

ADEQ MINOR SOURCE AIR PERMIT

Permit #: 813-AR-9

IS ISSUED TO:

Rineco
1007 Vulcan Road
Haskell, AR 72015
Saline County
AFIN: 63-00094

THIS PERMIT IS YOUR AUTHORITY TO CONSTRUCT, MODIFY, OPERATE, AND/OR MAINTAIN THE EQUIPMENT AND/OR FACILITY IN THE MANNER AS SET FORTH IN THE DEPARTMENT'S MINOR SOURCE AIR PERMIT AND YOUR APPLICATION. THIS PERMIT IS ISSUED PURSUANT TO THE PROVISIONS OF THE ARKANSAS WATER AND AIR POLLUTION CONTROL ACT (ARK. CODE ANN. SEC. 8-4-101 ET SEQ.) AND THE REGULATIONS PROMULGATED THEREUNDER, AND IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

Michael Bonds
Chief, Air Division

Date

SECTION I: FACILITY INFORMATION

PERMITTEE:	Rineco
AFIN:	63-00094
PERMIT NUMBER:	813-AR-9
FACILITY ADDRESS:	1007 Vulcan Road Haskell, AR 72015
COUNTY:	Saline
CONTACT POSITION:	Director of Regulatory Affairs - Larry D. Williams, Ph. D.
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UTM North-South (Y):	North 3819.3 km
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	Zone 15

SECTION II: INTRODUCTION

Summary

Rineco Chemical Industries, Inc. (Rineco) owns and operates a facility located at 1007 Vulcan Road in Haskell, Arkansas. This facility processes spent solvents and other waste organic materials for resale as either fuel or recycled solvents. Some of the materials received for processing are regulated as hazardous wastes under the provisions of the federal Resource Conservation and Recovery Act (RCRA). Emissions regulated at this facility include particulate matter (PM), sulfur dioxide (SO₂), volatile organic compounds (VOC), carbon monoxide (CO), oxides of nitrogen (NO_x), hydrogen chloride (HCl), methanol (CH₃OH), and small quantities of HAPs which pass through the thermal oxidizer units.

This modification to the permit is issued in order to allow for changes to two specific conditions of the permit. These conditions are Specific Conditions #38 and #47. SC #38 addresses the operation of a continuous emissions monitoring (CEM) system in the exhaust stack of the container decontamination unit (CDU). This condition is modified with this permitting action to allow for this CEM system to be shut down during periods that the CDU is not in operation. SC #47 addresses the testing requirements for the indirect thermal desorption (ITD) unit thermal oxidizer (SN-10). This condition is modified with this permitting action to clarify how this testing is to be performed on the proposed re-designed ITD unit. The newly proposed condition specifies the same tests and test intervals, but allows for the relocation of the testing points to account for the increase in the number of condensers installed in the exhaust stream for emissions control.

This modification also incorporates the addition of one (1) new insignificant activity, an emergency-use diesel generator for the ITD unit.

There are no changes to any permitted emission limitations with this modification.

Process Description

Rineco receives numerous types of hazardous waste (HW) as a commercial Part B permitted TSD facility. The full extent of HW that can be received are defined in Rineco HW management facility Part A application. Historically, the HW received has been processed into hazardous waste derived fuel to augment the use of natural gas in industrial furnaces and boiler, and primarily cement kilns. Emissions occurring from these operations are restricted to the extent that blended feedstock must meet stringent emissions standards under both the RCRA and air programs when burned as fuel. These restrictions, as they impact Rineco fuel blending operations, include limitations in metals and halogens content.

Upon issuance of this air permit, Rineco will continue HW operations which have been on-going since facility inception. However, the overall operation will be expanded to include the use of

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the HW derived fuel as feedstock in a new gasification facility to be constructed on-site (Pegasus Unit).

HW feedstocks will be received and unloaded at the various unload stations by railcar, tanker truck, dump truck, rolloff and van trucks delivering smaller containers. The feedstock can then undergo a variety of management means depending on the physical and chemical characteristics of the waste present at the facility. These include pumping liquids out of containers, blending in tanks, mechanical shredding, re-containerization or simply placing in storage. Feedstock can then either be fed into the gasifier to produce other products, or manifested off-site for use as industrial fuel. Other materials that are not suitable as feedstock are transported offsite for other disposal methods.

Descriptions of Individual Processes are as follows:

Thermal Oxidation Units -SN-01, SN-02, SN-08 and SN-10:

The thermal oxidation units are used to control VOC emissions from the storage tanks during pumping operations, the process vents, and the vapors that are not condensed from the distillation process overhead. Primary composition of the mixture fed is CO₂ and air with typically less than 0.5% VOC concentration. TOU#106 (SN-02) operates as the main unit rated at 900 cfm vent flow, and TOU#101 (SN-01) and TOU#103 (SN-08) are rated at 300 cfm vent flow each. All TOUs are permitted for continuous duty. The design, operation and maintenance of these are provided for compliance with 40 CFR Part 60, Subpart Kb. The thermal oxidation units will operate at a minimum of 1500 °F and a minimum residence time of 0.75 seconds. TOU #102 is utilized for VOC control from the ITD unit.

Container Decontamination Unit - SN-03

The CDU unit employs a thermal treatment process to remove residual materials from drum type containers. Natural gas burners first volatilize and then oxidize the residual material on the surface of "RCRA empty" containers. Containers are introduced through an air lock into a primary combustion zone, travel down a conveyer, and exit through a second air lock. The temperature in the primary combustion chamber is maintained at 1500 °F.

A secondary combustion chamber is located perpendicular to the Primary chamber. The temperature in the secondary chamber is maintained at 1800 °F by a natural gas burner.

Emissions from the secondary chamber are cooled by a water spray tower, treated with either aqueous ammonia or sodium hydroxide for removal of the HCl, and pass through a baghouse for particulate matter control. The drums can then be crushed for sale as salvaged metal or sent to a drum recycler.

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Pegasus Recycling Unit (SN-05, SN-06, SN-07, and SN-09)

The Pegasus facility is a hazardous waste recycling facility designed to produce chemical products for sale, as well as minerals, metals, sulfur and carbon dioxide.

Bulk and containerized waste is processed through a waste feeder into a gasification process. The feed system is under negative pressure and a CO₂ blanket to eliminate VOC emissions. The gaseous overhead from the waste feeder goes through a bag house for particulate control and then into a thermal oxidation unit TOU-104 (SN-06) for VOC emission control. Waste is first heated in the gasifier pre-heat with electric heating. The waste is then heated to an extremely high temperature in the Gasifier utilizing natural gas in an oxygen enriched but stoichiometrically deficient atmosphere (from an adjacent third party air separation unit). Any organic compounds are decomposed into syngas (a mixture of CO, CO₂, H₂, and H₂O).

Syngas leaving the gasifier is cooled by direct contact with water, scrubbed in an acid wash, and scrubbed in a caustic wash. The syngas is then processed through a sulferox unit where the sulfur compounds are removed and converted to elemental sulfur. Finally, the syngas passes through a carbon bed. Spent carbon beds are recycled to the gasifier.

The syngas then goes through electric motor driven syngas compressors. The compressed syngas is combined with steam from the facility boiler and sent to the shift reactor. The shift reactor converts CO and H₂O into CO₂ and H₂. The majority of the CO₂ is removed by an absorption process utilizing MDEA (methyldiethanolamine) as the absorption media. The CO₂ is utilized throughout the facility as a blanketing media and is sold as a commercial product.

The refined Syngas is again compressed and fed into the methanol synthesis reactor. The methanol products are then cooled and methanol/water mix is removed in a separator. The methanol is purified in a three column distillation train. The overhead from the distillation train is burned in the boiler and the water and other alcohols produced are recycled to the gasifier.

The pure methanol is stored in three storage tanks. The vapors from methanol transfers and loading are routed to the thermal oxidation unit TOU#104 (SN-06).

Fugitive emissions occur when small leaks occur with the equipment handling methanol. The permittee will use double seal pumps, rupture disks for over-pressure protection, and a monthly inspection and maintenance program to minimize fugitive emissions. The fugitive emissions from the methanol production are listed as SN-07.

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A thermal oxidation unit (TOU#105)(SN-09) will be utilized as an emergency relief to protect against upsets to the gasifier. The thermal oxidation unit is equipped with a 10 MMBTU/hr natural gas pilot flow. No emissions from the upsets are contained in this permit. The upset conditions will be reported in accordance with Regulation 18.

Cryogenic Metal Cleaning System (SN-11)

A cartridge filter (SN-11) controls emissions from the cryogenic metal cleaning system.

Boiler

The Pegasus unit includes a 213 MMBTU/Hr (HHV) high heat release boiler (SN-05) subject to 40 CFR 60, Subpart Db New Source Performance Standard. Fuel for the boiler will be natural gas, syngas and other process tail gases and process vents. The boiler is equipped with a low NO_x burner and flue gas recirculation.

Indirect Thermal Desorption Unit (SN-10 and SN-12)

This system is utilized at the facility in order to process the waste streams so that hydrocarbon liquids and metal solids can be recovered from these streams. The ITD system consists of a large, indirectly-heated rotating kiln in which the wastes are delivered for processing. Heat to the kiln is provided by natural-gas fired burner which is nominally rated at 8.0 MMBtu/hr. Exhaust gases from this combustion are vented directly to the atmosphere (SN-12).

This kiln is operated at temperatures up to 750°F. At these high temperatures, any volatile materials present in the waste stream are vaporized. These gases are routed through a system of two direct-contact condensers (V-1, V-2) in order to remove any condensables from the gas stream. The condensed liquids from these exchanges are either recycled back through the condensers as the cooling medium, or delivered to containers for shipment off-site. Uncondensable gases leave the final condenser (V-2) at an approximate temperature of 130°F and are then routed to a thermal oxidizer (SN-10, TOU-102) for VOC control prior to discharge to the atmosphere. This thermal oxidizer has been relocated within the facility in order to control emissions from the ITD system. The second condenser (V-2) is also operated as an acid-gas (HCl) scrubber and has been tested to demonstrate an HCl removal efficiency of 99.9%. A third condenser (HX-1) is installed downstream of the V-2 unit to further cool the exit gas stream if necessary.

The solid waste stream continues downward through the kiln until it reaches a discharge chute at the bottom of the kiln. After discharge from the kiln, the solid waste stream is passed over a powerful magnet in order to remove any iron or steel that may be present. This metal is collected and shipped off-site for further treatment and recycle. The remaining solid waste is retained on-site for blending into waste-derived fuels.

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The facility has proposed to construct a new ITD unit in the winter of 2004/2005 to replace the unit that was initially installed. This new unit (if constructed) will process the same materials for the same purpose (metal reclamation and hydrocarbon recycling) as the initial ITD unit. The proposed new unit will have several differences in the method of operations.

The proposed new ITD unit will utilize a fixed kiln containing a rotating screw which will move the wastes through the unit. This fixed kiln will be heated by a combination of a heat exchange oil, and electrical power. An 8 MMBtu/hr natural gas burner will be utilized to heat the heat exchange oil. Additionally, the proposed new unit will utilize 7 condensers for the purpose of removing hydrocarbons from the gas stream exiting the kiln. The initial ITD unit used only 3 condensers for this purpose. The proposed new condensers have been designated as V-1a, V-1b, V-1c, V-1d, V-1e, V-2, and HX-1. V-2 will continue to serve as a direct-contact water scrubber for the purpose of acid gas removal from the gas stream. One final difference with the proposed new ITD unit is the addition of two additional oil/water separators, resulting in a total of three such separators in operation in the ITD process. The proposed new ITD unit will continue to vent exhaust gas to TOU-102 (SN-10).

The proposed new ITD process will be operated at a temperature of approximately 1100°F, and will be subject to the same permit requirements as the former process if it is installed. Due to the great degree of similarity between the two processes, no emissions changes are anticipated as a result of the ITD system replacement.

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Regulations

This facility is currently subject to regulation under the *Arkansas Air Pollution Control Code* (Regulation 18), and the *Arkansas State Implementation Plan for Air Pollution Control* (Regulation 19). The Pegasus project boiler (SN-05) is subject to 40 CFR 60, Subpart Db - *Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units*. The methanol production facility is subject to 40 CFR 60, Subpart VV - *Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industries*, 40 CFR 60, Subpart NNN - *Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemicals Manufacturing (SOCMI) Distillation Operations*, and 40 CFR 60, Subpart RRR - *Standards of Performance for Volatile Organic Compound (VOC) Emissions from Synthetic Organic Chemicals Manufacturing (SOCMI) Reactor Processes*. The hazardous waste storage tanks and methanol storage tanks are subject to 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 aft July 23, 1984*, and 40 CFR 61, Subpart V - *National Emission Standard for Equipment Leaks (Fugitive Emission Sources)*.

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The following table is a summary of the facility's total emissions.

TOTAL ALLOWABLE EMISSIONS		
Pollutant	Emission Rates	
	lb/hr	tpy
PM	4.2	16.6
PM ₁₀	4.2	16.6
SO ₂	1.9	5.7
VOC	7.6	31.8
CO	15.6	66.4
NO _x	18.2	79.4
Lead	0.1	0.1
HCl	0.83	3.64
Methanol*	1.60	7.0
TOTAL Other VHAP*	1.73	7.52
Mercury	0.17	0.72

* - These HAPs are also VOCs and included in VOC limits

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SECTION III: PERMIT HISTORY

Permit No. 813-A was issued to Production Fuels of Arkansas, Inc. on August 13, 1987. The permit contained no criteria pollutant emission limits. The permit listed a distillation system and tank farm both to be operated with carbon absorbers or other suitable control equipment.

Permit No. 813-AR-1 was issued on March 14, 1990 with the ownership changed from Production Fuels of Arkansas, Inc. to Rineco Chemical Industries, Inc. The permit contained no criteria pollutant emission limits. The permit listed a distillation unit (steam boiler listed as SN-02) and a closed vent system with thermal oxidation unit (SN-01) used as a control device on the tanks. The permit allowed the construction of the barrel decontamination unit (SN-03) and a new tank farm consisting of sixteen 30,000 gallon storage tanks. A performance test was required for the barrel decontamination unit (BDU) (SN-03) within 180 days of completion. The drum feed rate was restricted to 50 drums per hour.

Permit No. 813-AR-2 was issued to Rineco Chemical Industries, Inc. on October 23, 1992. The permit contained no criteria pollutant emission limits. This permit acknowledged that construction of the new tank farm authorized in the previous permit was delayed due to not receiving a RCRA Part B Permit.

Permit No. 813-AR-2 was issued to Rineco Chemical Industries, Inc. on September 3, 1997. Criteria pollutant emission limits were listed for the first time in this permit. Permit modifications consisted of adding a spray tower to the barrel decontamination unit to control emissions (principally HCl), increase the allowed barrel feed rate to 75 per hour, and authorized a standby thermal oxidation unit for use when the original unit is down. Emission limits were: PM/PM₁₀ - 1.3 tpy, SO₂ - 1.3 tpy, VOC - 1.8 tpy, CO - 6.6 tpy, NO_x - 25.4 tpy and HCl - 0.9 tpy.

Permit No. 813-AR-4 was issued to Rineco Chemical Industries on March 30, 1999. The major change from the previous permit was the permit for the construction and operation of a new industrial recycling process (Pegasus) which converts industrial waste into carbon dioxide, ammonia and metal salts. Permit limits were: PM/PM₁₀ - 4.9 tpy, SO₂ - 3.0 tpy, VOC - 6.2 tpy, CO - 22.4 tpy, NO_x - 98.9 tpy, and HCl - 2.2 tpy.

Permit No. 813-AR-5 was issued to Rineco Chemical Industries on November 15, 2000. This permit modification was issued to make the following changes to the air permit for this facility:

1. The addition of a third vapor incinerator - thermal oxidizer unit TOU #103, previously utilized strictly as a standby unit in case of failure of TOU #101 or TOU#102. This stack emission was noted as SN-08.
2. Changes to the previously permitted industrial process named Pegasus by Rineco, to

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allow for the production of methanol and carbon dioxide from hazardous waste feedstock rather than the previously permitted ammonia and carbon dioxide products. This process now incorporated four stack emissions, as follows:

- a. SN-05 - Pegasus Facility Plant Boiler Stack remains similar to previously proposed with modification to previously calculated emission values.
 - b. SN-06 - Stack emissions from a thermal oxidation unit (TOU-104) utilized for the control of potential emissions from production facility feed systems and methanol product loading.
 - c. SN-07 - Fugitive emissions, primarily methanol, from equipment utilized for the production of methanol.
 - d. SN-09 - Stack emissions from an emergency thermal oxidation unit (TOU-105) utilized for control of potential emergency releases from the gasification unit. This device is being permitted due to the natural gas pilot maintained in case of the need for the device.
3. The Container Decontamination Unit (SN-04) was expected to remain in operation, rather than be closed. The facility remained a minor source with the CDU operating due to reductions in NO_x at the Pegasus facility stack.

Permit No. 813-AR-6 was issued to Rineco Chemical Industries on March 29, 2000. This permit was issued because Permit No. 813-AR-5 was issued without a Response to Comments. Permit limits listed were: PM/PM₁₀ - 14.7 tpy, SO₂ - 5.5 tpy, VOC - 30.3 tpy, CO - 63.0 tpy, NO_x - 73.7 tpy, HCl - 2.19 tpy, Methanol - 9.50 tpy, and other HAP - 6.25 tpy.

Permit No. 813-AR-7 was issued to Rineco on February 21, 2002. This modification to the permit was issued to incorporate the following changes to the permit:

1. Addition of SN-11, a vent off the cryogenic metal cleaning system with a proposed emission limit of 0.1 tpy PM/PM₁₀.
2. Make two changes in the process flow sheets which cause no increase in emission limits.
3. Add a fourth thermal oxidizer unit (TOU) (SN-10) to the facility.
4. Reduce the flow limit on water to the CDU spray tower.
5. Change the monitoring differential pressure limits on the CDU spray tower.
6. Remove the requirement for a HCl CEMS on the emissions from the CDU unit.

These changes resulted in increases in permitted emissions of: 1.6 tpy PM/PM₁₀, 0.1 tpy SO₂, 3.5 tpy VOC, 0.5 tpy CO, 2.2 tpy NO_x, and 3.44 tpy of total HAPs.

Permit No. 813-AR-8 was issued to Rineco on July 19, 2004. This modification to the permit is issued in order to allow for the installation of the new Indirect Thermal Desorption (ITD) system for the processing of waste material at the facility. The addition of this new unit resulted in increases in permitted emissions of: 0.3 tpy PM₁₀, 0.1 tpy SO₂, 2.9 tpy CO, 3.5 tpy NO_x, 0.1 tpy

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lead, 0.72 tpy mercury, and 1.45 tpy hydrogen chloride (HCl). Due to changes in the method of calculation of methanol fugitive emissions, as well as changes to the useage of the SN-10 thermal oxidizer, permitted methanol emissions decreased by 2.5 tpy and emissions of VOC decreased by 4.0 tpy.

SECTION IV: EMISSION UNIT INFORMATION

Specific Conditions

- Pursuant to §19.501 et seq of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control, effective February 15, 1999 (Regulation 19) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Hourly and yearly pollutant limits for the thermal oxidizer units (SN-01, SN-02, SN-06, SN-08, SN-09 and SN-10), the CDU (SN-03), the cryogenic metal cleaning system filter (SN-11), and the vacuum truck (SN-04) are based on maximum capacity. The hourly and yearly limit for the methanol fugitives (SN-07) are based on the NSPS practices in Specific Condition No. 17. Compliance with the CEM monitoring required in Specific Condition No. 10 will be accepted as compliance for SN-05.

SN	Description	Pollutant	lb/hr	tpy
01	Thermal Oxidation Unit (TOU-101)	PM ₁₀	0.2	0.6
		SO ₂	0.1	0.1
		VOC	0.3	1.2
		CO	0.1	0.3
		NO _x	0.3	1.1
02	Thermal Oxidation Unit (TOU-106)	PM ₁₀	0.4	1.5
		SO ₂	0.1	0.1
		VOC	0.8	3.5
		CO	0.2	0.5
		NO _x	0.5	2.2
03	Container Decontamination Unit	PM ₁₀	0.9	3.9
		SO ₂	0.1	0.1
		VOC	0.2	0.9
		CO	1.2	5.1
		NO _x	4.6	20.2
04	Vacuum Truck	VOC	0.2	0.5
05	Recycle Gasification Plant Boiler Stack - Low NO _x Burner & Flue Gas Recirculation	PM ₁₀	1.5	6.6
		SO ₂	1.1	4.8
		VOC	1.1	4.8
		CO	7.7	33.7
		NO _x	10.2	44.8
06	Recycle Gasification Plant Thermal Oxidizer Unit (TOU-104)	PM ₁₀	0.3	1.1
		SO ₂	0.1	0.1
		VOC	0.7	2.7
		CO	1.7	7.1
		NO _x	0.3	1.3

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SN	Description	Pollutant	lb/hr	tpy
07	Methanol Process Fugitive Emissions	VOC	1.6	7.0
08	Thermal Oxidation Unit (TOU-103)	PM ₁₀	0.2	0.6
		SO ₂	0.1	0.1
		VOC	0.3	1.2
		CO	0.1	0.3
		NO _x	0.3	1.1
09	Emergency Thermostatic Thermal Oxidizer Unit Stack (TOU-105)	PM ₁₀	0.1	0.4
		SO ₂	0.1	0.2
		VOC	1.4	6.0
		CO	3.7	16.0
		NO _x	0.7	3.0
10	ITD Unit Thermal Oxidizer (TOU-102)	PM ₁₀	0.4	1.5
		SO ₂	0.1	0.1
		VOC	0.3	1.3
		CO	0.2	0.5
		NO _x	0.5	2.2
		Lead	0.1	0.1
11	Cryogenic Metal Cleaning System Filter	PM ₁₀	0.1	0.1
12	Indirect Thermal Desorption (ITD) Unit - Natural Gas Burner Exhaust	PM ₁₀	0.1	0.3
		SO ₂	0.1	0.1
		VOC	0.1	0.2
		CO	0.7	2.9
		NO _x	0.8	3.5

2. Pursuant to §18.801 of the Arkansas Air Pollution Control Code, effective February 15, 1999 (Regulation 18) and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not exceed the emission rates set forth in the following table. Hourly and yearly pollutant limits for the thermal oxidizer units (SN-01, SN-02, SN-06, SN-08, SN-09 and SN-10), the CDU (SN-03), the cryogenic metal cleaning system filter (SN-11), and the vacuum truck (SN-04) are based on maximum capacity. The hourly and yearly limit for the methanol fugitives (SN-07) are based on the NSPS practices in Specific Condition No. 17. Compliance with the CEM monitoring required in Specific Condition No. 10 will be accepted as compliance for SN-05. The Total HAP listed for each thermal oxidation assumes that all VOC (which is listed at maximum capacity) is HAP.

SN	Description	Pollutant	lb/hr	tpy
01	Thermal Oxidation Unit (TOU-101)	PM	0.2	0.6
		TOTAL VHAP*	0.27	1.17

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SN	Description	Pollutant	lb/hr	tpy
02	Thermal Oxidation Unit (TOU-106)	PM TOTAL VHAP*	0.4 0.79	1.5 3.44
03	Container Decontamination Unit	PM HCl	0.9 0.50	3.9 2.19
04	Vacuum Truck	TOTAL VHAP*	0.11	0.46
05	Recycle Gasification Plant Boiler Stack	PM	1.5	6.6
06	Recycle Gasification Plant Boiler Stack - Low NO _x Burner & Flue Gas Recirculation	PM	0.3	1.1
07	Methanol Process Fugitive Emissions	Methanol	1.60	7.00
08	Thermal Oxidation Unit (TOU-103)	PM TOTAL VHAP*	0.2 0.27	0.6 1.17
09	Emergency Thermoselect Thermal Oxidizer Unit Stack (TOU-105)	PM	0.1	0.4
10	ITD Unit Thermal Oxidizer (TOU-102)	PM HCl TOTAL VHAP* Mercury	0.4 0.33 0.29 0.17	1.5 1.45 1.28 0.72
11	Cryogenic Metal Cleaning System Filter	PM	0.1	0.1
12	Indirect Thermal Desorption (ITD) Unit - Natural Gas Burner Exhaust	PM	0.1	0.3

* - TOTAL VHAP can be a mixture of any of the following and other unlisted volatile organic HAPs if the product of multiplying the pound per hour rate times 4.38 is less than the listed relative toxicity for the unlisted HAP:

Pollutant	CAS No.	Relative Toxicity
Ethylbenzene	100-41-4	1.0
Methylene Chloride	75-09-2	1.0
Methyl Ethyl Ketone	78-93-3	1.0

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Pollutant	CAS No.	Relative Toxicity
Styrene	100-42-5	0.1
Toluene	108-88-3	1.0
Xylene	1330-20-7	1.0

3. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, visible emissions shall not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9.

SN	Limit	Regulatory Citation
01	5%	§18.501
02		
03		
05		
06		
08		
09		
10		
11		
12		

4. Pursuant to §18.801 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not cause or permit the emission of air contaminants, including odors or water vapor and including an air contaminant whose emission is not otherwise prohibited by Regulation #18, if the emission of the air contaminant constitutes air pollution within the meaning of A.C.A. §8-4-303.
5. Pursuant to §18.901 of Regulation 18, and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not conduct operations in such a manner as to unnecessarily cause air contaminants and other pollutants to become airborne.
6. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not burn more than 2,056,550 MCF of natural gas fuel per consecutive 12 month period.
7. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain monthly records which demonstrate compliance with Specific Condition No. 6. Records shall be updated by the fifteenth day of the month

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following the month to which the records pertain. These records shall be kept on site, and shall be made available to Department personnel upon request.

Pegasus Unit Requirements

8. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, natural gas shall be the only fuel used at the facility except for in-plant recycle streams being charged to the Pegasus Recycling System Boiler.
9. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the Pegasus Unit, except for the feed system which includes the shredders, shall be operated with no detectable emissions as indicated by an instrument reading of less than 500 parts per million (ppm) of VOC above background and visual inspections. This test shall be completed within 30 days of the start of Pegasus Unit operation and monthly thereafter. The test interval can be lengthened to 60 days if a continuous 6 months of tests are negative (less than 500 ppm detected) and to 90 days if a continuous one years tests are negative. Best management practices shall be utilized in the feed system to minimize VOC emissions. The permittee shall evaluate VOC emissions from the feeder system and report the typical actual increase of ppm VOC over background within 6 months of the Pegasus System commencing operation.
10. Pursuant to §19.304 of Regulation 19 and 40 CFR 60 , Subpart Db, the permittee shall maintain and operate a continuous stack gas analyzer system that measures NO_x (lb/hr), CO (lb/hr), O₂ (Volume % dry), SO_x (lb/hr), Total Hydrocarbons (lb/hr), Total Organic Compounds (less methane and ethane) (ppmv), and temperature (°F) in the Gasification Plant Boiler Stack (SN-05). This system shall be maintained in accordance with Appendix A - Continuous Emission Monitoring System Conditions.
11. Pursuant to §19.304 of Regulation 19 and 40 CFR 60 , Subpart Db, within 60 days after achieving the maximum production rate at which the Pegasus Unit will be operated, but not later than 180 days after initial startup of the Pegasus Unit, the permittee shall complete an initial compliance test (using test Method 7E) as described in 40 CFR §60.8 to certify that the Gasification Plant Boiler Stack (SN-05) meets the nitrogen oxide standard of 40 CFR §60.44b. The boiler shall be operating at 90% of rated capacity with the methanol plant operating at 90% of capacity when tested. The Department shall be provided 15 days written notice of the test schedule. This notification shall be addressed to the Air Division: Compliance Inspector Supervisor. Test reports shall be provided of the test results within 90 days of completion of the test.
12. Pursuant to §19.304 of Regulation 19 and 40 CFR 60 , Subpart Db, the Distributive Control System (DCS) (or a manual system which provides similar data) shall be programmed to calculate and record the following information each operating day for the Gasification Plant Boiler Stack (SN-05):

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- a. Calendar Date
 - b. The hours of operation of the boiler.
 - c. The average hourly nitrogen oxides emission rates (expressed as NO₂)(lb/million BTU heat input) measured.
 - d. The 30-day average nitrogen oxides emission rates (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.
 - e. Identification of the steam generating unit operating days when the calculated 30-day average are in excess of 0.2 lb/million BTU, with the reasons for such excess emissions as well as a description of corrective action taken.
 - f. Other information recording required in 40 CFR §60.49b(g).
13. Pursuant to §19.304 of Regulation 19 and 40 CFR 60 , Subpart Db (40 CFR §60.49b(h)), the permittee shall submit a quarterly report of excess nitrogen oxide emissions from the Gasification Plant Boiler Stack (SN-05). If there are no excess emissions during the calendar quarter, the permittee shall submit a report semiannually stating that no excess emissions occurred during the semi-annual reporting period.
 14. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.662(a), volatile organic compound emissions from the Gasification Plant Boiler Stack (SN-05) shall not exceed a concentration of 20 ppmv of total photochemical reactive organic compounds (total TOC less ethane and methane) or the boiler shall reduce emissions of total photochemical reactive organic compounds (total TOC less ethane and methane) by 98%.
 15. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.662(c) and 40 CFR 702(c), the Distributive Control System (DCS) (or a manual system which provides similar data) shall be programmed to calculate and record the off-gas flow to the boiler and to the emergency flare from the methanol reactor and the methanol distillation process.
 16. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.665(b)(2)(i), the off-gas from the methanol process streams shall be fired in the burner with the regular natural gas fuel to the Gasification Plant Boiler as shown in the permit application. The Department shall be notified if the actual location where these gases are introduced into the boiler is changed.
 17. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.480 through 40 CFR 489, the permittee shall establish a fugitive emissions minimization program for the Pegasus unit (and its associated methanol plant) based on the provisions of NSPS - Subpart VV (Appendix D) monitoring for leaks, repairing the leaks found, and providing the department with semi-annual reports of the program. This program shall be started when the Pegasus unit starts operation and shall demonstrate compliance with § 60.482-1 to § 60.482-10 within 180 days of initial startup. The semi-annual report will be submitted which satisfies

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the requirements of § 60.487. The permittee shall maintain on the site a copy of the program, test results, and repair history which shall be made available to the Department inspector upon request. Some of the requirements of the NSPS are as follows:

Equipment	Requirements
Pumps	Shall be visually inspected for liquid dripping from pump seals and a measured instrument reading of less than 500 ppm VOC - weekly
	Leaks shall be repaired as soon as practical but not later than 15 days after detected
	A first repair attempt shall be made within 5 days
Compressors	Shall be equipped with a barrier fluid type seal
	Stuffing box barrier fluid pressure shall be greater than the compressor pressure at the stuffing box
	Vents from the barrier fluid system shall be fully contained with zero VOC emissions to the atmosphere
	The system shall be equipped with a barrier fluid system failure alarm.
	Leaks shall be repaired as soon as practical but not later than 15 days after detected
	A first repair attempt shall be made within 5 days
Sampling connection systems	each sampling connection system shall be equipped with a closed-purged, closed-loop or closed vent system which will result in zero VOC emissions to the atmosphere
Open end valves or lines	each open end valve or line shall either be equipped with a semi-permanent mechanical closing device or a double-block-and-bleed system.
Valves	each valve shall be monitored monthly
	if an instrument reading greater than 10,000 ppm VOC is measured then a leak is detected
	Any valve for which no leak is detected for 2 months can have its monitoring period extended to quarterly

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Equipment	Requirements
	If a leak is detected, the valve shall be returned to monthly monitoring
	Leaks shall be repaired as soon as practical but not later than 15 days after detected
	A first repair attempt shall be made within 5 days

18. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, within 60 days after achieving the maximum production rate at which the Pegasus Unit will be operated, but not later than 180 days after initial startup of the Pegasus Unit, the permittee shall conduct a performance test for PM, HCl, Methanol, and total dioxin and furan emissions on the Gasification Plant Boiler Stack (SN-05). The boiler shall be operating at 90% of rated capacity with the methanol plant operating at 90% of capacity when tested. The results of this test shall be used to verify compliance with the emission limits contained herein. The Department must be given formal notification to perform this test at least 15 days prior to testing. This notification shall be addressed to the Air Division: Compliance Inspector Supervisor. This notification must include a description of a proposed test protocol that addresses the test requirements contained herein. As part of the performance test, the Permittee shall monitor and continuously record the oxygen, carbon dioxide, and carbon monoxide concentrations that are present in the exhaust stack. The resulting data shall be submitted as part of the stack test report submitted within 90 days of completion of the test.
19. Pursuant to §19.703 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall monitor the emergency flare operation including an ultrasonic flow meter (or other similar reliable flow measurement device) measuring mass flow to the flare. The distributive control system (or a manual system which provides similar data) shall log each event where the emergency flare is utilized including the time the flaring started, length of time of each flaring, and mass quantity of materials to the flare. The upset condition reporting procedures outlined in Section 19.601 of Regulation 19 shall be followed when applicable.
20. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the distributive control system for the Pegasus Unit shall be equipped with an interlock which stops feed to the gasifier any time all of the syn gas from the gasifier is being used for other than the manufacture of methanol (i.e. totally burned in boiler, flare and oxidizer).
21. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not operate the Pegasus Unit gasification system without the methanol and carbon dioxide plants in service except for the start-up and shutdown

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allowances in Regulation 19. The distributive control system (or a manual system which provides similar data) shall log the periods of time the gasification system is operating without the methanol and carbon dioxide plants. The reporting procedures for upset conditions outlined in Section 19.601 of Regulation 19 shall be followed when applicable.

22. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the feed material charged to the Pegasus Unit gasification system shall not contain more than 100 ppm of each of the following metals and their metal salts : beryllium & mercury.
23. Pursuant to §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall conduct an initial compliance stack test of the Recycle Gasification Plant Boiler Stack (SN-05) for antimony, cadmium, chromium, cobalt, lead, manganese, nickel, and selenium to demonstrate that emissions of these individual HAPs are below de minimis levels (the hourly emission rate in lbs/hr times 4.38 is less than the relative toxicity for each compound). The stack test will be conducted when the Pegasus Unit is operating at 90% or greater of rated capacity and is processing a typical high metals containing waste. A complete data sheet for operating parameters of the “synthesis gas clean up train”(i.e. Quench tower; acid wash; caustic wash; particulate scrubber ; Sulferox Unit) such as liquid flow rates to scrubbers, pressure drop across scrubbers, etc. shall be recorded during the test to establish operating parameters for the “cleanup train”. The stack test shall be repeated every 5 years except should the facility fail the test then it must be repeated every year. After two years of successfully passing the stack test, the test period will go back to every 5 years.
24. Pursuant to §18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall establish a record keeping system in the Distributive Control System or a manual system that measures and records the operating parameters in the “synthesis gas cleanup train” to verify that this control system is being properly operated to demonstrate compliance with the particulate and HAP metals emission rates from the Recycle Gasification Plant Boiler Stack (SN-05). A written copy of these records and parameters shall be kept on site and made available to Department personnel upon request.
25. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the Pegasus Unit shall not be operated without all of the processes in the “synthesis gas cleanup train” operating properly.
26. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, before startup of the Pegasus Unit, the permittee shall submit to the department and maintain on site, documentation demonstrating that emissions of individual HAPs are below de minimis levels (the emission rate in lbs/hr times 4.38 is less than the relative toxicity for each compound).

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27. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the feed material charged to the Pegasus Unit gasification system shall not contain more than 100 ppm PCB's (total concentration of polychlorinated dibenzodioxin and polychlorinated dibenzofuran).
28. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the vitrified mineral and metal product, metal hydroxides, and mixed salts generated in the Pegasus Unit process shall be disposed of in a manner that is consistent with applicable solid waste management codes and regulations.
29. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the Pegasus Feed System Vent shall be operated utilizing the Thermal Oxidizer Unit (TOU-104) and either of the Pegasus Feed System Baghouses (Baghouse 201 or Baghouse 202) operating as control devices. The Gasification Plant distributive control system (or a manual records system which provides similar data) shall be programmed to monitor and record the time intervals the feed system is operated without the control devices in service. Reporting of occurrences of the feed system operating without a control device shall be handled in accordance with the provisions of Section 19.601 of Regulation 19.
30. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall monitor the differential pressure across the filter media on the Pegasus Feed System Baghouses (Baghouse 201 or Baghouse 202) to determine that the filters are neither clogged (high differential pressure) or ruptured (low differential pressure). The permittee shall log any unusual measured differential pressures and the corrective measures taken to fix the problem(s). The permittee shall read and record these differential pressures at least twice weekly while the Pegasus Feed System Baghouses are in operation.
31. Pursuant to §19.304 of Regulation 19 and 40 CFR Part 52, Subpart E, the permittee shall maintain records in accordance with ADPC&E Regulation 23, Section 264.1064(m), and the Hazardous Waste Management Part B permit issued by the Arkansas Department of Pollution Control and Ecology. Compliance with this permit condition will assure that the facility is exempt from the provisions of 40 CFR Part 61 Subpart V - Equipment Leaks (Fugitive Emission Sources of VHAP).
32. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall not emit in excess of 10 tons per year on a rolling 12 month total basis of any single hazardous air pollutant (HAP) or in excess of 25 tons per year on a rolling 12 month total basis of any combinations of HAPs. The permittee shall not emit any single HAP except those named in Specific Condition No. 2 of this permit in quantities such that the instantaneous lb/hr emission rate multiplied by 4.4 exceeds the relative toxicity rating.

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SN-03 Conditions

33. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, containers received for the purpose of processing in the CDU without other recovery processing shall be empty, as defined in 40 CFR 261.7 (“RCRA Empty”) upon receipt. Only containers that are “RCRA empty”, as defined in 40 CFR 261.7, shall be processed in the CDU.
34. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, The CDU primary chamber temperature shall be maintained at, or above, a minimum temperature of 1500 ° F. The CDU secondary chamber temperature shall be maintained at, or above, a minimum temperature of 1800 ° F. The CDU secondary chamber temperature shall be monitored and continuously recorded at all times the CDU is in operation.
35. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, a liquid flow measurement device shall be maintained at the liquid feed of the spray tower. The temperature of the gas exiting the CDU spray tower shall be maintained between 250 ° F and 550 ° F by controlling the liquid flow to the spray tower. This flow shall be maintained between two (2) and sixteen (16) gallons per minute. If the flow controller is unable to maintain a liquid flow rate of at least two (2) gallons per minute, the process must be shutdown and it shall be necessary to inspect the spray tower and the liquid feed system and make necessary repairs.
36. Pursuant to §19.703 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall install, maintain and operate a differential gas pressure measurement device on the spray tower. The differential pressure shall be maintained between zero (0) and five (5) inches of water (shall have a positive reading). The permittee shall read and record this differential pressure at least twice weekly while the CDU is in operation. These records shall be updated weekly for the previous week, maintained at the facility, and be made available to Department personnel upon request.
37. Pursuant to §19.703 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall install, maintain and operate a differential gas pressure measurement device between the inlet and outlet of the CDU baghouse. The differential pressure measured across the baghouse shall be maintained between one (1) and (8) eight inches of water. The permittee shall read and record this differential pressure at least twice weekly while the CDU is in operation. These records shall be updated weekly for the previous week , maintained at the facility, and be made available to Department personnel upon request.

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38. Pursuant to §19.703 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain and operate a continuous stack gas analyzer system that measures the dry oxygen and carbon monoxide concentrations in the stack gas exiting the CDU. The stack gas analyzer shall prevent the introduction of containers to the primary chamber when: the oxygen concentration falls below 4% or; the carbon monoxide concentration exceeds 100 ppm. This system is only required to be in operation during those times that the CDU is in operation. The analyzer system shall be brought online prior to the introduction of any containers into the CDU, and shall remain in operation for a period of 8 hours after the CDU is no longer in operation. At no time shall the CDU be operated without a functional stack gas analyzer system. This system shall be maintained in accordance with Appendix A - Continuous Emission Monitoring System Conditions.
39. Pursuant to §18.1003 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the particulate emission rate from the CDU exhaust stack (SN-03) shall not exceed 0.08 grains of particulate matter per standard cubic foot of dry flue gas corrected to 7% oxygen. SN-03 will be stack tested using EPA Test Method 1 through 5 within 90 days of March 30, 2004 to reconfirm it meets this Specific Condition and shall be retested every 5 years thereafter.
40. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, all bottom ash that is generated in the CDU shall be disposed of in a manner that is consistent with applicable solid waste management codes and regulations. Treated containers will be conditioned for reuse, recycled as scrap, or disposed of as solid waste.

Indirect Thermal Desorption System Requirements (SN-10 and SN-12)

41. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the maximum solid waste feed rate to the ITD rotary kiln shall not exceed 16,000 lb/hr.
42. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain daily records of solid waste feed into the ITD unit which demonstrate compliance with Specific Condition #41. These records shall be updated daily, maintained on-site, and shall be made available to Department personnel upon request.

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43. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall maintain monthly records of the total mass (or volume) of hydrocarbons recovered from the ITD system. Each individual month's data as well as a rolling 12-month total shall be maintained on-site and shall be made available to Department personnel upon request. The Department reserves the right to determine whether this unit qualifies as a recycling process based on this data.
44. Pursuant to §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the monthly average total halogen content of the solid waste material fed into the ITD unit shall not exceed 2.0% by weight. The facility shall conduct testing on the solid waste material as it is received to determine total halogen content. The results of each individual test, as well as the monthly average total halogen content shall be maintained on-site and shall be made available to Department personnel upon request.
45. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the outlet temperature of the V-2 scrubber/condenser shall not exceed 130°F at any time. A continuous temperature recording device shall be used to maintain records of the operating temperature of this stream. These temperature readings shall be maintained on-site and shall be made available to Department personnel upon request.
46. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the ITD unit thermal oxidizer (SN-10) shall be operated at a temperature of at least 1500°F at all times. A continuous temperature recording device shall be used to maintain records of the operating temperature of this unit. These temperature readings shall be maintained on-site and shall be made available to Department personnel upon request.
47. Pursuant to §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee shall conduct performance testing on the scrubber/condenser system every three years. The next test shall be conducted no later than June 9, 2006, and shall be repeated every three years thereafter. If the ITD unit is replaced with a newly designed unit as proposed by the facility, then the new scrubber/condenser system shall be tested within 60 days from the date that the new ITD unit reaches full production, but not later than 180 days after initial start-up. This testing shall verify that the HCl removal efficiency of this unit remains at or above 99.9% by weight. The efficiency shall be determined by performing two US EPA Reference Method 26A tests, or other test method approved in advance by the Department. One test shall be sampled from a point upstream and as close as possible to the inlet of the first scrubber/condenser, and the other test shall be sampled from a point downstream and as close as possible to the outlet of the final scrubber/condenser. This testing shall be performed while the ITD unit is processing solid waste material with a known chlorine content of at least 1.0% by weight. The results of this test shall be maintained on-site, and shall be submitted to the Department in accordance with General Condition #6.

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The permittee may elect to calculate the inlet mass flow rate of total chlorine instead of performing the inlet HCl testing. If this method is used, the permittee shall provide a copy of this calculation as well as any supporting information to the Department along with the testing report. If both inlet and outlet testing are performed, then the HCl removal efficiency shall be determined by equation (1) below. If the permittee elects to calculate the inlet mass loading of total chlorine instead of performing the inlet testing, then the HCl removal efficiency shall be determined by equation (2) below.

Equation 1:
$$\frac{(\text{inlet HCl concentration} - \text{outlet HCl concentration})}{\text{inlet HCl concentration}}$$

Equation 2:
$$\frac{(\text{calculated inlet HCl mass flow rate} - \text{measured outlet HCl mass flow rate})}{\text{calculated inlet HCl mass flow rate}}$$

48. Pursuant to §19.702 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, within 60 days of startup of the ITD unit the permittee shall conduct an initial performance test to measure VOC emissions from the ITD Unit Thermal Oxidizer (SN-10) exhaust stack. This test shall be conducted in accordance with US EPA Reference Method 25A. The results of this test shall be converted to a lb/hr emission rate for the purposes of determining compliance with the VOC emission limitations contained in Specific Condition #1. The results of this test shall be maintained on-site and shall be made available to Department personnel upon request. The results of this test shall be submitted to the ADEQ Air Division Enforcement Branch at the address listed in General Condition #6. This testing was performed by the facility in 2003.
49. Pursuant to §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, within 60 days of startup of the ITD unit the permittee shall conduct an initial performance test to determine if any dioxin and/or furan emissions are generated from the ITD Unit Thermal Oxidizer (SN-10) exhaust stack. This test shall be conducted in accordance with US EPA Reference Method 23. No detectable dioxin and/or furan emissions are permitted from this source. This testing shall be performed while the ITD unit is processing solid waste material with a known chlorine content of at least 1.0% by weight. The results of this test shall be maintained on-site and shall be made available to Department personnel upon request. The results of this test shall be submitted to the ADEQ Air Division Enforcement Branch at the address listed in General Condition #6. This testing was performed by the facility in 2003.

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50. Pursuant to §19.705 of Regulation 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, the permittee may construct and operate a new ITD process as described in the process description of this permit. Under no circumstances shall the existing ITD process remain in operation beyond the start-up date of the new process. The new ITD process shall comply with all of the conditions which were applicable to the old process, and which are found in Specific Conditions #41-47 of this permit.

NSPS Requirements

51. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.116b(b), the permittee shall keep readily accessible records showing the dimensions of all storage tanks subject to 40 CFR 60, Subpart Kb (the eight (8) new tanks that will be installed in the new Building 200 Storage Facility, and the methanol storage tanks) and an analysis showing the capacity of each storage tank. These records shall be maintained for the life of the facility. 40 CFR 60, Subpart Kb is attached as Appendix C.
52. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.112b(3) (i), all VOC vapors and gases discharged from all regulated storage tanks (the eight (8) new tanks that will be installed in the new Building 200 Storage Facility, and the methanol storage tanks) shall be routed to the Thermal Oxidation Units via the closed vent system. Where referred to in this permit, *closed vent system* is defined as “the system composed of piping, connections, and flow inducing devices that are used to transport gas or vapor to the TOUs.”
53. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.112b(a)(3) (ii), the permittee shall submit documentation that the TOUs operate with a minimum residence time of 0.75 seconds and a minimum temperature of 816° C (1500 °F). These temperatures shall be monitored and continuously recorded at all times the TOUs are in operation.
54. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.113b(c)(1) (ii), the permittee shall submit an operating plan that contains a description of the parameter or parameters to be monitored to ensure that the system will be operated in conformance with its design and an explanation of the criteria used for selection of that parameter (or parameters). A copy of the operating plan shall be kept on site by the Permittee for the life of the system. The operating plan must be approved by ADEQ and the Department reserves the right to make changes to the operating plan as indicated by facility operating history.
55. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.113b(c)(2), the permittee shall operate the closed vent system and TOUs in accordance with the operating plan submitted to the Department , unless the plan is modified by the Department during the review process. In that case, the modified plan would apply.

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56. Pursuant to §19.304 of Regulation 19 and 40 CFR 60.115b, the permittee shall keep a record of the measured values of the parameters described in Specific Condition No. 44. The Permittee shall keep a copy of this record for a period of at least two years.
57. Pursuant to §19.304 of Regulation 19, 40 CFR 60.112b(a)(3)(i) and 60.485(b), the closed vent system shall be operated with no detectable emissions as indicated by an instrument reading of less than 500 parts per million (ppm) above background and visual inspections, as determined in 40 CFR Part 60 Subpart VV (see Appendix D). This test shall be completed within 90 days of the start of Building 200 Storage Facility operation and annually thereafter.

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NESHAP Requirements

58. Pursuant to §19.304 of Regulation 19 and 40 CFR §61.340(b) and §61.342(a), the permittee shall not process wastes which contain in excess of 11.0 tons per rolling 12 month total of benzene. The permittee shall maintain records which document the actual amount of benzene waste processed each month. Compliance with this permit condition will assure that the facility is exempt from 40 CFR 61 Subpart FF (National Standard for Benzene Waste Operations).
59. Pursuant to §19.304 of Regulation 19 and 40 CFR 61 Subpart J, the permittee shall not operate the facility such that any equipment contains or contacts a fluid (liquid or gas) with a benzene concentration equal to or greater than 10% by weight. Compliance with this permit condition will assure that the facility is exempt from 40 CFR 61 Subpart J (National Standard for Equipment Leaks (Fugitive Emission Sources) of Benzene).

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SECTION V: INSIGNIFICANT ACTIVITIES

The following types of activities or emissions are deemed insignificant on the basis of size, emission rate, production rate, or activity in accordance with Group A of the Insignificant Activities list found in Regulation 18 and 19 Appendix A. Insignificant activity emission determinations rely upon the information submitted by the permittee in an application dated June 20, 2003.

Description	Category
Start-up Boiler - 6000 lbs/hr (approximately 7.5 MMBTU/hr)	A-1
Laboratory Emergency Generator (50 KW, diesel-fired) No more than 850 hours/year operation	A-13
ITD Unit Emergency Generator (230 KW, diesel-fired) No more than 850 hours/year operation	A-13

SECTION VI: GENERAL CONDITIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 *et seq.*) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute.
2. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall not relieve the owner or operator of the equipment and/or the facility from compliance with all applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.
3. Pursuant to §19.704 of the Regulations of the Arkansas Plan of Implementation for Air Pollution Control (Regulation 19) and/or A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the Department shall be notified in writing within thirty (30) days after construction has commenced, construction is complete, the equipment and/or facility is first placed in operation, and the equipment and/or facility first reaches the target production rate.
4. Pursuant to §19.410(B) of Regulation 19 and/or §18.309(B) of the Arkansas Air Pollution Control Code (Regulation 18) and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, construction or modification must commence within eighteen (18) months from the date of permit issuance.
5. Pursuant to §19.705 of Regulation 19 and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, records must be kept for five years which will enable the Department to determine compliance with the terms of this permit--such as hours of operation, throughput, upset conditions, and continuous monitoring data. The records may be used, at the discretion of the Department, to determine compliance with the conditions of the permit.

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6. Pursuant to §19.705 of Regulation 19 and/or §18.1004 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any reports required by any condition contained in this permit shall be certified by a responsible official and submitted to the Department at the address below.

Arkansas Department of Environmental Quality
Air Division
ATTN: Compliance Inspector Supervisor
Post Office Box 8913
Little Rock, AR 72219

7. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, any equipment that is to be tested, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, shall be tested with the following time frames: (1) Equipment to be constructed or modified shall be tested within sixty (60) days of achieving the maximum production rate, but in no event later than 180 days after initial start-up of the permitted source or (2) equipment already operating shall be tested according to the time frames set forth by the Department. The permittee shall notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. Compliance test results shall be submitted to the Department within thirty (30) days after the completed testing.
8. Pursuant to §19.702 of Regulation 19 and/or §18.1002 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall provide:
 - a. Sampling ports adequate for applicable test methods
 - b. Safe sampling platforms
 - c. Safe access to sampling platforms
 - d. Utilities for sampling and testing equipment
9. Pursuant to §19.303 of Regulation 19 and/or §18.1104 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the equipment, control apparatus and emission monitoring equipment shall be operated within their design limitations and maintained in good condition at all times.
10. Pursuant to §19.601 of Regulation 19 and/or §18.1101 of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, if the permittee exceeds an emission limit established by this permit, they shall be deemed in violation of said permit and shall be subject to enforcement action. The Department may forego enforcement action for emissions exceeding any limits established by this permit provided the following requirements are met:

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- a. The permittee demonstrates to the satisfaction of the Department that the emissions resulted from an equipment malfunction or upset and are not the result of negligence or improper maintenance, and that all reasonable measures have been taken to immediately minimize or eliminate the excess emissions.
 - b. The permittee reports the occurrence or upset or breakdown of equipment (by telephone, facsimile, or overnight delivery) to the Department by the end of the next business day after the occurrence or the discovery of the occurrence.
 - c. The permittee shall submit to the Department, within five business days after the occurrence or the discovery of the occurrence, a full, written report of such occurrence, including a statement of all known causes and of the scheduling and nature of the actions to be taken to minimize or eliminate future occurrences, including, but not limited to, action to reduce the frequency of occurrence of such conditions, to minimize the amount by which said limits are exceeded, and to reduce the length of time for which said limits are exceeded. If the information is included in the initial report, it need not be submitted again.
11. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, the permittee shall allow representatives of the Department upon the presentation of credentials:
 - a. To enter upon the permittee's premises, or other premises under the control of the permittee, where an air pollutant source is located or in which any records are required to be kept under the terms and conditions of this permit
 - b. To have access to and copy any records required to be kept under the terms and conditions of this permit, or the Act
 - c. To inspect any monitoring equipment or monitoring method required in this permit
 - d. To sample any emission of pollutants
 - e. To perform an operation and maintenance inspection of the permitted source
12. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit is issued in reliance upon the statements and presentations made in the permit application. The Department has no responsibility for the adequacy or proper functioning of the equipment or control apparatus.
13. Pursuant to §19.410(A) of Regulation 19 and/or §18.309(A) of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall be subject to revocation or modification when, in the judgment of the Department, such revocation or modification shall become necessary to comply with the applicable provisions of the Arkansas Water and Air Pollution Control Act and the regulations promulgated thereunder.
14. Pursuant to §19.407(B) of Regulation 19 and/or §18.307(B) of Regulation 18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit may be transferred. An applicant for a transfer shall submit a written request for transfer of the permit on a form

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provided by the Department and submit the disclosure statement required by Arkansas Code Annotated §8-1-106 at least thirty (30) days in advance of the proposed transfer date. The permit will be automatically transferred to the new permittee unless the Department denies the request to transfer within thirty (30) days of the receipt of the disclosure statement. A transfer may be denied on the basis of the information revealed in the disclosure statement or other investigation or, if there is deliberate falsification or omission of relevant information.

15. Pursuant to A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311, this permit shall be available for inspection on the premises where the control apparatus is located.
16. Pursuant to A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit authorizes only those pollutant emitting activities addressed herein.
17. Pursuant to Regulation 18 and 19 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311, this permit supersedes and voids all previously issued air permits for this facility.

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APPENDIX A
CONTINUOUS EMISSIONS MONITORING
SYSTEMS CONDITIONS

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APPENDIX B
NSPS 40 CFR 60 SUBPART Db

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APPENDIX C
NSPS 40 CFR 60 SUBPART Kb

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APPENDIX D
NSPS 40 CFR 60 SUBPART VV

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APPENDIX E
NSPS 40 CFR 60 SUBPART NNN

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APPENDIX F
NSPS 40 CFR 60 SUBPART RRR

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APPENDIX G
NESHAP 40 CFR 61 SUBPART V