Permit History
- Time Sensitive Action Chart