



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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DENVER, CO 80202-1129
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<http://www2.epa.gov/aboutepa/epa-region-8-mountains-and-plains>

Ref: 8P-AR

Craig Walters
Chipeta Processing, LLC
Midstream Operations Manager
P.O. Box 173779
Denver, Colorado 80202-3779

SEP 10 2013

Re: Chipeta Processing, LLC
Chipeta Gas Plant Train IV Project
Permit # SMNSR-UO-000023-2012.001
Synthetic Minor Permit to Construct

Dear Mr. Walters:

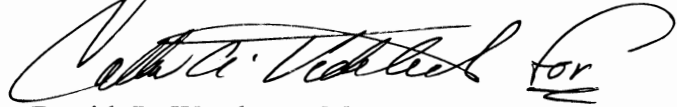
The Environmental Protection Agency, Region 8 (EPA) has completed its review of Chipeta Processing, LLC's (Chipeta's) request to obtain a synthetic minor permit to construct pursuant to the Tribal Minor New Source Review Permit Program at 40 CFR Part 49 (TMNSR) for the construction of the Train IV Plant Project at the Chipeta Gas Plant. Based on the information submitted in Chipeta's application the EPA hereby issues the enclosed final TMNSR permit to construct for the Train IV Plant Project. Please review each condition carefully and note any restrictions placed on this source.

A 30-day public comment period was held from June 17, 2013 to July 17, 2013. The EPA received comments from Chad Schlichtemeier of Chipeta on July 17, 2013. No other comments were received during the public comment period. The EPA's response to the public comments is also enclosed. The final permit will be effective on October 10, 2013.

Pursuant to 40 CFR 49.159, 30 days after the final permit decision has been issued, any person who commented on the specific terms and conditions of the draft permit, may petition the Environmental Appeals Board to review any term or condition of the permit. Any person who failed to comment on the specific terms and conditions of this permit may petition for administrative review only to the extent that the changes from the draft to the final permit or other new grounds were not reasonably ascertainable during the public comment period. The 30-day period within which a person may request review begins with this notice of the final permit decision. If an administrative review of the final permit is requested, the specific terms and conditions of the permit that is the subject of the request for review must be stayed.

If you have any questions concerning the enclosed final permit please contact Claudia Smith of my staff at (303) 312-6520.

Sincerely,

A handwritten signature in black ink, appearing to read "Derrith R. Watchman-Moore". The signature is fluid and cursive, with a large initial "D" and "W".

Derrith R. Watchman-Moore
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Enclosures

Enclosure 1- Response to Comments Document

Comments from Chipeta Processing, LLC (Chipeta) on the Proposed Synthetic Minor Permit to Construct

Chipeta submitted a cover letter generally describing comments on the Proposed Synthetic Minor Permit to Construct for the Chipeta Gas Plant Train IV Project and also attached a copy of the proposed permit with suggested language changes to the conditions. The suggested permit language changes were based on the general comments listed below.

1. “Consistency in requirements between Train III and Train IV thermal oxidizers. It is important that the requirements for the oxidizers are consistent to the extent possible. This will minimize additional programming and will aid in maintaining compliance.”

EPA Response: In general, differences in the requirements for the Train III and Train IV thermal oxidizers in the proposed permit were primarily based on differences in the emission and operational limitations Chipeta requested for each thermal oxidizer in the application. For instance, Chipeta requested VOC emission limitations for the proposed modifications to the existing Train II CO₂ Vent and Train III thermal oxidizer, while requesting project-wide VOC and greenhouse gas (GHG) emission limitations for the proposed new construction of the Train IV Plant. We have reviewed Chipeta’s suggested language changes provided in the comment letter and, for the most part agree with them, but did modify some of the suggested language to conform with our standard permit language style and added clarifying language in places to ensure legal and practical enforceability of the suggested changes we agreed with. We also identified and corrected inadvertent inconsistent testing and emission calculation requirements for the same targeted pollutants for each thermal oxidizer. Lastly, we did not make the following suggested language changes:

- (a) *Chipeta requested adding CO₂ concentration monitoring to the requirements for the proposed Train II Plant and Train III Plant modifications and recognition of existing controls. There was no basis provided for this request. There was no CO₂ emission limit requested for the existing equipment modification, only for the new Train IV Plant construction; therefore, we did not add the requested monitoring because it is unnecessary for the legal and practical enforceability of the requested restrictions.*
- (b) *Chipeta requested adding NO_x emissions testing and calculation requirements for the exhaust from the Train III Thermal Oxidizer. There was no basis provided for this request. There was no NO_x emission limit requested for the proposed Train II Plant and Train III Plant modifications and recognition of existing controls; therefore, we did not add the requested testing because it is unnecessary for the legal and practical enforceability of the requested restrictions.*
- (c) *Chipeta requested adding a requirement to calculate VOC emissions for the Train III Hot Oil Heater and Regeneration Gas Heater. There was no basis provided*

for this request. There was no VOC emission limit requested for the heaters; therefore, we did not add the requested VOC emission calculation requirement for the heaters.

2. “Allowing the use of emission factors developed during testing to calculate actual emissions. Information gathered during testing provides more accurate emissions than using emission factors from AP-42.”

EPA Response: We agree that emission factors developed using site and emission unit-specific test results provide more accurate emissions than using emission factors from AP-42. Modified forms of the suggested language changes have been made that conform with our standard permit language style.

3. “Monitoring for the closed-vent systems does not include a leak definition concentration. Suggest referencing §60.482-10 40 CFR, part 60, subpart VV for testing requirements for the closed-vent system.”

EPA Response: The suggested reference has been added to the final permit for testing requirements for the closed-vent system and the proposed language for closed-vent system leak detection and repair has been removed.

4. “Modifications have been proposed to Train II and III to reduce NO_x and VOC emissions. The requirement to complete the modifications is contingent on commencement of construction of Train IV.” Chipeta suggested additional permit language at the end of the section of the proposed permit titled Applicability to clarify this point: “If Train 4 is never constructed and this permit is rendered invalid as defined in the General Provisions section of this permit, no modifications of Train II or Train III will be required.”

EPA Response: The suggested clarifying language was not added to the final permit in the suggested location. Instead, the following condition has been added to the beginning of the section of the proposed permit titled Requirements for Existing Emission Units (now titled Requirements for the Train II Plant and Train III Plant), which is more consistent with the regulatory language discussing permit validity in the TMNSR rule: “The following requirements applicable to Train II and Train III are non-binding if the Permittee has not commenced construction on Train IV within 18 months of the day that the modifications of Train II and Train III have been completed and/or the permit becomes invalid, pursuant to §49.155(b) of the TMNSR rule and the General Provisions of this permit at II.A.18.”

5. “The permit establishes a project VOC limit for Train IV, which includes emissions from the closed-vent system. While the permit is silent on whether the fugitive emissions from the closed-vent system are considered for PSD applicability, Chipeta Gas Processing, LLC would like to submit for the record that the fugitive emissions are not to be included in determining PSD applicability since the facility is not a named facility.”

EPA Response: Chipeta's comment is part of the official record of this permit action. Fugitive emissions from the closed-vent system were not used to determine the PSD applicability of the proposed project. Estimated emissions from proposed emission sources other than fugitive emissions resulted in the proposed project, a modification to an existing major PSD source of GHG emissions, to exceed the PSD significance threshold for VOC emissions of 40 tons per year. Chipeta requested in its permit application legally and practically enforceable project-wide VOC and GHG emission limitations for the proposed project in order to avoid the major source PSD permitting requirements that would otherwise have applied in the absence of enforceable emission restrictions. As with facility-wide emission limitations, project-wide emission limitations require monitoring and recordkeeping of the emissions from all proposed equipment that emits the air pollutants to be limited. In order to verify that the closed-vent system for Train IV is not leaking, which would be a source of VOC and GHG emissions that contribute to the project-wide emissions, equipment leak emissions must be monitored and any leaks repaired as soon as practicable to ensure in a legally and practically enforceable manner that the project is meeting the permitted emission limits. As described in the response for comment 3 above, the EPA has revised the closed-vent system requirements to mirror the leak definition and testing requirements of 40 CFR Part 60, Subpart VV.

**United States Environmental Protection Agency
Region 8, Air Program
1595 Wynkoop Street
Denver, CO 80202**



**Air Pollution Control
Synthetic Minor Source Permit to Construct**

40 CFR 49.151

#SMNSR-UO-000023-2012.001

Chipeta Gas Plant Modification

Train IV Expansion Project

Synthetic Minor Permit to Construct to establish legally and practically enforceable restrictions to avoid the requirements of the Prevention of Significant Deterioration Permitting Program at 40 CFR Part 52 (PSD) with respect to volatile organic compound (VOC) and greenhouse gas (GHG) emissions for the approved modification, to recognize VOC and nitrogen oxide (NO_x) emission reductions from existing equipment operating at the facility or to be installed as part of the modification.

Permittee:

Chipeta Processing, LLC

Facility:

Chipeta Gas Plant
Natural Gas Processing Plant on the
Uintah and Ouray Indian Reservation
Uintah County, Utah

Summary

The Chipeta Facility is a natural gas compression and hydrocarbon dew point control processing plant that currently has a maximum processing capacity of 800 million standard cubic feet of natural gas per day (MMscf/d) and consists of three (3) natural gas compression and treatment “trains”; Train I, Train II, and Train III.

On May 30, 2012, the EPA received an application from Chipeta Processing, LLC (Chipeta) requesting approval to modify the existing Chipeta Gas Plant (Chipeta Facility) The EPA received a revised application on February 19, 2013. Due to increased throughput demand for the Chipeta Facility, Chipeta requested approval to construct a fourth gas processing train (Train IV Plant) at the Chipeta facility with carbon dioxide (CO₂) removal, cryogenic gas treatment, and natural gas compression.

The EPA has approved the construction of the Train IV Plant consisting of a molecular sieve dehydration unit, a chilling and expansion (cryogenic) unit, a demethanizer unit, a product system and an amine treating unit for CO₂ removal with associated utilities and services. All compression associated with the Train IV Plant will be electric. Additional new emission units will include a process and emergency shutdown (ESD) flare to periodically combust gas from pressure relief valves, compressor overheads, and filters off the natural gas liquids system, as needed for safety. A sellable residue natural gas stream comprised of 99% methane will be produced in the plant and delivered to the sales gas pipeline exiting the Chipeta Facility.

The EPA determined that the modifications to the Chipeta Facility approved by this permit will not cause or contribute to a National Ambient Air Quality Standards (NAAQS) or increment violation, or have potentially adverse effects on ambient air due to increased potential emissions.

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I. Conditional Permit to Construct

A. General Information

Facility: Chipeta Gas Plant
Modification: Train IV Expansion Project
Permit number: SMNSR-UO-000023-2012.001
SIC Code and SIC Description: 1321 – Natural Gas Processing

<u>Site Location:</u> Chipeta Gas Plant Sec 15, T9S, R22E Uintah and Ouray Indian Reservation Uintah County, Utah	<u>Corporate Office Location</u> Chipeta Processing, LLC P.O. Box 173779 Denver, CO 80202-3779
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The EPA has approved the construction of the equipment listed in this permit to be operated by Chipeta Processing, LLC at the following location:

Latitude 40.0344N, Longitude -109.4289W

B. Applicability

1. This Federal Permit to Construct is being issued under authority of the Tribal Minor New Source Review Permit Program at 40 CFR Part 49 (TMNSR).
2. The requirements in this permit have been created, at the Permittee's request, to establish legally and practically enforceable restrictions on NO_x, VOC, and GHG emissions to avoid PSD major source permitting requirements and to recognize emission controls already installed and operating on existing equipment at the Chipeta Facility.
3. Any conditions established for this facility or any specific units at this facility pursuant to any Conditional Permit to Construct issued under the authority of the PSD or TMNSR regulations that are in effect continue to apply.
4. By issuing this permit, the EPA does not assume any risk of loss which may occur as a result of the operation of the permitted facility by the Permittee, Owner, and/or Operator, if the conditions of this permit are not met by the Permittee, Owner, and/or Operator.

C. Requirements for the Existing Train II Plant and Train III Plant

1. The following requirements applicable to Train II and Train III are non-binding if the Permittee has not commenced construction on the Train IV plant within 18 months of the day that the modifications of Train II and Train III have been completed and/or the permit becomes invalid, pursuant §49.155(b) of the TMNSR rule and the General Provisions of this permit at II.A.18.

2. Construction and Operational Requirements

- (a) The Permittee shall ensure that all the acid gas emissions from the Train II CO₂ Vent and the Train III Amine Unit Regeneration System are routed through a closed-vent system to the existing Train III Thermal Oxidizer capable of at least 98.0% VOC destruction efficiency and operated as specified in this permit.
 - (i) The closed-vent system, which includes all vent lines, connections, fittings, valves, relief valves, or any other appurtenance employed to contain and collect emissions, and transport them to the Train III Thermal Oxidizer, shall be designed, operated, and maintained as specified in the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006 at 40 CFR Part 60, Subpart VV.
 - (ii) The Permittee shall operate the Train III Thermal Oxidizer at a temperature that is no less than the minimum daily average temperature that correlates to 98.0% VOC destruction efficiency, as established during the initial and subsequent performance tests specified in this section. Until performance testing is conducted, the Permittee shall operate the Train III Thermal Oxidizer at no less than 1,400° F.
 - (iii) The Permittee shall only fire the Train III Thermal Oxidizer with pipeline quality natural gas.
 - (iv) Emissions from the Train II CO₂ Vent and the Train III Amine Unit Regeneration System may bypass the Train III Thermal Oxidizer and vent directly to the atmosphere during periods when the Train III Thermal Oxidizer is inoperable, not to exceed 430 hours in any given consecutive 12-month period.
- (b) The Permittee shall install and operate no more than one (1) Ultra Low-NO_x Hot Oil Heater, rated at no more than 31.5 million British thermal units per hour (MMBtu/hr), at the Train III Plant. The Train III Hot Oil Heater shall be fired only with pipeline quality natural gas.
- (c) The Permittee shall install, and operate no more than one (1) Ultra Low- NO_x Regeneration Gas Heater, rated at no more than 26.62 MMBtu/hr, at the Train III Plant. The Train III Regeneration Gas Heater shall be fired only with pipeline quality natural gas.
- (d) The Permittee shall follow the manufacturers' written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions.

3. Emission Limits

- (a) Emissions of NO_x from the 31.5 MMBtu/hr Train III Amine Unit Hot Oil Heater shall not exceed 1.26 pounds per hour (lb/hr).
- (b) Emissions of NO_x from the 26.62 MMBtu/hr Train III Amine Unit Regeneration Gas Heater shall not exceed 1.07 lb/hr.

- (c) VOC emissions from the existing Train III Thermal Oxidizer and the closed-vent system routing emissions to it shall not exceed 13.8 tons during any given consecutive 12-month period.

4. Monitoring and Testing Requirements

- (a) The Permittee shall monitor the following:
 - (i) The flow rate of the acid gas emissions from the Train II CO₂ Vent and Train III Amine Unit Regeneration System routed to the Train III Thermal Oxidizer and/or vented to the atmosphere, in MMscf, at a minimum once per hour, using flow meters. The acid gas flow rate shall be the sum of the Train II CO₂ Vent and Train III Amine Unit Regeneration System average acid gas flow rates;
 - (ii) The VOC concentration in the acid gas emissions from the Train II CO₂ Vent and Train III Amine Unit Regeneration System routed to the Train III Thermal Oxidizer and/or vented to the atmosphere, at a minimum quarterly, by obtaining an extended laboratory analysis. The Permittee may revise the sampling and analysis frequency upon written approval by the EPA;
 - (iii) The total fuel consumed by the Train III Amine Unit Hot Oil and Regeneration Gas Heaters and the Train III Thermal Oxidizer, at a minimum once per hour;
 - (iv) The total operating hours for the Train III Amine Unit Hot Oil and Regeneration Gas Heaters and the Train III Thermal Oxidizer for each calendar month, assuming full time operation (24 hours per day) for each emission unit for each day where the hours are not tracked;
 - (v) The temperature of the exhaust from the Train III Thermal Oxidizer, at a minimum once per hour; and
 - (vi) The total hours that acid gas emissions from the Train II CO₂ Vent and the Train III Amine Unit Regeneration System bypass the Train III Thermal Oxidizer and vent to the atmosphere during periods when the Train III Thermal Oxidizer is inoperable.
- (b) The Permittee shall test VOC emissions in the exhaust of the Train III Thermal Oxidizer within 180 days after operations commenced under the modified configuration of the Train II and Train III Plants, and every 12 months thereafter, to demonstrate compliance with the VOC emissions and operational limitations specified in this permit. The Permittee shall measure the combustion temperature during the test to establish a minimum daily average operating temperature that correlates with the VOC emissions destruction efficiency specified in this permit. During each test, the Permittee shall establish a VOC emission factor in terms of lb of VOC per the acid gas flow rate in MMscf per hour (MMscf/hr), as required in Section C.4(a)(i) of this permit.
- (c) The Permittee shall test NO_x emissions in the exhaust of the Train III Amine Unit Hot Oil and Regeneration Gas Heaters within 180 days after operations commence under the modified configuration of the Train II and Train III Plants, and every 12 months thereafter,

to demonstrate compliance with the NO_x emissions limits specified in this permit. During each test, the Permittee shall establish a NO_x emission factor in terms of lb of NO_x per MMBtu.

- (d) All tests shall be conducted using EPA-approved methods. The Permittee may use equivalent non-EPA-approved test methods upon written approval by the EPA.
- (e) The Permittee shall determine a VOC mass emission rate from the Train II CO₂ Vent and Train III Amine Unit Regeneration System routed to the Train III Thermal Oxidizer, at a minimum once every hour. The VOC mass emission rate shall be determined using the acid gas flow rate of the emissions to the Train III Thermal oxidizer in MMscf/hr, as specified in this permit, and using the VOC concentration of the acid gas routed to the Train III Thermal Oxidizer, as determined by the most recent extended laboratory analysis.
- (f) Beginning with the first calendar month that operation commences under the modified configuration of the Train II and Train III Plants, at the end of each calendar month, the Permittee shall calculate an average acid gas flow rate and average VOC mass emission rate from the Train II CO₂ Vent and Train III Amine Unit Regeneration System routed to the Train III Thermal Oxidizer, based on the hourly monitoring specified in this permit.
- (g) The Permittee shall calculate total NO_x emissions from the Train III Amine Unit Hot Oil and Regeneration Gas Heaters as follows:
 - (i) Total NO_x emissions shall be calculated, in tons, and recorded at the end of each month, beginning with the first calendar month that operation commences under the modified configuration of the Train II and Train III Plants.
 - (ii) Total NO_x emissions from the Train III Hot Oil Heater and the Train III Regeneration Gas Heater shall be calculated using the average hourly fuel gas consumption for the calendar month for each heater, the lb/MMBtu NO_x emission factors established during the most recent performance test, and the operating hours for the month for each heater.
- (h) The Permittee shall calculate total VOC from the Train III Thermal Oxidizer and the closed-vent system routing emissions to it as follows:
 - (i) Total VOC emissions shall be calculated, in tons, and recorded at the end of each month, beginning with the first calendar month that operation commences under the modified configuration of the Train II and III Plants. Total VOC emissions shall be the sum of the following:
 - (1) The VOC emissions in tons from the closed-vent system equipment leaks, calculated using the November 1995 US EPA Protocol for Equipment Leaks Emission Estimates, EPA-453/R-95-017. This document can be found at <http://www.epa.gov/ttnchie1/efdocs/equiplks.pdf>. VOC emissions shall be calculated by using the average hourly acid gas flow rate for the month, the valid operating hours for the month, and the VOC concentration of the acid gas routed to the Train III Thermal Oxidizer from the most recent extended laboratory analysis. Any hour that the Train II CO₂ Vent or III Amine Unit are operating shall be considered a valid operating hour.

- (2) The VOC emissions in tons from the Train III Thermal Oxidizer, calculated using:
 - (A) The average hourly acid gas flow rate for the calendar month, calculated as specified in Section C.4 (f) of this permit;
 - (B) The hours the Train III Thermal Oxidizer operated in the calendar month; and
 - (C) The VOC emission factor established during the most recent performance test, as required in Section C.4(b) of this permit.
- (3) The VOC emissions from the Train II CO₂ Vent and the Train III Amine Unit Regeneration System emissions that bypassed the Train III Thermal Oxidizer and vented to the atmosphere, calculated using:
 - (A) The total hours emissions were vented to the atmosphere for the calendar month; and
 - (B) The average hourly VOC mass emissions rate for the calendar month, calculated as specified in Section C.3(e) and (f) of this permit.
- (i) Prior to 12 full months of VOC and NO_x emissions calculations for the Train III Hot Oil Heater, the Train III Regeneration Gas Heater, the Train III Thermal Oxidizer, and the closed-vent system routing emissions to the Train III Thermal Oxidizer, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for all previous months since operations commenced under the modified configuration of Trains II and III and record the total. Thereafter, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for the preceding 11 months and record a new 12-month total.

5. Recordkeeping and Reporting Requirements

The Permittee shall maintain the following records:

- (a) The actual monthly and consecutive 12-month VOC and NO_x total emissions from the Train III Hot Oil Heater, Train III Regeneration Gas Heater, the Train III Thermal Oxidizer, and the closed-vent system routing emissions to the Train III Thermal Oxidizer, in tpy;
- (b) All required measurements and calculations, including:
 - (i) The hourly and average monthly flow rate of the emissions from the Train II CO₂ Vent and the Train III Amine Unit Regeneration System vented to the Train III Thermal Oxidizer.
 - (ii) The total fuel consumed by the Train III Amine Hot Oil Heater, the Train III Amine Regeneration Gas Heater, and the Train III Thermal Oxidizer, as specified in this permit.
 - (iii) The hourly and 24-hour average temperatures of the exhaust gas of the Train III Thermal Oxidizer.
 - (iv) The total hours that emissions from the Train II CO₂ Vent and the Train III Amine

Unit Regeneration System bypass the Train III Thermal Oxidizer and vent to the atmosphere during periods when the Train III Thermal Oxidizer is inoperable.

- (c) The results of each required performance test for VOC or NO_x emissions;
- (d) The composition of the natural gas used at the facility to ensure that it is pipeline quality;
- (e) All input parameters and methodologies used to calculate the monthly VOC and NO_x emissions from the Train III Amine Hot Oil Heater, Train III Amine Regeneration Gas Heater, the Train III Thermal Oxidizer, and the closed-vent system routing emissions to the Train III Thermal Oxidizer;
- (f) Any instance that a leak is detected from the closed-vent system routing emissions from the Train II CO₂ Vent and Train III Amine Unit Regeneration System to the Train III Thermal Oxidizer. The records shall include:
 - (i) The date the leak was first discovered;
 - (ii) A summary of all corrective actions taken to repair the leak, including:
 - (1) The date and time that any repair was completed that did not require a facility shutdown; and
 - (2) Any instance in which a facility shutdown was required in order to make the repair and the date and time of the shutdown and subsequent startup after the repair was completed.
- (g) All deviations from the requirements of this permit; and
- (h) The date, time, and a brief description of the completion of the modifications to the Train II and III Plants specified in this section.

D. Requirements for Train IV Plant

1. Construction and Operational Requirements

- (a) The Permittee shall not commence operations of the Train IV Plant until the modifications to the Trains II Plant and the Train III Plant, specified in Section C, above, have been completed and operation under the modified configuration has commenced.
- (b) The Permittee is approved to install and operate the following at the Train IV Plant:
 - (i) An Amine Unit for the removal of CO₂ consisting of the following:
 - (1) A Gas to Liquid Amine Contactor System;
 - (2) A Liquid to Liquid Amine Contactor System; and
 - (3) An Amine Regeneration System;
 - (ii) A Fuel Gas System;
 - (iii) A Molecular Sieve Dehydration System; and

- (iv) A Cryogenic Unit with the following:
 - (1) A Chilling and Expansion System;
 - (2) A Demethanizer System;
 - (3) A Methanol System; and
 - (4) A Product System.

- (c) The Permittee shall install and operate a thermal oxidizer (Train IV Thermal Oxidizer), rated at no more than 12 MMBtu/hr, for the control of acid gas emissions from the Train IV Amine Unit Regeneration System capable of at least 98.0% VOC destruction efficiency and operated as specified in this permit.

- (d) The Permittee shall ensure that all acid gas emissions from the Train IV Amine Unit Regeneration System are routed through a closed-vent system to the Train IV Thermal Oxidizer.
 - (i) The closed-vent system, which includes all vent lines, connections, fittings, valves, relief valves, or any other appurtenance employed to contain and collect acid gas emissions, and transport them to the Train IV Thermal Oxidizer, shall be designed, operated, and maintained as specified in the Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006 at 40 CFR Part 60, Subpart VV.
 - (ii) The Permittee shall operate the Train IV Thermal Oxidizer at a temperature that is no less than the minimum daily average temperature that correlates to 98.0% VOC destruction efficiency, as established during the initial and subsequent performance tests specified in this section. Until performance testing is conducted, the Permittee shall operate the Train IV Thermal Oxidizer at no less than 1,400° F.
 - (iii) The Permittee shall only fire the Train IV Thermal Oxidizer with pipeline quality natural gas.
 - (iv) Acid gas Emissions from the Train IV Amine Unit Regeneration System may bypass the Train IV Thermal Oxidizer and vent directly to the atmosphere during periods when the Train IV Thermal Oxidizer is inoperable, not to exceed 430 hours in any given consecutive 12-month period.

- (e) The Permittee shall install, operate, and maintain no more than one (1) Ultra Low-NO_x Hot Oil Heater (Train IV Amine Unit Hot Oil Heater), rated at no more than 31.5 MMBtu/hr, at the Train IV Plant. The Train IV Amine Unit Hot Oil Heater shall be fired only with pipeline quality natural gas.

- (f) The Permittee shall install, operate, and maintain no more than one (1) Ultra Low- NO_x Regeneration Gas Heater (Train IV Amine Unit Regeneration Gas Heater), rated at no more than 26.62 MMBtu/hr, at the Train IV Plant. The Train IV Amine Unit Regeneration Gas Heater shall be fired only with pipeline quality natural gas.

- (g) The Permittee shall install, operate, and maintain no more than one (1) process and ESD flare (Train IV Flare) at the Train IV Plant. The Train IV Flare pilot flame shall be fueled only with pipeline quality natural gas.

- (h) The Permittee shall follow the manufacturers' written operating instructions, procedures and maintenance schedule to ensure good air pollution control practices for minimizing emissions.

2. Emission and Operational Limits

- (a) Emissions from the Train IV Plant shall not exceed 73,500 tons of GHG, expressed as carbon dioxide equivalent (CO₂e), during any given consecutive 12-month period.
- (b) Emissions from the Train IV Plant shall not exceed 39.2 tons of VOC during any given consecutive 12-month period.
- (c) The Permittee shall reduce the mass content of VOC emissions from the Train IV Amine Unit by at least 98.0 % by weight.
- (d) Total field gas accepted by the Train IV Plant Amine Unit Gas-to-Liquid Contactor shall not exceed 109,500 MMSCF during any given consecutive 12-month period.

3. Monitoring and Testing Requirements:

- (a) The Permittee shall monitor the following:
 - (i) The CO₂ and VOC concentration in the emissions from the Train IV Amine Unit Regeneration System vented to the Train IV Thermal Oxidizer and/or the atmosphere, at a minimum quarterly, by obtaining an extended laboratory analysis. The Permittee may revise the sampling and analysis frequency upon written approval by the EPA;
 - (ii) The flow rate of the acid gas emissions from the Train IV Amine Unit Regeneration System routed to the Train IV Thermal Oxidizer and/or vented to the atmosphere in MMscf, at a minimum once per hour, using a flow meter;
 - (iii) The total volume of natural gas processed through the Train IV Amine Unit Gas-to-Liquid Contactor, at a minimum once per hour. Methods to measure the volume include, but are not limited to direct measurement, laboratory analyses, or other methods as approved by the EPA;
 - (iv) The total operating hours for the Train IV Amine Unit Hot Oil and Regeneration Gas Heaters, the Train IV Thermal Oxidizer, and the Train IV Flare for each calendar month, assuming full time operation (24 hours per day) for each emission unit for each day where the hours are not tracked;
 - (v) The total fuel consumed by the Train IV Amine Unit Hot Oil and Regeneration Gas Heaters, the Train IV Thermal Oxidizer, and the Train IV Flare, at a minimum once per hour;
 - (vi) The temperature of the exhaust from the Train IV Thermal Oxidizer, at a minimum once per hour; and

- (vii) The hours that acid gas emissions from the Train IV Amine Unit Regeneration System bypassed the Train IV Thermal Oxidizer and vent to the atmosphere.
- (b) The Permittee shall test VOC emissions in the exhaust of the Train IV Thermal Oxidizer within 180 days after operations commence, and every 12 months thereafter, to demonstrate compliance with the VOC emissions and operational limits specified in this permit. The Permittee shall measure the combustion temperature during the test to establish a minimum daily average operating temperature that correlates with the VOC emissions destruction efficiency specified in this permit. During each test, the Permittee shall establish a VOC emission factor in terms of lb of VOC per the acid gas flow rate in MMscf/hr, as required in Section D.3(a)(ii) of this permit
- (c) The Permittee shall test CO₂ emissions in the exhaust of the Train IV Thermal Oxidizer within 180 days after operations commence, and every 12 months thereafter. During each test, the Permittee shall establish a CO₂ emission factor in terms of lb of CO₂ per the acid gas flow rate in MMscf/hr, as required in Section D.3(a)(ii).
- (d) The tests must be conducted using EPA-approved methods. The Permittee may use equivalent non-EPA-approved test methods upon written approval by the EPA.
- (e) The Permittee shall determine CO₂ and VOC mass emission rates from the Train IV Amine Unit Regeneration System, at a minimum once every hour. The CO₂ and VOC mass emission rates shall be determined using the measured acid gas flow rate of the emissions to the Train IV Thermal Oxidizer in MMscf/hr, as specified in this permit, and using the respective CO₂ and VOC concentration, as determined by the most recent extended laboratory analysis.
- (f) Beginning with the first calendar month that operation of the Train IV Plant commences, at the end of each calendar month, the Permittee shall calculate an average acid gas flow rate and average CO₂ and VOC mass emission rates from the Train IV Amine Unit Regeneration System routed to the Train IV Thermal Oxidizer and/or vented to the atmosphere, based on the hourly monitoring specified in this permit.
- (g) The Permittee shall calculate total CO₂e emissions from the Train IV Plant as follows:
 - (i) Total CO₂e emissions from the Train IV Plant shall be calculated, in tons, and recorded at the end of each month, beginning with the first calendar month that operations commence;
 - (ii) Total CO₂e emissions from the Train IV Plant shall be the sum of the following:
 - (1) The CO₂e emissions in tons from the Amine Unit Regeneration System and Train IV Thermal Oxidizer, calculated using the following:
 - (A) The average hourly acid gas flow rate for the given month, calculated as specified in Sections D.3(a)(ii) and (f) of this permit;
 - (B) The hours the Train IV Thermal Oxidizer operated in the calendar month;
 - (C) The CO₂ emissions factor established during the most recent

- performance test, as required in Section D.3(c) of this permit; and
 - (D) The global potential provided Table A-1 in 40 CFR Part 98, Subpart A, to convert the CO₂ mass emissions to CO₂e.
 - (2) The CO₂e emissions in tons from the Train IV Amine Unit Hot Oil and Regeneration Gas Heaters, the Train IV Thermal Oxidizer Burner, and the Train IV Flare, calculated using the following:
 - (A) The average hourly fuel consumption for the calendar month;
 - (B) The appropriate emission factors for stationary pipeline natural gas combustion sources in 40 CFR Part 98, Subpart C, Tables C-1 and C-2;
 - (C) The operating hours of each heater for the calendar month;
 - (D) The methodologies in 40 CFR Part 98, Subpart C for calculating the mass emissions of CO₂, CH₄, and N₂O for stationary fuel combustion sources; and
 - (E) The global potentials provided Table A-1 in 40 CFR Part 98, Subpart A, to convert the CO₂, CH₄, and N₂O mass emissions to CO₂e.
 - (3) The CO₂e emissions in tons from the Train IV Amine Unit Regeneration System emissions that bypassed the Train IV Thermal Oxidizer and vented to the atmosphere calculated using the following:
 - (A) The average hourly CO₂ mass emissions rate for the calendar month, calculated as specified in Sections D.3(e) and (f) of this permit;
 - (B) The hours emissions were vented to the atmosphere for the calendar month; and
 - (C) The global potentials provided Table A-1 in 40 CFR Part 98, Subpart A, to convert the CO₂ mass emissions to CO₂e.
- (iii) Prior to 12 full months of CO₂e emissions calculations for the Train IV Plant, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for all previous months since production commenced and record the total. Thereafter, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for the preceding 11 months and record a new 12-month total.
- (iv) CO₂e emissions from all controlled and uncontrolled emission sources for the Train IV Plant shall be included in the monthly calculation, including, but not limited to:

The Train IV Thermal Oxidizer, the Train IV Hot Oil Heater, the Train IV Regeneration Gas Heater, the Train IV Flare, equipment leaks, and the Train IV Regeneration System bypass.
- (h) The Permittee shall calculate VOC emissions from the Train IV Plant as follows:

- (i) Total VOC emissions shall be calculated, in tons, and recorded at the end of each month, beginning with the first calendar month that operations commence. Total CO₂e emissions from the Train IV Plant shall be the sum of the following:
- (1) The VOC emissions in tons from the closed-vent system equipment leaks using the November 1995 US EPA Protocol for Equipment Leaks Emission Estimates, EPA-453/R-95-017. This document can be found at <http://www.epa.gov/ttnchie1/efdocs/equiplks.pdf>. VOC emissions shall be calculated using the average hourly acid gas flow rate for the month, the valid operating hours for the month. And the VOC concentration of the acid gas routed to the Train IV Thermal Oxidizer from the most recent extended laboratory analysis. Any period where the Train IV Amine Unit is operating shall be considered a valid operating hour.
 - (2) The VOC emissions from the Train IV Amine Unit Hot Oil and Regeneration Gas Heaters, and the Train IV Thermal Oxidizer Burner, calculated using the average hourly fuel consumption for the calendar month, the appropriate emission factors specified in AP-42 Chapter 1.4 Natural Gas External Combustion, and the operating hours of each heater for the calendar month.
 - (3) The VOC emissions in tons from the Train IV Flare, calculated using:
 - (A) The average hourly fuel consumption for the Train IV Flare for the calendar month;
 - (B) The total operating hours of the Train IV Flare; and
 - (C) The VOC emission factors specified in AP-42 Chapter 13.5 Industrial Flares.
 - (4) The VOC emissions in tons from the Train IV Thermal Oxidizer, calculated using the following:
 - (A) The average hourly VOC mass emissions rate for the calendar month, calculated as specified in Sections D.3(e) and (f) of this permit, multiplied by the average hourly acid gas flow rate for the month; and
 - (B) The VOC destruction efficiency of the Train IV Thermal Oxidizer, as specified in this permit.
 - (5) The VOC emissions in tons from the Train IV Amine Unit Regeneration System emissions that bypassed the Train IV Thermal Oxidizer and vented to the atmosphere, calculated using:
 - (A) The hours emissions were vented to the atmosphere for the calendar month; and
 - (B) The average hourly VOC mass emissions rate for the calendar month, calculated as specified in Sections D.3(e) and (f) of this permit.

- (ii) Prior to 12 full months of VOC emissions calculations for the Train IV Plant, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for all previous months since the Train IV Plant commenced operations and record the total. Thereafter, the Permittee shall, at the end of each month, add the emissions for that month to the calculated emissions for the preceding 11 months and record a new 12-month total.
- (iii) VOC emissions from all controlled and uncontrolled emission sources for the Train IV Plant shall be included in the monthly calculation, including, but not limited to: the Train IV thermal oxidizer, the Train IV Hot Oil Heater, the Train IV Regeneration Gas Heater, Train IV Flare and equipment leaks.

4. Recordkeeping Requirements

The Permittee shall maintain the following records:

- (a) The actual monthly and consecutive 12-month facility-wide CO₂e and VOC total emissions from the Train IV Plant, in tpy;
- (b) All required measurements and calculations, including:
 - (i) The flow rate and the hydrocarbon concentration in the emissions from the Train IV Amine Unit Regeneration System to be combusted by the Train IV Thermal Oxidizer;
 - (ii) The hourly and monthly average CO₂ mass emission rates for the Train IV Plant, as specified in this permit;
 - (iii) The total volume of natural gas processed through the Train IV Amine Unit Gas-to-Liquid Contactor, as specified in this permit;
 - (iv) The total fuel consumed by and the total operating hours of the Train IV Amine Unit heaters, the Train IV Thermal Oxidizer, and the Train IV Flare, as specified in this permit;
 - (v) The hourly and 24-hour average temperature of the exhaust gas of the Train IV Thermal Oxidizer; and
 - (vi) The total hours that emissions from the Train IV Amine Unit Regeneration System bypass the Train IV Thermal Oxidizer and vent to the atmosphere during periods when the Train IV Thermal Oxidizer is inoperable. Compliance with the limit on the hours that CO₂ emissions may bypass the Thermal Oxidizer as specified in this permit shall be met by recording all dates and times the acid gas begins and subsequently ceases bypassing Train IV Thermal Oxidizer.
- (c) The results of each required performance test for VOC emissions;
- (d) The results of each extended laboratory analysis of the hydrocarbon and CO₂ concentration in the gas stream from the Train IV Amine Unit Regeneration System;
- (e) All input parameters and methodologies used to calculate the monthly CO₂e and VOC emissions from the Train IV Plant;

- (f) Any instance that a leak is detected from the closed-vent system routing emissions from the Train IV Amine Unit Regeneration System to the Train IV Thermal Oxidizer. The records shall include:
 - (i) The date the leak was first discovered;
 - (ii) A summary of all corrective actions taken to repair the leak, including:
 - (1) The date and time that any repair was completed that did not require a facility shutdown; and
 - (2) Any instance in which a facility shutdown was required in order to make the repair and the date and time of the shutdown and subsequent startup after the repair was completed.
- (g) All deviations from the requirements of this permit; and
- (h) A description of the startup of the Train IV Plant. The description shall include the date and time that operations of the Train IV Plant commence and the actual sizes of the Train IV Amine Unit Hot Oil and Regeneration Gas Heaters installed (MMBtu/hr) and documentation from the manufacturer demonstrating that the heaters installed meet a NO_x emission rate of 0.03 lb/MMBtu.

E. Records Retention

- 1. The Permittee shall retain all records required by this permit for a period of at least five (5) years from the date the record was created.
- 2. Records shall be kept at the facility or the location that has day-to-day operational control over the facility.

F. Notifications and Reporting

1. Annual Emission Reports

- (a) Each year no later than April 1st, the Permittee shall submit an annual report of consecutive 12-month annual emissions of: VOC for the Train III Thermal Oxidizer and the closed-vent system routing emissions from the Train II CO₂ Vent and the Train III Amine Regeneration System to the Train III Thermal Oxidizer; NO_x for the Train III Amine Unit Hot Oil and Regeneration Gas Heaters; and VOC and CO₂ for the Train IV Plant. The annual report shall cover the period for the previous calendar year. For the first calendar year the Permittee shall submit the cumulative emissions. The Permittee may submit the information required in the annual report as part of the Title V annual certification report required for the Chipeta Facility.
- (b) The report shall be submitted to:

U.S. Environmental Protection Agency, Region 8
Office of Partnerships and Regulatory Assistance
Tribal Air Permitting Program, 8P-AR

1595 Wynkoop Street
Denver, Colorado 80202

The report may be submitted via electronic mail to R8AirPermitting@epa.gov.

2. All other documents required to be submitted under this permit shall be submitted to:

U.S. Environmental Protection Agency
Region 8 Office of Enforcement, Compliance & Environmental Justice
Air Toxics and Technical Enforcement Program, 8ENF-AT
1595 Wynkoop Street
Denver, Colorado 80202

Documents may be submitted via electronic mail to R8AirReportEnforcement@epa.gov.

3. The Permittee shall submit notifications to the EPA within 30 days after the completion of the modifications to Train II and III Plants and within 30 days after the subsequent startup of the Train IV Plant. The notifications shall include the date and time of completion of the modifications to the Train II and III Plants and the startup of the Train IV Plant, as well as the actual sizes of the Train IV Amine Unit Hot Oil and Regeneration Gas Heaters installed (MMBtu/hr) and documentation from the manufacturer demonstrating that the heaters installed meet a NO_x emission rate of 0.03 lb/MMBtu.
4. The Permittee shall promptly submit to EPA a written report of any deviations of emission or operational limits and a description of any corrective actions or preventative measures taken. A “prompt” deviation report is one that is post marked or submitted via electronic mail to R8AirReportEnforcement@epa.gov within:
 - a. 30 days from the discovery of a deviation that would cause the Permittee to exceed the emission limits specified in this permit if left un-corrected for more than five (5) days after discovering the deviation; and
 - b. 12 months from the discovery of a deviation of recordkeeping or other permit conditions that do not affect the Permittee’s ability to meet the emission limits specified in this permit.
5. The Permittee shall submit a report for any required performance test to the EPA within 60 days after completing the test.
6. The Permittee shall submit any record or report required by this permit upon EPA request.

II. General Provisions

A. Conditional Approval

Pursuant to the authority of 40 CFR 49.151, the EPA hereby conditionally grants this permit to construct. This authorization is expressly conditioned as follows:

1. *Document Retention and Availability:* This permit and any required attachments shall be retained and made available for inspection upon request at the location set forth herein.

2. *Permit Application:* The Permittee shall abide by all representations, statements of intent and agreements contained in the application submitted by the Permittee. The EPA shall be notified 10 days in advance of any significant deviation from this permit application as well as any plans, specifications or supporting data furnished.
3. *Permit Deviations:* The issuance of this permit may be suspended or revoked if the EPA determines that a significant deviation from this permit application, specifications, and supporting data furnished has been or is to be made. If the proposed source is constructed, operated, or modified not in accordance with the terms of this permit, the Permittee will be subject to appropriate enforcement action.
4. *Compliance with Permit:* The Permittee shall comply with all conditions of this permit, including emission limitations that apply to the affected emissions units at the permitted facility/source. Noncompliance with any permit term or condition is a violation of this permit and may constitute a violation of the Clean Air Act and is grounds for enforcement action and for a permit termination or revocation.
5. *Fugitive Emissions:* The Permittee shall take all reasonable precautions to prevent and or minimize fugitive emissions during the construction period.
6. *National Ambient Air Quality Standard and PSD Increment:* The permitted source shall not cause or contribute to a National Ambient Air Quality Standard violation or a PSD increment violation.
7. *Compliance with Federal and Tribal Rules, Regulations, and Orders:* Issuance of this permit does not relieve the Permittee of the responsibility to comply fully with all other applicable Federal and Tribal rules, regulations, and orders now or hereafter in effect.
8. *Enforcement:* It is not a defense, for the Permittee, in an enforcement action, to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
9. *Facility/Source Modifications:* For proposed modifications, as defined at §49.152(d), that would increase an emissions unit allowable emissions of a PSD, TMNSR, or hazardous pollutants above its existing permitted annual allowable emissions limit, the Permittee shall first obtain a permit modification pursuant to the TMNSR regulations approving the increase. For a proposed modification that is not otherwise subject to review under the PSD or TMNSR regulations, such proposed increase in the annual allowable emissions limit shall be approved through an administrative permit revision as provided at §49.159(f).
10. *Relaxation of Legally and Practically Enforceable Limits:* At such time that a new or modified source within the permitted facility/source or modification of the permitted facility/source becomes a major stationary source or major modification solely by virtue of a relaxation in any legally and practically enforceable limitation which was established after August 7, 1980, on the capacity of the permitted facility/source to otherwise emit a pollutant, such as a restriction on

hours of operation, then the requirements of the PSD regulations shall apply to the source or modification as though construction had not yet commenced on the source or modification.

11. *Revise, Reopen, Revoke and Reissue, or Terminate for Cause:* This permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee, for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. The EPA may reopen a permit for a cause on its own initiative, e.g., if this permit contains a material mistake or the facility fails to assure compliance with the applicable requirements.
12. *Severability clause:* The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.
13. *Property Rights:* This permit does not convey any property rights of any sort or any exclusive privilege.
14. *Information Requests:* The Permittee shall furnish to the EPA, within a reasonable time, any information that the EPA may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating this permit or to determine compliance with this permit. For any such information claimed to be confidential, you shall also submit a claim of confidentiality in accordance with 40 CFR Part 2, Subpart B.
15. *Inspection and Entry:* The EPA or its authorized representatives may inspect the permitted facility/source during normal business hours for the purpose of ascertaining compliance with all conditions of this permit. Upon presentation of proper credentials, the Permittee shall allow the EPA or its authorized representative to:
 - (a) Enter upon the premises where a facility/source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of this permit;
 - (b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of this permit;
 - (c) Inspect, during normal business hours or while the permitted facility/source is in operation, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
 - (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or other applicable requirements; and
 - (e) Record any inspection by use of written, electronic, magnetic and photographic media.


16. *Permit Effective Date:* This permit is effective immediately upon issuance unless comments resulted in a change in the draft permit, in which case this permit is effective 30 days after issuance. The Permittee may notify the EPA, in writing, that this permit or a term or condition of it is rejected. Such notice should be made within thirty days of receipt of this permit and should include the reason or reasons for rejection.
17. *Permit Transfers:* Permit transfers shall be made in accordance with 40 CFR 49.159(f). The Air Program Director shall be notified in writing at the address shown below if the company is sold or changes its name.

U.S. Environmental Protection Agency, Region 8
C/o Tribal Air Permitting Program, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202

18. *Invalidation of Permit:* This permit becomes invalid if construction is not commenced within 18 months after the effective date of this permit, construction is discontinued for 18 months or more, or construction is not completed within a reasonable time. The EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between the construction of the approved phases of a phased construction project. The Permittee shall commence construction of each such phase within 18 months of the projected and approved commencement date.
19. *Notification of Start-Up:* The Permittee shall submit a notification of the anticipated date of initial start-up of the permitted facility/source to the EPA within 60 days of such date.

B. Authorization

Authorized by the United States Environmental Protection Agency, Region 8



9/10/13

Derrith R. Watchman-Moore
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Date