

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: **ENTER DATE**

Region: Wilmington Regional Office
County: New Hanover
NC Facility ID: 6500252
Inspector's Name: Bradley Newland
Date of Last Inspection: 09/24/2009
Compliance Code: 3 / Compliance - inspection

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Flint Hills Resources, LP Facility Address: Flint Hills Resources, LP 3308 River Road Wilmington, NC 28412 SIC: 5169 / Chemicals And Allied Products, Nec NAICS: 42512 / Wholesale Trade Agents and Brokers Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: N/A NSPS: N/A NESHAP: N/A PSD: N/A PSD Avoidance: N/A NC Toxics: N/A 112(r): N/A Other: N/A
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 6500252.06C, 6500252.08A Date Received: 11/20/2006, 05/21/2008 Application Type: Renewal & Significant Modification Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 01694/T18 Existing Permit Issue Date: 04/20/2007 Existing Permit Expiration Date: 08/31/2007
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Review Engineer: Fern Paterson, P.E Review Engineer's Signature: _____ Date: _____		Comments / Recommendations: Issue 01694/T19 Permit Issue Date: ENTER DATE Permit Expiration Date: ENTER DATE	

I. Purpose of Application

The North Carolina Division of Air Quality (NC DAQ) received an application from Flint Hills Resources, LP (FHR) for renewal of its Title V Air Quality Permit on November 20, 2006 (Application No. 6500252.06C). No permit revisions were requested as part of the renewal application. However, NC DAQ consolidated the renewal application with a "Part II" significant modification application, as follows:

Application No.
6500252.08A

Date Received
May 21, 2008

Purpose of Application

Remove p-xylene transfer, loading, and storage operations that are currently owned and operated by INVISTA (Permit No. 09708T01) from the FHR permit. Also add wastewater treatment and emissions control equipment necessary to comply with the provisions of 40 CFR 63, Subpart GGGGG – Site Remediation MACT.

Most of these modifications were previously permitted using state modification procedures pursuant to 15A NCAC 2Q .0501(c)(2) in April 2007. This Title V significant modification application was submitted within 12 months of effecting the permitted modifications. However, this “Part 2” significant modification application includes the following additional modifications:

- FHR requests authorization to route vapors vacuumed from the oil/water separators (**ID Nos. ES-OWS-A and ES-OWS-B**) and the OWS recovered product tank (**ID No. ES-T-OWS**) to the existing thermal oxidizer (**ID No. CD-TO**) rather than to the individual carbon drums. The thermal oxidizer (TO) is expected to achieve a VOC destruction rate at least as high as the activated carbon drums, and the vapors will displace some of the make-up fuel (i.e., propane or natural gas) fired at the TO.

FHR will retain the existing carbon drums to use as back-up and to control passive emissions from the system when it is not receiving water flow. The change does not trigger any new applicable standards at the facility. Any changes to the permit are noted in Sections II and III of this permit review document.

- FHR is currently treating only p-xylene contaminated groundwater. However, it has identified some groundwater contaminated by gasoline and/or diesel, and is requesting authorization to treat the groundwater using the existing treatment facilities. FHR anticipates that it will treat approximately 175,000 gal/yr of gasoline/diesel contaminated groundwater. Based on a gasoline concentration of 850 ppmw, treatment would result in a maximum *uncontrolled* emission rate of less than 1 tpy. Therefore, the change would not be a major modification under PSD. Further, the treatment of the groundwater will not trigger any additional rules at the facility, nor is it expected to result in an exceedance of any existing emissions standards.

Based on the evaluation described above, the NC DAQ has determined that the existing permit authorizes the proposed treatment of gasoline-contaminated groundwater. No change has been made to the permit to accommodate this modification.

NOTE: The controlled emission rates from this facility are currently well below Title V major source thresholds. Since the installation of control devices in 2006, the average annual criteria pollutant emissions have totaled less than 5 tpy. However, per an email from Ms. Nicole Cory (FHR) to Mr. Donald van der Vaart (NC DAQ) on Jan. 16, 2009, FHR is opting to retain the Title V operating permit.

II. Permit Modifications/Changes

The following table describes the modifications to the current permit.

Page(s)	Section	Description of Change(s)
N/A	Insignificant Activity List	Move equipment leaks (ID No. IES-1) from the insignificant activity list to the body of the permit (ID No. ES-01). Equipment leaks have applicable requirements under 40 CFR 63, Subpart GGGGG.
Page 1	Permit Cover Page	Amend permit revision numbers and issuance/effective dates.
Page 3	Section 1	<ul style="list-style-type: none"> - Add thermal oxidizer (ID No. CD-TO) as a permitted control device for the two oil/water separators (ID Nos. ES-OWS-A and ES-OWS-B). - Add thermal oxidizer (ID No. CD-TO) as a permitted control device for the OWS recovered product tank (ID No. ES-T-OWS). - Add equipment leaks to the list of permitted emission sources.
Page 4	Section 2.1.A., Table	Consolidate TAP conditions (2D .0705 and 2D .0711) into a condition (2D .0705).
Page 5	Section 2.1.B., Table	Consolidate TAP conditions (2D .0705 and 2D .0711) into a condition (2D .0705).
Page 5	Section 2.2.A.1	<ul style="list-style-type: none"> - Consolidate TAP conditions (2D .0705 and 2D .0711) into a condition (2D .0705). - Based on the treatment of gasoline-contaminated groundwater at the site, add benzene and toluene to the TPER table. This table provides TAP emission rates that may not be exceeded at the facility prior to obtaining a permit modification and establishing permitted limited pursuant to 15A NCAC 2D .1100.

Page(s)	Section	Description of Change(s)
Pages 6-13	Sections 2.2.A.2	Replace the general Site Remediation MACT requirement with facility-specific requirements under the standard.
Pages 14-22	Section 3	Update General Conditions with the most recent revisions.

III. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. On September 24, 2009, Mr. Brad Newland (WiRO) conducted a site inspection of the facility. At this time, the facility appeared to be operating in compliance with all applicable requirements as provided in the air quality permit. No NOV's have been issued to the facility in the past five year period.

IV. Regulatory Review

A. Two oil/water separators (ID Nos. ES-OWS-A and ES-OWS-B) controlled by either a common natural gas/propane-fired thermal oxidizer (ID No. CD-TO) or by individual activated carbon drums (ID Nos. CD-ACD-A and CD-ACD-B)

Two Air Strippers (ID Nos. ES-STRIP-A and ES-STRIP-B) controlled by a common natural gas/propane-fired thermal oxidizer (ID No. CD-TO)

1. Applicable Regulatory Requirements:

- 15A NCAC 2D .0516
- 15A NCAC 2D .0521
- 15A NCAC 2Q .0705 (State-Enforceable, Only)
- 15A NCAC 2D .1111

2. Changes to the Permit

FHR requests authorization to route vapors vacuumed from the oil/water separators (**ID Nos. ES-OWS-A and ES-OWS-B**) to the existing thermal oxidizer (**ID No. CD-TO**) rather than to the individual carbon drums. The thermal oxidizer (TO) is expected to achieve a VOC destruction rate at least as high as the activated carbon drums, and the vapors will displace some of the make-up fuel (i.e., propane or natural gas) that FHR is currently having to fire at the TO.

NC DAQ has added the TO as a potential control device for the O/W separators. FHR will retain the existing carbon drums to use as back-up and to control passive emissions from the system when it is not receiving water flow. The change does not trigger any new applicable standards at the facility.

B. Oil/water separator product recovery tank (ID No. ES-T-OWS) controlled by an activated carbon drum (ID No. CD-ACD-T)

Equipment Leaks (ID No. ES-01)

Truck Loading of Recovered Product (ID No. ES-02)

Polishing Ponds (ID No. ES-03)

1. Applicable Regulatory Requirements:

- 15A NCAC 2Q .0705 (State-Enforceable, Only)
- 15A NCAC 2D .1111 – 40 CFR 63, Subpart GGGGG - Site Remediation MACT

2. Changes to the Permit

No substantive changes were made to this section of the permit.

C. Facility-Wide Requirements

1. Applicable Regulatory Requirements:

- 15A NCAC 2Q .0705 (State-Enforceable, Only)
- 15A NCAC 2D .1111

2. Changes to the Permit

The proposed Title V permit was updated to include facility-specific requirements for **40 CFR 63, Subpart GGGGG: MACT for Site Remediation**.

This facility operates a site remediation system that collects groundwater and p-xylene released from a pipeline leak. The facility has also identified a small area of on-site gasoline and/or diesel groundwater contamination, and it will be using the existing site remediation system to treat approximately 175,000 gal/yr of gasoline/diesel contaminated groundwater. Construction for all remediation equipment began after July 30, 2002. All sources are affected as “new” sources.

The site remediation system is affected by 40 CFR 63, Subpart GGGGG, as follows:

Affected Process Vents

Two (2) Air Strippers (ID Nos. ES-STRIP-A and ES-STRIP-B)

Affected Remediation Material Management Units

Two (2) oil/water separators (ID Nos. ES-OWS-A and ES-OWS-B)

Oil/water separator product recovery tank (ID No. ES-T-OWS) controlled by an activated carbon drum (ID No. CD-ACD-T).

- The tank will store p-xylene waste, which has a maximum vapor pressure of less than 5 kPa.
- The volume of the tank is 1,000 gal, or about 3.7 m³.
- As provided in Table 2 of the rule, only Level 1 controls are required. However, the facility has chosen to install Level 2 controls in accordance with 40 CFR 63.7895(d)(3). Level 2 controls are described in 40 CFR 63.923 as a container meeting one of the following requirements:
 - A container that meets the applicable DOT regulations on packaging hazardous materials for transportation;
 - A container that has been demonstrated to operate with no detectable organic emissions; or,
 - A container that has been demonstrated within the preceding 12 months to be vapor-tight by using Method 27.

Affected Equipment Leaks

Equipment Leaks (ID No. ES-01). The facility has identified 17 valves that are affected under the Site Remediation MACT. The facility has chosen to comply with 40 CFR 63.7920(b)(1) for those valves.

Affected Closed Vent Systems. The facility has chosen to comply with 40 CFR 63.7920(c) for the closed vent system.

Unaffected Sources

Truck Loading of Recovered Product (ID No. IES-02). While the tank trucks themselves may be affected “containers”, the loading operations are not regulated as transfer systems. The definition of a transfer system pursuant to 40 CFR 62.7057 is, “a stationary system for which the predominant function is to convey liquids or solid materials from one point to another within a waste management operation or recovery operation.” The definition specifically excludes the transfer of materials using containers. The definition also gives pipelines, individual drain systems, and conveyors as examples of transfer systems.

Polishing Ponds (ID No. IES-03). These ponds are not remediation material management units as they are defined in 40 CFR 63.7957 of the rule because they are not used to “remove, destroy, degrade, transfer, immobilize, or otherwise manage remediation material”. A remediation material means “a material that contains one or more of the HAP listed in Table 1” of the Site Remediation MACT. These ponds hold water after it has been treated and they are not necessary for the processing of the contaminated groundwater (i.e., remediation material).

V. Compliance Assurance Monitoring

Pursuant to 15A NCAC 2D .0614, the provisions of the Compliance Assurance Monitoring (CAM) rule are applicable to emission units that meet all of the following criteria:

- Criteria #1: The unit is subject to a non-exempt emission limitation or standard AND uses a control device to achieve compliance with the limit or standard;
- Criteria #2: The unit has pre-control potential emissions that are equal to or greater than 100% of the amount (in tpy) required for a source to be classified as a major source (i.e., 100 tpy of any criteria pollutant or 10 tpy of any HAP, North Carolina); and,
- Criteria #3: The unit does not have a continuous compliance determination method (CCDM), as defined in 40 CFR 64.1, specified in the permit.

Exempt emission limitations are provided 15A NCAC 2D .0614(b)(1), and include NSPS/MACT standards proposed after Nov. 15, 1990, stratospheric ozone protection and acid rain requirements, and trading program and emissions caps applicable under 15A NCAC 2Q.

As summarized in the following Table, the facility does not include any controlled emission sources with an uncontrolled PTE greater than Title V major source thresholds, and therefore is not subject to the CAM provisions in 15A NCAC 2D .0614.

Table – CAM Applicability Summary

Emission Unit	Criteria #1: Control device reqd. to comply with a non-exempt limit?	Criteria #2: Pre-control PTE ≥100% of major source thresholds?	Criteria #3: CCDM as provided in 40 CFR 64.1?	CAM Source?
ES-OWS-A	No (Post-1990 MACT)	-	-	No
ES-OWS-B	No (Post-1990 MACT)	-	-	No
ES-T-OWS	No (Post-1990 MACT)	-	-	No
ES-STRIP-A	No (Post-1990 MACT)	-	-	No
ES-STRIP-B	No (Post-1990 MACT)	-	-	No

Applicable Standard Notes:

- (1) The Site Remediation MACT was proposed after Nov. 15, 1990, and is exempt pursuant to 15A NCAC 2D .0614(b)(E).

VI. Proposed Permit Review Summary

- Mr. Dean Carroll (WiRO) was provided a copy of the draft permit for review on September 15, 2010. Mr. Carroll provided comments to Ms. Paterson on a telephone call on September 28, 2010.
- Ms. Nicole Cory (FHR) was provided a draft permit for review on September 15, 2010.
- Ms. Katy Forney and Ms. Gracy DeNois (U.S. EPA, Region IV) were provided a draft permit for review on **<ENTER DATE AND SUMMARY>**.

VII. Other Regulatory Considerations

- No application fee was required for the Title V permit renewal (i.e., Application No. 0900009.06C).
- The application fee for Application No. 0900009.08A was received on May 21, 2008.
- A Reduction and Recycling Form was received on May 21, 2008.
- A Professional Engineers Seal was provided by Ms. Sara A Hutson, P.E. (Seal No. 030279) on May 15, 2008.
- A zoning consistency determination was received by the DAQ on May 21, 2008.

VIII. Recommendations

The permit modification application for Flint Hills Resources, LP, located in Wilmington, New Hanover County, North Carolina has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

Issue Permit No. 01694T19