Wortman, Eric

From: Wortman, Eric
Sent: Tuesday, November 14, 2017 4:00 PM
To: Wortman, Eric
Subject: Notice of Issuance of Permit to Construct on the Uintah and Ouray Indian Reservation

This is to notify you that the EPA has issued a final Clean Air Act (CAA) synthetic minor permit to construct for the existing Anadarko Uintah Midstream, LLC's White River Compressor Station pursuant to the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR Part 49. The final MNSR permit and administrative permit record will be available in PDF format on our website at: http://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-8.

In accordance with the regulations at §49.159(a), the permit will be effective immediately upon issuance, on November 14, 2017. Within 30 days after a final permit decision has been issued, any person who filed comments on the proposed permit or participated in the public hearing may petition the Environmental Appeals Board (EAB) to review any condition of the permit decision. 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 under this section begins when we have fulfilled the notice requirements for the final permit decision. Motions to reconsider a final order by the EAB must be filed within 10 days after service of the final order. A petition to the EAB is under Section 307(b) of the CAA, a prerequisite to seeking judicial review of the final agency action. For purposes of judicial review, final agency action occurs when we issue or deny a final permit and agency review procedures are exhausted.

Thank you,

Eric Wortman

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Eric Wortman | Environmental Scientist
U.S. EPA, Region 8
1595 Wynkoop Street (8P-AR)
Denver, Colorado 80202
Telephone: (617) 918-1624 | Email: wortman.eric@epa.gov

Wortman, Eric

From: Wortman, Eric
Sent: Tuesday, November 14, 2017 4:00 PM
To: 'mike.weaver@anadarko.com'
Cc: 'natalie.ohlhausen@anadarko.com'; 'Bruce Pargeets'; minnieg@utetribe.com; Smith, Claudia; Fallon, Gail
Subject: Final Synthetic Minor NSR Permit for White River Compressor Station
Attachments: Anadarko White River CS FINAL Permit SMNSR-UO-000128-2016.002.pdf

Mr. Weaver,

I have attached the final requested permit for the White River Compressor Station issued pursuant to the Tribal Minor New Source Review (MNSR) Program at 40 CFR Part 49. We will also be posting the final MNSR permit and administrative permit record in PDF format on our website at: http://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-8.

In accordance with the regulations at §49.159(a), the permit will be effective immediately upon issuance, on November 14, 2017. Within 30 days after a final permit decision has been issued, any person who filed comments on the proposed permit or participated in the public hearing may petition the Environmental Appeals Board (EAB) to review any condition of the permit decision. 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 under this section begins when we have fulfilled the notice requirements for the final permit decision. Motions to reconsider a final order by the EAB must be filed within 10 days after service of the final order. A petition to the EAB is under Section 307(b) of the CAA, a prerequisite to seeking judicial review of the final agency action. For purposes of judicial review, final agency action occurs when we issue or deny a final permit and agency review procedures are exhausted.

If you have any questions or concerns regarding this final permit action, or would like a paper copy, please contact me.

Thank you,

Eric Wortman

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Eric Wortman | Environmental Scientist
U.S. Environmental Protection Agency
1595 Wynkoop Street (8P-AR)
Denver, Colorado 80202
Telephone: (617) 918-1624 | Email: wortman.eric@epa.gov

Wortman, Eric

From: Wortman, Eric
Sent: Thursday, September 28, 2017 3:13 PM
To: Wortman, Eric
Subject: Notice of Public Comment Period – Proposed Permit to Construct on the Uintah and Ouray Indian Reservation

In accordance with the regulations at 40 CFR 49.157 and 49.158, the EPA is hereby providing notification of the availability for public comment of the proposed Clean Air Act synthetic minor New Source Review permit for the following source located on Indian country lands within the Uintah and Ouray Indian Reservation:

Anadarko Uintah Midstream LLC's White River Compressor Station

Electronic copies of the proposed permit, technical support document, application and other supporting permit information will be available online at http://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8. Paper copies of the proposed permit, technical support document, application, and other supporting permit information may be reviewed by contacting the Federal and/or Tribal contacts identified on the attached public notice bulletin.

Comments may be sent by mail to:

US EPA Region 8
Air Program Office
1595 Wynkoop Street, 8P-AR
Denver, CO 80202
Attn: Tribal NSR Coordinator

or

Electronically to R8AirPermitting@epa.gov

In accordance with the regulations at §49.157, the Agency is providing a 30-day period from September 29, 2017 to October 30, 2017 for public comment on this proposed permit. Comments must be received by 5:00pm MT October 30, 2017, to be considered in the issuance of the final permit. If a public hearing is held regarding this permit, you will be sent a copy of the public hearing notice at least 30 days in advance of the hearing date.

_____

Eric Wortman | Environmental Scientist
U.S. Environmental Protection Agency
Telephone: (617) 918-1624 | Email: wortman.eric@epa.gov

Wortman, Eric

From: Wortman, Eric
Sent: Thursday, September 28, 2017 3:12 PM
To: 'mike.weaver@anadarko.com'
Cc: 'natalie.ohlhausen@anadarko.com'; 'Bruce Pargeets'; minnieg@utetribe.com; Smith, Claudia; Fallon, Gail
Subject: Proposed Synthetic Minor Permit for White River Compressor Station
Attachments: Anadarko White River CS TSD SMNSR-UO-000128-2016.002.pdf; Anadarko White River CS Proposed Permit SMNSR-UO-000128-2016.002.pdf; Bulletin Board Notice - Anadarko SMNSR CD Transfer Permit - White River CS.pdf

Dear Mr. Weaver,

I have attached the requested proposed permit, the accompanying technical support document, and the bulletin board notice for the White River Compressor Station. We will also be posting the proposed permit, technical support document, application and other supporting permit information in PDF format on our website at http://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8 by the start of the public comment period.

In accordance with the regulations at 40 CFR 49.157 and 49.158, we are providing a 30-day period from September 29, 2017 to October 30, 2017 for public comment on this proposed permit. Comments must be received by 5:00pm MT October 30, 2017, to be considered in the issuance of the final permit.

Please submit any written comments you may have concerning the terms and conditions of this permit. You can send them directly to me at wortman.eric@epa.gov, or to r8airpermitting@epa.gov. Should the EPA not accept any or all of these comments, you will be notified in writing and will be provided with the reasons for not accepting them.

Thank you,

Eric Wortman

_____

Eric Wortman | Environmental Scientist
U.S. Environmental Protection Agency
Telephone: (617) 918-1624 | Email: wortman.eric@epa.gov

Public Notice: Request For Comments

Proposed Air Quality Permit to Construct
Anadarko Uintah Midstream, LLC
White River Compressor Station

Notice issued: September 29, 2017

Written comments due:

By 5 p.m., October 30, 2017

Where is the facility located?

White River Compressor Station:
Uintah and Ouray Indian Reservation
Uintah County, Utah
NE/NE Sec. 12, T10S, R22E
Latitude 39.96883 N
Longitude -109.38347 W

What is being proposed?

This permit action will apply to an existing facility operating on the Uintah and Ouray Indian Reservation in Utah.

The White River Compressor Station is a natural gas production source that compresses and treats natural gas from the surrounding field.

Anadarko Uintah Midstream, LLC currently operates under a Federal Consent Decree (CD) between the United States of America (Plaintiff) and the State of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-0134-EWN-KMT).

The facility currently operates six (6) natural gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines to compress natural gas gathered from the field, two low-emission tri-ethylene glycol (TEG) dehydration systems, and other smaller emission units such as pneumatic controls, condensate storage tanks, and field gas-fired heaters.

Anadarko has requested enforceable requirements for the installation and operation of the low-emission TEG dehydration systems for control of volatile organic compound emissions. Anadarko has also requested enforceable carbon monoxide (CO) emissions control efficiency requirements for the 4SLB compressor engines using catalytic emissions control systems. Lastly, Anadarko requested enforceable requirements to install and operate only instrument air-driven or low-bleed pneumatic controllers. The permit the EPA is proposing to issue reflects the incorporation of the requested requirements, which are consistent with the Federal CD.

What are the effects on air quality?

This action will have no adverse air quality impacts. The emissions at this existing facility will not be increasing due to this permit action. In addition, this action does not authorize the construction of any new emission sources, or emission increases from existing sources, nor does it otherwise authorize any other physical modifications to the facility or its operations.

Where can I send comments?

EPA accepts comments by mail, fax and e-mail.

US EPA Region 8 Air Program, 8P-AR
Attn: Federal Minor NSR Coordinator
1595 Wynkoop Street,
Denver, CO 80202
R8AirPermitting@epa.gov
Fax: 303-312-6064

How can I review documents?

You can review a paper or electronic copy of the proposed permit and related documents at the following locations:

Ute Indian Tribe Energy and Minerals Department Office
988 South 7500 East, Annex Building
Fort Duchesne, Utah 84026
Contact: Minnie Grant, Air Coordinator, at (435) 725-4900
or minnieg@utetribe.com

and

US EPA Region 8 Office:
1595 Wynkoop Street, Denver, CO 80202
Hours: Mon-Fri 8:00 a.m. – 5:00 p.m.
Contact: Eric Wortman, Environmental Scientist, at 617-918-1624
or wortman.eric@epa.gov

US EPA Region 8 Website:
https://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8

Permit number:
SMNSR-UO-000128-2016.002

What happens next?
The EPA will review and consider all comments received during the comment period. Following this review, the EPA may issue the permit as proposed, issue a modified permit based on comments, or deny the permit.

Tribal Minor New Source Review in Indian Country

United States Environmental Protection Agency

Region 8
Air Program
1595 Wynkoop Street
Denver, CO 80202
Phone 800-227-8917

https://www.epa.gov/caa-permitting/tribal-nsr-permits-region-8

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region8

Ref: 8P-AR

Mike Weaver
Midstream Operations Manager
Anadarko Uintah Midstream, LLC
P.O. Box 173779
Denver, Colorado 80202-3779

SEP 2 2 2017

Re: Anadarko Uintah Midstream, LLC, White River Compressor Station,
Permit # SMNSR-UO-000128-2016.002, Proposed Synthetic Minor New Source Review Permit

Dear Mr. Weaver:

The U.S. Environmental Protection Agency Region 8 has completed its review of Anadarko Uintah Midstream, LLC's application requesting a synthetic minor permit pursuant to the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR part 49 for the White River Compressor Station, on Indian country lands within the Uintah and Ouray Indian Reservation, in Uintah County, Utah.

Enclosed are the proposed permit and the corresponding technical support document. The regulations at 40 CFR 49.157 require that the affected community and the general public have the opportunity to submit written comments on any proposed MNSR permit. All written comments submitted within 30 calendar days after the public notice is published will be considered by the EPA in making its final permit decision. Also, enclosed is a copy of the public notice which will be published on the EPA's website located at: https://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8, on September 29, 2017. The public comment period will end at 5:00 p.m. on October 30, 2017.

The conditions contained in the proposed permit will become effective and enforceable by the EPA if the permit is issued final. If you are unable to accept any term or condition of the draft permit, please submit your written comments, along with the reason(s) for non-acceptance to:

Tribal NSR Permit Contact
c/o Air Program (8P-AR)
U.S. EPA, Region 8
1595 Wynkoop Street
Denver, Colorado 80202

or

R8AirPermitting@epa.gov

If you have any questions concerning the enclosed proposed permit or technical support document, please contact Eric Wortman of my staff at (617) 918-1624.

Sincerely,

Monica S. Morales
Director, Air Program
Office of Partnerships & Regulatory Assistance

Enclosures (3)

cc: Bruce Pargeets, Director, Energy, Minerals and Air, Ute Indian Tribe
Minnie Grant, Air Coordinator, Energy, Minerals, and Air, Ute Indian Tribe
Natalie Olhausen, Senior HSE Representative, Anadarko Uintah Midstream, LLC

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

Air Pollution Control
Minor Source Permit to Construct

40 CFR 49.151

 # SMNSR-UO-000128-2016.002

Permit to Construct to establish legally and practically enforceable limitations and requirements on sources at an existing facility.

Permittee:

Anadarko Uintah Midstream, LLC

Permitted Facility:

White River Compressor Station
Uintah and Ouray Indian Reservation
Uintah County, Utah

Summary

On September 15, 2016, the EPA received an application from Anadarko Uintah Midstream, LLC (Anadarko), requesting a synthetic minor permit for the White River Compressor Station (White River) in accordance with the requirements of the Tribal Minor New Source Review (MNSR) Permit Program.

This permit action will apply to an existing facility operating on the Uintah and Ouray Indian Reservation in Utah. The physical location is Latitude 39.96883N, Longitude -109.38347W, in Uintah County, Utah.

This permit does not authorize the construction of any new emission sources, or emission increases from existing units, nor does it otherwise authorize any other physical modifications to the facility or its operations. This permit is intended only to incorporate required and requested enforceable emission limits and operational restrictions from a March 27, 2008, federal Consent Decree (CD) between the United States of America (Plaintiff), and the state of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT) and the September 15, 2016 synthetic MNSR application. Anadarko has requested legally and practically enforceable requirements for the installation and operation of two (2) low-emission tri-ethylene glycol (TEG) dehydration systems for dehydrating field gas, consistent with the CD. Anadarko also requested enforceable requirements for installation and operation of a catalytic control system on six (6) field gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (used for field gas compression at the facility), including associated carbon monoxide (CO) control efficiency requirements, consistent with the CD. Lastly, Anadarko requested an enforceable requirement to install and operate only low-bleed, no-bleed, or instrument air-driven pneumatic controllers, consistent with the CD.

Upon compliance with the permit, Anadarko will have legally and practically enforceable restrictions on emissions that can be used when determining the applicability of other Clean Air Act (CAA) permitting requirements, such as those imposed by the Prevention of Significant Deterioration (PSD) Permit Program at 40 CFR part 52 and the Title V Operating Permit Program at 40 CFR part 71 (Part 71 Permit Program).

The EPA has determined that issuance of this MNSR permit will not contribute to National Ambient Air Quality Standards (NAAQS) violations, or have potentially adverse effects on ambient air quality.

Table of Contents

I. Conditional Permit to Construct

A. General Information

Facility:	Anadarko Uintah Midstream, LLC – White River Compressor Station
Permit Number:	SMNSR-UO-000128-2016.002
SIC Code and SIC Description:	1311- Crude Petroleum and Natural Gas

Site Location:
White River Compressor Station
NE/NE Sec 12 T10S R22E
Uintah and Ouray Indian Reservation
Uintah County, Utah
Latitude 39.96883N, Longitude -109.38347W

Corporate Office Location
Anadarko Uintah Midstream, LLC
P.O. Box 173779
Denver, Colorado 80202-3779

The equipment listed in this permit shall be operated by Anadarko Uintah Midstream, LLC at the location described above.

B. Applicability

1. This federal Permit to Construct is being issued under authority of the MNSR Permit Program.

2. The requirements in this permit have been created, at the Permittee's request and pursuant to the MNSR permit program, to establish legally and practically enforceable emissions restrictions for a TEG dehydration system, pneumatic controllers and control of CO emissions from field gas-fired engines.

3. Any conditions established for this facility or any specific units at this facility pursuant to any permit issued under the authority of the PSD Permit Program or the MNSR Permit Program shall 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 Low-Emission Dehydrator

1. Construction and Operational Limits

   (a) The Permittee shall install, operate and maintain no more than two (2) TEG Low-Emission Dehydration units that each meet the specifications set forth in Appendix A of this permit and shall mean a dehydration unit that:

      (i) Incorporates an integral vapor recovery function such that the dehydrator cannot operate independent of the vapor recovery function;

(ii) Either returns the captured vapors to the inlet of the facility where the dehydrator is located or routes the captured vapors to the facility's fuel gas supply header; and

(iii) Is designed and operated to emit less than 1.0 ton of VOC in any consecutive 12-month period, inclusive of VOC emissions from the reboiler burner.

(b) Only the dehydration units that are designed and operated as specified in this permit are approved for installation and operation under this permit.

2. Recordkeeping Requirements: Records shall be kept of the manufacturer specifications for each TEG Low-Emission Dehydration unit, and a certification that it meets the specifications in this permit for a Low-Emission Dehydration unit. The certification shall be signed by the person the Permittee has designated as primarily responsible for CAA compliance for the source and shall include the following: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete."

3. Requirements under **Section C. Requirements for the Low-Emission Dehydrator** shall be effective upon termination of the March 27, 2008, federal CD between the United States of America (Plaintiff), and the state of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT).

D. Requirements for 4SLB Compressor Engines

1. Construction and Operational Requirements

(a) The Permittee shall install and operate emission controls as specified in this permit on six (6) existing engines used for field gas compression, all meeting the following specifications:

(i) Operated as a 4-stroke lean-burn engine;
(ii) Fired with field gas; and
(iii) Three (3) engines limited to a maximum site rating of 1,340 horsepower (hp) and three (3) engines limited to a maximum site rating of 1,775 hp.

(b) Only the engines that are operated and controlled as specified in this permit are approved for installation under this permit.

2. Control, Operation and Maintenance Requirements

(a) The Permittee shall install, continuously operate and maintain a catalytic control system on each engine that is capable of reducing the uncontrolled emissions of CO by at least 93.0% by weight when the engine is operating at a 90% load or higher.

(b) The Permittee shall follow, for each engine and its respective catalytic control system, the manufacturer's recommended maintenance schedule and procedures or equivalent procedures developed by the Permittee or vendor, to ensure optimum performance of each engine and its respective catalytic control system to ensure compliance with the CO control efficiency requirement in this permit.

(c) The Permittee may rebuild an existing permitted engine or replace an existing permitted engine with an engine of the same hp rating, and configured to operate in the same manner as the engine being rebuilt or replaced. Any operational requirements, control technologies, testing or other provisions that apply to the engines that are rebuilt or replaced shall also apply to the replacement engines.

(d) The Permittee may resume operation without the catalytic control system during an engine break-in period, not to exceed 200 operating hours, for any rebuilt or replaced engines.

3. Performance Test Requirements

(a) Performance tests shall be conducted on each engine and catalytic control system for measuring CO to demonstrate compliance with the control efficiency requirement specified in this permit. The performance tests shall be conducted in accordance with the Carbon Monoxide Control Efficiency Portable Analyzer Monitoring Protocol in Appendix B of this permit to measure the oxygen (O_2) and CO concentrations at the inlet (pre-catalyst) and outlet (post-catalyst) of the catalytic control system.

(i) Initial performance tests shall be conducted no later than 60 calendar days after installation of the catalytic control system, including installation of the catalytic control system on engines that are rebuilt or replaced. The results of initial performance tests conducted prior to the effective date of this permit may be used to demonstrate compliance with the initial performance test requirements, provided the tests were conducted in an equivalent manner as the performance test requirements in this permit.

(ii) Subsequent performance tests shall be conducted semi-annually on each engine. After compliance is demonstrated for two (2) consecutive tests, the testing frequency may be reduced to annually. If an annual test indicates non-compliance, then the Permittee shall resume semi-annual testing.

(b) The Permittee may submit to the EPA a written request for approval of alternate test methods, but shall only use the alternate test methods after obtaining written approval from the EPA.

(c) The Permittee shall not perform engine tuning or make any adjustments to engine settings, catalytic control system settings, processes or operational parameters immediately prior to the engine testing or during the engine testing. Any such tuning or adjustments may result in a determination by the EPA that the test is invalid.

(d) The Permittee shall not abort any engine tests that demonstrate non-compliance with the CO control efficiency requirement specified in this permit.

(e) All performance tests conducted on the engines shall meet the following requirements:

(i) Each test shall consist of at least two (2) consecutive 21-minute or longer valid test runs, one (1) pre-catalyst run and one (1) post-catalyst run;
(ii) The CO control efficiency shall be determined based on the pre- and post-catalyst CO measurements;
(iii) If the catalyst fails to meet the CO control efficiency requirement specified in this permit, appropriate steps shall be taken to correct the deficiency and the catalyst shall be retested within 30 days after the failed test;
(iv) Performance test plans for alternate test methods shall be submitted to the EPA for approval at least 60 calendar days prior to the date the test is planned; and
(v) Alternate test plans shall include and address the following elements:

(A) Purpose of the test;
(B) Engines and catalytic control systems to be tested;
(C) Expected engine operating rate(s) during the test;
(D) Sampling and analysis procedures (sampling locations and test methods);
(E) Quality assurance plan (calibration procedures and frequency and field documentation; and
(F) Data processing and reporting (description of data handling and quality control procedures, report content).

(f) The Permittee shall notify the EPA at least 30 calendar days prior to scheduled performance testing. The Permittee shall notify the EPA at least 1 week prior to scheduled performance testing if the testing cannot be performed.

(g) If a permitted engine is not operating, the Permittee does not need to start up the engine solely to conduct the subsequent performance test. The subsequent performance test requirements apply when the engine is restarted and operates more than 720 consecutive hours (or 30 consecutive days) in a given semi-annual period. If an engine for which the EPA has been notified of a scheduled test is permanently shut down prior to testing, the Permittee does not need to start up the engine solely to conduct the performance test.

4. <u>Recordkeeping Requirements</u>

(a) Records shall be kept of manufacturer and/or vendor specifications for each engine, catalytic control system and portable analyzer.

(b) Records shall be kept of all calibration and maintenance conducted for each engine, catalytic control system and portable analyzer.

(c) Records shall be kept of all required testing in this permit. The records shall include the following:

(i) The date, place and time of portable analyzer measurements;
(ii) The company or entity that performed the portable analyzer measurement;
(iii) The portable analyzer measurement techniques or methods used;
(iv) The results of such measurements; and
(v) The operating conditions as existing at the time of measurement.

(d) Records shall be kept of all engine rebuilds and engine replacements.

(e) Records shall be kept of each rebuilt or replaced engine break-in period, pursuant to the requirements of this permit, where the existing engine that has been rebuilt resumes operation without the catalyst control system for a period not to exceed 200 hours.

(f) Records shall be kept of each time a deviation in the CO control efficiency required in this permit is detected for an engine. The Permittee shall include in the record the cause of the problem, the corrective action taken and the timeframe for bringing the CO control efficiency into compliance.

5. Requirements under **Section D. Requirements for 4SLB Compressor Engines** shall be effective upon termination of the March 27, 2008, federal CD between the United States of America (Plaintiff), and the state of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT).

E. Requirements for Pneumatic Controllers

1. The Permittee shall not operate any high-bleed pneumatic controllers. High-bleed controllers are defined as any controller with the capacity to bleed in excess of 6 standard cubic feet of gas (scf) per hour (50,000 scf per year) in normal operation. The Permittee is not required to install low or no-bleed pneumatic controllers if the use of low or no-bleed pneumatic devices is not technically or operationally feasible.

2. Records shall be kept of manufacturer's and/or vendor's specifications for each pneumatic controller that is not operated using instrument air.

3. Records shall be kept of the determination for each high-bleed pneumatic controller that is installed and operated if the use of low or no-bleed pneumatic devices is not technically or operationally feasible.

4. Requirements under **Section E. Requirements for Pneumatic Controllers** shall be effective upon termination of the March 27, 2008, federal CD between the United States of America (Plaintiff), and the state of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT).

F. Requirements for Records Retention

1. The Permittee shall retain all records required by this permit for a period of at least 5 years from the date the record was created.

2. Records shall be kept in the vicinity of the facility, such as at the facility, the location that has day-to-day operational control over the facility or the location that has day-to-day responsibility for compliance of the facility.

G. Requirements for Reporting

1. Test reports shall be submitted within 60 days after each required initial engine and catalytic control system performance test.

2. The Permittee shall submit a report to the EPA no later than 30 days after each retest after a failed initial test. The retest report shall include a summary of the steps taken to comply and the retest results.

3. Annual Reports

   (a) The Permittee shall submit a written annual report of all required monitoring and testing conducted on emission units at the facility covered under this permit each year no later than March 1st. The annual report shall cover the period for the previous calendar year. All reports shall be certified to truth and accuracy by the person designated by the Permittee as responsible for CAA compliance for the facility.

   (b) The report shall include:

      (i) A summary of the results of each required initial engine and catalytic control system performance test;
      (ii) Test reports for all required subsequent engine and catalytic control system performance tests; and
      (iii) A summary of all deviations of permit conditions and corrective actions taken, per paragraph I.G.5. of this permit.

4. All 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.

5. The Permittee shall promptly submit to the EPA a written report of any deviations of control or operational limits specified in this permit 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 as follows:

   (a) Within 30 days from the discovery of a deviation that would cause the Permittee to exceed the control or operational limits in this permit if left uncorrected for more than 5 days after discovering the deviation; and

   (b) By March 1st for the discovery of a deviation of recordkeeping or other permit conditions during the preceding calendar year that do not affect the Permittee's ability to meet the control or operational limits, included as part of the Annual Reports required in this permit.

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 the 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 CAA 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. *NAAQS and PSD Increments:* The permitted source shall not cause or contribute to a NAAQS 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. *Modifications of Existing Emissions Units/Limits:* For proposed modifications, as defined at 40 CFR 49.152(d), that would increase an emissions unit allowable emissions of pollutants above its existing permitted annual allowable emissions limit, the Permittee shall first obtain a permit modification pursuant to the MNSR regulations approving the increase. For a proposed modification that is not otherwise subject to review under the PSD or MNSR regulations, such

proposed increase in the annual allowable emissions limit shall be approved through an administrative permit revision as provided at 40 CFR 49.159(f).

10. *Relaxation of Legally and Practically Enforceable Limits:* At such time that a new or modified source within this permitted facility/source or modification of this 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 this permit for a cause on its own initiative, e.g., if this permit contains a material mistake or the Permittee 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, the Permittee 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 this 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 this permitted 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 this 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 a later effective date is specified in the permit, or unless comments resulted in a change in the proposed permit, in which case this permit is effective 30 days after issuance. If within 30 days after the service of notice of the final permit issuance, a person petitions the Environmental Appeals Board to review any condition(s) of the final permit in accordance with 40 CFR 49.159(d), the specific terms and conditions of the permit that are the subject of the request for review must be stayed.

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
Office of Partnerships and Regulatory Assistance
Tribal Air Permitting Program, 8P-AR
1595 Wynkoop Street
Denver, Colorado 80202

18. *Invalidation of Permit:* Unless this permitted source of emissions is an existing source, 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 startup of this permitted source to the EPA within 60 days of such date, unless this permitted source of emissions is an existing source.

B. Authorization

Authorized by the United States Environmental Protection Agency, Region 8

_____

Monica S. Morales Date
Director, Air Program
Office of Partnerships and Regulatory Assistance

Appendix A

Low-Emission Dehydrator Specifications

[Copy of Appendix C to the CD in the matter of United States of America and the State of Colorado V. Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT), Low-Emission Dehydrator Specifications]

APPENDIX C

to the

Consent Decree

in the matter of

United States of America and the State of Colorado v. Kerr-McGee Corporation

LOW-EMISSION DEHYDRATOR SPECIFICATIONS

Overview and Purpose

Kerr-McGee has agreed to employ "Low-Emission Dehydrator" technology at its existing and planned facilities in the Uinta Basin as part of the settlement of alleged Clean Air Act violations with the United States and the State of Colorado. The terms of that settlement will be memorialized in a consent decree to be entered by the United States District Court for the District of Colorado to be styled *United States of America and the State of Colorado v. Kerr-McGee Corporation* (hereafter the "Consent Decree"). As required in the Consent Decree at Section IV.A., this Appendix C includes:

> (a) a description of physical electrical hard-wiring between the vapor recovery unit ("VRU") compressor(s) and the glycol circulation pumps employed or to be employed, so that if the VRU compressor(s) go down then the glycol circulation pump(s) also shut down, thereby halting the circulation of glycol through the wet gas, as well as the emissions associated with the regeneration of the glycol;
>
> (b) a description of a second level of protection (redundancy) incorporated into a Programmable Logic Controller that uses instrumentation to shut down the glycol dehydration system in the event all VRU compressor(s) go down; and
>
> (c) a description of any third level of protection and discussion of how the non-condensible gases from glycol dehydrator operation shall be piped exclusively to the station inlet or fuel system for use as fuel and is not used for blanket gas in storage tanks or otherwise vented.

Background

Natural gas often contains water vapor at the wellhead which must be removed to avoid pipeline corrosion and solid hydrate formation. Glycol dehydration is the most widely used natural gas dehumidification process. In a glycol dehydration system, dry triethylene glycol ("TEG") or ethylene glycol ("EG") is contacted with wet natural gas. The glycol absorbs water from the natural gas, but also absorbs hydrocarbons including volatile organic compounds ("VOCs") and certain hazardous air pollutants ("HAPs"). Pumps circulate the glycol from a low-pressure distillation column for regeneration back to high pressure in order to contact with the high pressure wet gas. As the wet glycol pressure is reduced prior to distillation, much of the absorbed hydrocarbon is released, including some of the VOCs and HAPs. A flash tank is typically utilized to separate these vapors at a pressure where they can be utilized for fuel. Distillation removes the absorbed water along with any remaining hydrocarbon, including VOCs and HAPs, from the glycol to the still column vent as overhead vapor. Conventional dehydrator still columns often emit the non-condensable portion of this overhead vapor directly to the atmosphere, or to a combustion device such as a thermal oxidizer or reboiler burner.

Kerr-McGee currently utilizes low-emission glycol dehydrators at its facilities in the Uinta Basin. These units capture the non-condensable portion of still vent and flash tank vapors and recompress the vapor with reciprocating or scroll compressors that route the

vapor to the station inlet as natural gas product, to fuel lines for power generation turbines or to the station fuel system. They also employ electric glycol circulation pumps, and except for the recompression of non-condensable vapors, resemble conventional glycol dehydrators in their configuration. See Figure 1.

To insure that the non-condensable vapor compression system is fully integrated into dehydrator operation such that the units cannot be disabled so as to operate while venting to the atmosphere, each unit;

a. incorporates an integral vapor recovery function that prevents the dehydrator from operating independent of the vapor recovery function;
b. either returns the captured vapors to the inlet of the facility where each glycol dehydrator is located or routes the captured vapors to that facility's fuel gas supply header; and
c. thereby emits no more than 1.0 ton per year of VOCs.

Description of Interlocks

The low-emission glycol dehydrators have at least three (3) levels of protection to prevent emissions from occurring.

(a) Physical electrical hard-wiring between the vapor recovery unit (VRU) compressor(s) and the glycol circulation pumps ensures that if the VRU compressor(s) goes down, the glycol pump(s) also shut down, thereby halting the circulation of glycol through the wet gas as well as the emissions associated with the regeneration of glycol. More specifically:

1. Loss of station power interrupts the 480 volt power to the glycol pump(s) circulating glycol through the contactor.
2. Loss of 24 volt power to a relay interrupts the 480 volt power to the glycol pump(s) circulating glycol through the contactor. The 24 volt power is wired in parallel through the run status contacts of each VRU compressor in a specific service. If all VRU compressors in each specific service are shutdown, the 24 volt power is interrupted. There is at least one spare VRU compressor in standby mode for each specific service at existing Uinta Basin facilities engaged in gas dehydration. Non-condensable gas from VRU compressor discharge always has an outlet because if the station inlet pressure rises to a level greater than VRU compressor output, the flash tank vapors automatically go through a back pressure regulator to the fuel gas system until gathering pressure is reduced.
3. If the glycol still column/reboiler pressure rises above pressure set points, the 24 volt power to a relay is interrupted. The unpowered relay interrupts the 480 volt power to the glycol pump(s) circulating glycol to the contactor. If one of the glycol still VRU compressors is running but not compressing vapors, the pressure switch will detect the pressure rise in the still and shutdown the glycol circulating pump(s).

4. The operation of at least one of the VRU compressors is required to complete the electrical circuit and allow one of the glycol circulation pumps to operate.
5. There is a 10 second time delay switch installed in the physical electrical circuit that must time out before the glycol circulating pump(s) shut down for causes 2 and 3 above. This allows for switching of compressors and helps to prevent false shutdowns.
6. Everything is hard wired and does not depend on any type of controller.

(b) A second level of protection redundancy has been incorporated by utilizing the station Programmable Logic Controller (PLC) to shut down the dehydration system in the event the VRU compressor(s) go down.

1. A PLC timer will start counting when none of the VRU compressor(s) are in operation. When the timer times out, the PLC will not allow the regenerator system to be in run status.

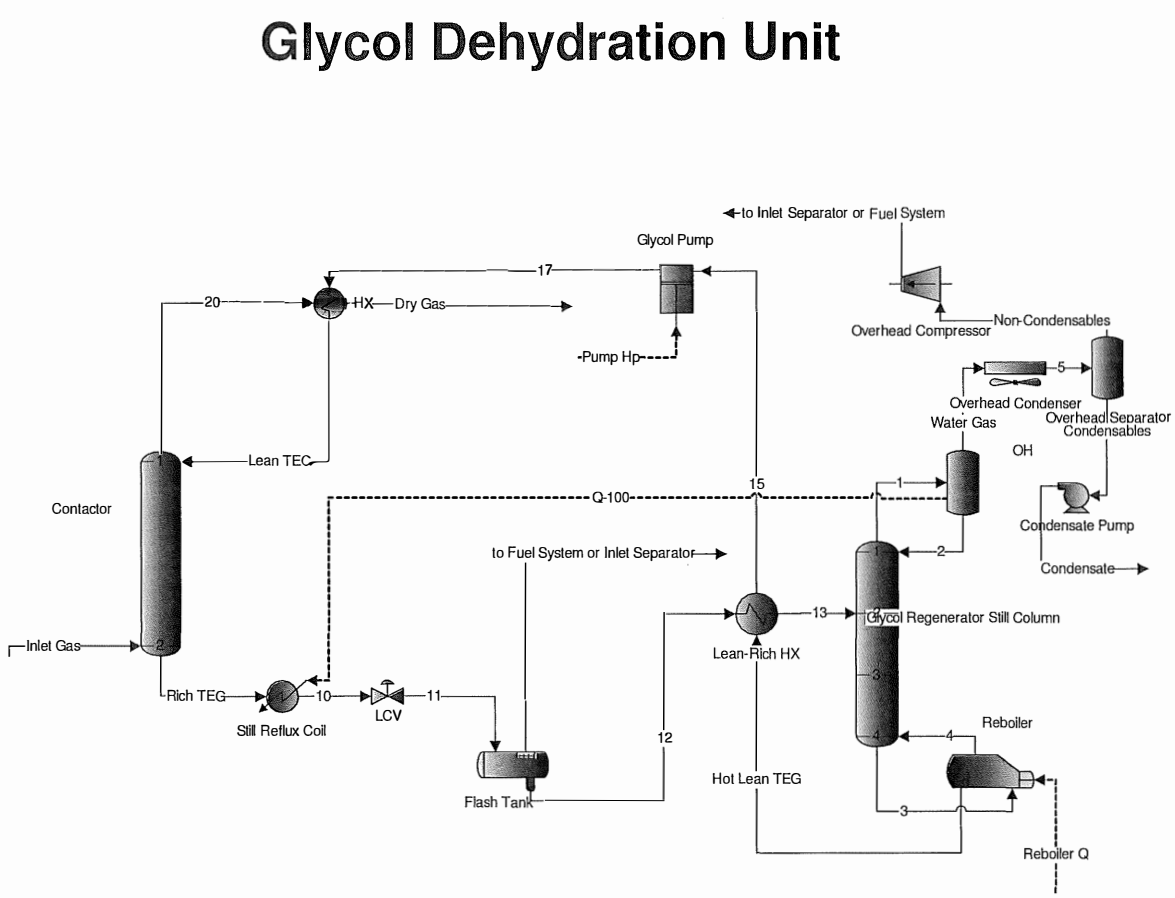
(c) A third level of protection is the routing of non-condensables directly to combustion devices in the stations that utilize micro-turbine electrical generators or central heat medium systems.

1. The non-condensable regenerator overhead vapors are routed to the inlet of each station or used as fuel. In instances where the inlet pressure rises above VRU compressor outlet pressures, a regulator opens allowing the VRU-compressed vapors to be discharged into the fuel system, where they are used throughout the station.
2. In Kerr-McGee's planned electrified compressor stations, liquids that condense at the compression stations, including those condensed from the glycol still overhead vapors, will be contained at pressure, separated from any water and pumped downstream into the high pressure gathering system. This process change will eliminate atmospheric storage of hydrocarbon liquids at such facilities.

Conclusion

Kerr-McGee's adherence to these specifications shall satisfy its commitment in the Consent Decree to utilize low-emission dehydrator technology in its existing and planned Uinta Basin operations.

Figure 1: Kerr-McGee Low-Emission Dehydrator Schematic



Appendix C: Low-Emission Dehydrator Specifications

Appendix B

Carbon Monoxide Control Efficiency Portable Analyzer Monitoring Protocol

[Copy of Appendix F to the CD in the matter of United States of America and the State of Colorado V. Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT), Carbon Monoxide Control Efficiency Portable Analyzer Monitoring Protocol]

APPENDIX F

to the

Consent Decree

in the matter of

United States of America and the State of Colorado v. Kerr-McGee Corporation

CARBON MONOXIDE CONTROL EFFICIENCY PORTABLE ANALYZER MONITORING PROTOCOL

Determination of Carbon Monoxide Control Efficiency from Controlled Natural Gas-Fired Reciprocating Engines Located in the Uinta Basin

TABLE OF CONTENTS

OVERVIEW AND PURPOSE

Kerr-McGee has agreed to conduct portable analyzer testing for carbon monoxide ("CO") on certain reciprocating internal combustion engines ("RICE") located in the Uinta Basin that are controlled with oxidation catalysts as part of a settlement of alleged Clean Air Act violations with the United States and the State of Colorado. The terms of that settlement will be memorialized in a consent decree to be entered by the United States District Court for the District of Colorado to be styled *United States of America and the State of Colorado v. Kerr-McGee Corporation* (hereafter the "Consent Decree"). As required in the Consent Decree at Section IV.D., Kerr-McGee will conduct portable analyzer testing on certain RICE located in the Uinta Basin that will be controlled with oxidation catalysts.

1. APPLICABILITY AND PRINCIPLE

1.1 Applicability. This protocol was prepared to be implemented by Kerr-McGee Oil and Gas Onshore LP, Westport Field Services LLC and/or certain of their corporate affiliates ("Kerr-McGee") will monitor carbon monoxide (CO) and oxygen (O_2) concentrations from controlled natural gas-fired reciprocating engines using portable analyzers with electrochemical cells.

1.2 Principle. A gas sample is continuously extracted from a stack and conveyed to a portable analyzer for determination of CO and O_2 gas concentrations using electrochemical cells. Analyzer design specifications, performance specifications, and test procedures are provided to ensure reliable data. Additions to or modifications of vendor-supplied analyzers (e.g. heated sample line, flow meters, etc.) may be required to meet the design specifications of this test method.

2. RANGE AND SENSITIVITY

2.1 Analytical Range. The analytical range for each gas component is determined by the electrochemical cell design. A portion of the analytical range is selected to be the nominal range by choosing a span gas concentration near the flue gas concentrations or permitted emission level in accordance with Sections 2.1.1 and 2.1.2.

2.1.1 CO Span Gas. Choose a CO span gas such that the concentration is approximately 1.25 times average expected pre-catalyst stack gas reading.

2.1.2 O_2 Span Gas. The O_2 span gas shall be dry ambient air at 20.9% O_2.

2.1.2 NO Span Gas. The NO span gas shall be approximately 250 ppm.

3. DEFINITIONS

3.1 Measurement System. The total equipment required for the determination of gas concentration. The measurement system consists of the following major subsystems:

3.1.1 Sample Interface. That portion of a system used for one or more of the following: sample acquisition, sample transport, sample conditioning, or protection of the electrochemical cells from particulate matter and condensed moisture.

3.1.2 External Interference Gas Scrubber. A tube filled with scrubbing agent used to remove interfering compounds upstream of some electrochemical cells.

3.1.3 Electrochemical (EC) Cell. The portion of the system that senses the gas to be measured and generates an output proportional to its concentration. Any cell that uses diffusion-limited oxidation and reduction reactions to produce an electrical potential between a sensing electrode and a counter electrode.

3.1.4 Data Recorder. It is recommended that the analyzers be equipped with a strip chart recorder, computer, or digital recorder for recording measurement data. However, the operator may record the test results manually in accordance with the requirements of Section 7.4.

3.2 Nominal Range. The range of concentrations over which each cell is operated (25 to 125 percent of span gas value). Several nominal ranges may be used for any given cell as long as the linearity and stability check results remain within specification.

3.3 Span Gas. The high level concentration gas chosen for each nominal range.

3.4 Zero Calibration Error. For the CO channel, the absolute value of the difference, expressed as a percent of the span gas, between the gas concentration exhibited by the gas analyzer when a zero level calibration gas is introduced to the analyzer and the known concentration of the zero level

calibration gas. For the O_2 channel, the difference, expressed as percent O_2, between the gas concentration exhibited by the gas analyzer when a zero level calibration gas is introduced to the analyzer and the known concentration of the zero level calibration gas.

3.5 Span Calibration Error. For the CO channel, the absolute value of the difference, expressed as a percent of the span gas, between the gas concentration exhibited by the gas analyzer when a span gas is introduced to the analyzer and the known concentration of the span gas. For the O_2 channel, the difference, expressed as percent O_2, between the gas concentration exhibited by the gas analyzer when a span gas is introduced to the analyzer and the known concentration of the span gas.

3.6 Response Time. The amount of time required for the measurement system to display 95 percent of a step change in the CO gas concentration on the data recorder.

3.7 Linearity Check. A method of demonstrating the ability of a gas analyzer to respond consistently over a range of gas concentrations.

3.8 Stability Check. A method of demonstrating an electrochemical cell operated over a given nominal range provides a stable response and is not significantly affected by prolonged exposure to the analyte.

3.9 Stability Time. As determined during the stability check; the elapsed time from the start of the gas injection until a stable reading has been achieved.

3.10 Test. The collection of emissions data consisting of two consecutive 21 minute sampling periods, 21 minutes pre-catalyst and 21 minutes post catalyst, from each source.

4. MEASUREMENT SYSTEM PERFORMANCE SPECIFICATIONS

4.1 Zero Calibration Error. Less than or equal to ±3 percent of the span gas value for CO channels and less than or equal to ±0.3 percent O_2 for the O_2 channel.

4.2 Span Calibration Error. Less than or equal to ±5 percent of the span gas value for CO channels and less than or equal to ±0.5 percent O_2 for the O_2 channel.

4.3 Linearity. For the zero, mid-level, and span gases, the absolute value of the difference, expressed as a percent of the span gas, between the gas value and the analyzer response shall not be greater than 2.5 percent for the CO cell.

4.4 Stability Check Response. The analyzer responses to CO span gases shall not vary more than 3.0 percent of span gas value over a 30-minute period or more than 2.0 percent of the span gas value over a 15-minute period.

4.5 CO Measurement, Hydrogen (H_2) Compensation. It is recommended that CO measurements be performed using a hydrogen-compensated EC cell since CO-measuring EC cells can experience significant reaction to the presence of H_2 in the gas stream. Sampling systems equipped with a scrubbing agent prior to the CO cell to remove H_2 interferent gases may also be used.

5. APPARATUS AND REAGENTS

5.1 Measurement System. Use any measurement system that meets the performance and design specifications in Sections 4 and 5 of this method. The sampling system shall maintain the gas sample at a temperature above the dew point up to the moisture removal system. The sample conditioning system shall be designed so there are no entrained water droplets in the gas sample when it contacts the electrochemical cells. A schematic of an acceptable measurement system is shown in Figure 1. The essential components of the measurement system are described below:

5.1.1 Sample Probe. Glass, stainless steel, or other nonreactive material, of sufficient length to sample per the requirements of Section 7. If necessary to prevent condensation, the sampling probe shall be heated.

5.1.2 Heated Sample Line. Heated (sufficient to prevent condensation) nonreactive tubing such as teflon, stainless steel, glass, etc. to transport the sample gas to the moisture removal system. (Includes any particulate filters prior to the moisture removal system.)

5.1.3 Sample Transport Lines. Nonreactive tubing such as teflon, stainless steel, glass, etc. to transport the sample from the moisture removal system to the sample pump, sample flow rate control, and electrochemical cells.

5.1.4 Calibration Assembly. A tee fitting to attach to the probe tip or where the probe attaches to the sample line for introducing calibration gases at ambient pressure during the calibration error checks. The vented end of the tee should have a flow indicator to ensure sufficient calibration gas flow. Alternatively use any other method that introduces calibration gases at the probe at atmospheric pressure.

5.1.5 Moisture Removal System. A chilled condenser or similar device (e.g., permeation dryer) to remove condensate continuously from the sample gas while maintaining minimal contact between the condensate and the sample gas.

5.1.6 Particulate Filter. Filters at the probe or the inlet or outlet of the moisture removal system and inlet of the analyzer may be used to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters shall be fabricated of materials that are nonreactive to the gas being sampled.

5.1.7 Sample Pump. A leak-free pump to pull the sample gas through the system at a flow rate sufficient to minimize the response time of the measurement system. The pump may be constructed of any material that is nonreactive to the gas being sampled.

5.1.8 Sample Flow Rate Control. A sample flow rate control valve and rotameter, or equivalent, to maintain a constant sampling rate within 10 percent during sampling and calibration error checks. The components shall be fabricated of materials that are nonreactive to the gas being sampled.

5.1.9 Gas Analyzer. A device containing electrochemical cells to determine the CO and O_2 concentrations in the sample gas stream. The analyzer shall meet the applicable performance specifications of Section 4. A means of controlling the analyzer flow rate and a device for determining proper sample flow rate (e.g., precision rotameter, pressure gauge downstream of all flow controls, etc.) shall be provided at the analyzer.

5.1.10 Data Recorder. A strip chart recorder, computer, or digital recorder, for recording measurement data. The data recorder resolution (i.e., readability) shall be at least 1 ppm for CO and 0.1 percent O_2 for O_2; and one degree (C or F) for temperature.

5.1.11 External Interference Gas Scrubber. Used by some analyzers to remove interfering compounds upstream of a CO electrochemical cell. The scrubbing agent should be visible and should have a means of determining when the agent is exhausted (e.g., color indication).

5.2 Calibration Gases. Both the CO and NO calibration gases for the gas analyzer shall be CO or

NO in nitrogen.

5.2.1 Span Gases. Used for calibration error, linearity, and interference checks of each nominal range of each cell. Select concentrations according to procedures in Section 2.1.1. Clean dry air may be used as the span gas for the O_2 cell as specified in Section 2.1.2.

5.2.2 Mid-Level Gases. Select concentrations that are 40-60 percent of the span gas concentrations.

5.2.3 Zero Gas. Concentration of less than 0.25 percent of the span gas for each component. Ambient air may be used in a well ventilated area for the CO.

6. MEASUREMENT SYSTEM PERFORMANCE CHECK PROCEDURES. Perform the following procedures before the measurement of emissions under Section 7.

6.1 Calibration Gas Concentration Certification. For the mid-level and span cylinder gases, use calibration gases certified according to EPA Protocol 1 procedures. Calibration gases must meet the criteria under 40 CFR 60, Appendix F, Section 5.1.2 (3). Expired Protocol 1 gases may be recertified using the applicable reference methods.

6.2 Linearity Check. Conduct the following procedure once for each nominal range to be used on each electrochemical cell. After a linearity check is completed, it remains valid for seven consecutive calendar days. After the seven calendar day period has elapsed, the linearity check must be reaccomplished. Additionally, reaccomplish the linearity check if the cell is replaced.

6.2.1 Linearity Check Gases. For the CO cell obtain the following gases: zero (0-0.25 percent of nominal range), mid-level (40-60 percent of span gas concentration), and span gas (selected according to Section 2.1).

6.2.2 Linearity Check Procedure. If the analyzer uses an external interference gas scrubber with a color indicator, using the analyzer manufacturer's recommended procedure, verify the scrubbing agent is not depleted. After calibrating the analyzer with zero and span gases, inject the zero, mid-level, and span gases appropriate for each nominal range to be used on each cell. Gases need not be injected through the entire sample handling system. Purge the analyzer briefly with ambient air between gas injections. For each gas injection, verify the flow rate is constant and the analyzer responses have stabilized before recording the responses on Form A.

6.3 Stability Check. Conduct the following procedure once for the maximum nominal range to be used on each electrochemical cell. After a stability check is completed, it remains valid for seven consecutive calendar days. After the seven calendar day period has elapsed, the stability check must be reaccomplished. Additionally, reaccomplish the stability check if the CO cell is replaced.

6.3.1 Stability Check Procedure. Inject the CO span gas for the maximum nominal range to be used during the emission testing into the analyzer and record the analyzer response at least once per minute until the conclusion of the stability check. One-minute average values may be used instead of instantaneous readings. After the analyzer response has stabilized, continue to flow the span gas for at least a 30-minute stability check period. Make no adjustments to the analyzer during the stability check except to maintain constant flow. Record the stability time as the number of minutes elapsed between the start of the gas injection and the start of the 30-minute stability check period. As an alternative, if the concentration reaches a peak value within five minutes, you may choose to record the data for at least a 15-minute stability check period following the peak.

6.3.2 Stability Check Calculations. Determine the highest and lowest CO concentrations recorded during the 30-minute period and record the results on Form B. The absolute value of the difference between the maximum and minimum values recorded during the 30-minute period must be less than 3.0 percent of the span gas concentration. Alternatively, record stability check data in the same manner for the 15-minute period following the peak concentration. The difference between the maximum and minimum values for the 15-minute period must be less than 2.0 percent of the span gas concentration.

6.4 Interference Check. Conduct the following procedure once for the average anticipated NO stack gas concentration as reported by the manufacuture (250 ppm for Caterpillar lean burns). After a interference check is completed, this value will be utilized for interference calculations for the next 7 calendar days. After the seven calendar day period has elapsed, the interference check must be reaccomplished.

6.4.1 Interference Check Procedure. Inject the 250 ppm NO span gas for the into the analyzer and record the analyzer response at least once per minute until the conclusion of the interference check. One-minute average values may be used instead of instantaneous readings. After the analyzer response has stabilized, continue to flow the span gas for at least a 15-minute period. Make no adjustments to the analyzer during the stability check except to maintain constant flow. Record the CO cell response to this NO calibration gas.

7. EMISSION TEST PROCEDURES.

Prior to performing the following emission test procedures, calibrate/challenge all electrochemical cells in the analyzer in accordance with the manufacturer's instructions.

7.1. Pre/Post-Catalyst Sampling. Select both a pre-catalyst and post catalyst sampling site that will provide continuous uninterrupted exhaust gas flow.

7.2 Warm Up Period. Assemble the sampling system and allow the analyzer and sample interface to warm up and adjust to ambient temperature at the location where the stack measurements will take place.

7.3 Pretest Calibration Error Check. Conduct a zero and span calibration error check before testing each new facility. Conduct the calibration error check near the sampling location just prior to the start of the first emissions test.

7.3.1 Scrubber Inspection. For analyzers that use an external interference gas scrubber tube, inspect the condition of the scrubbing agent and ensure it will not be exhausted during sampling. If scrubbing agents are recommended by the manufacturer, they should be in place during all sampling, calibration and performance checks.

7.3.2 Zero and Span Procedures. Inject the zero and span gases using the calibration assembly. Ensure the calibration gases flow through all parts of the sample interface. During this check, make no adjustments to the system except those necessary to achieve the correct calibration gas flow rate at the analyzer. Set the analyzer flow rate to the value recommended by the analyzer manufacturer. Allow each reading to stabilize before recording the result on Form C. The time allowed for the span gas to stabilize shall be no less than the stability time noted during the stability check. After achieving a stable response, disconnect the gas and briefly purge with ambient air.

7.3.3 Response Time Determination. Determine the CO response time by observing the time required to respond to 95 percent of a step change in the analyzer response for both the zero and span

gases. Note the longer of the two times as the response time.

7.3.4 Failed Pretest Calibration Error Check. If the zero and span calibration error check results are not within the specifications in Section 4, take corrective action and repeat the calibration error check until acceptable performance is achieved.

7.4 Sample Collection. Position the sampling probe at the pre-catalyst sample point and begin sampling at the same rate used during the calibration error check. Maintain constant rate sampling (± 10 percent of the analyzer flow rate value used in Section 7.3.2) during the entire test. The concentration data must be recorded either (1) at least once each minute, or (2) as a block average for the test using values sampled at least once each minute. Repeat this procedure from the post-catalyst sampling location. Two consecutive 21 minute samples, one pre-catalyst and one post catalyst, shall be considered a test for each source

7.5 Re-Zero. At least once every four hours, recalibrate the analyzer at the zero level according to the manufacturer's instructions and conduct a pretest calibration error check before resuming sampling. If the analyzer is capable of reporting negative concentration data (at least 5 percent of the span gas below zero), then the tester is not required to re-zero the analyzer.

8. DATA COLLECTION. This section summarizes the data collection requirements for this protocol.

8.1 Linearity Check Data. Using Form A, record the analyzer responses in ppm for CO, and percent O_2 for the zero, mid-level, and span gases injected during the linearity check under Section 6.2.2.

8.2 Stability Check Data. Record the analyzer response in pmm for CO at least once per minute during the stability check under Section 6.3.1. One-minute average values may be used instead of instantaneous readings. Record the stability time as the number of minutes elapsed between the start of the gas injection and the start of the 30-minute stability check period. If the concentration reaches a peak value within five minutes of the gas injection, you may choose to record the data for at least a 15-minute stability check period following the peak. Use the information recorded to determine the analyzer stability under Section 6.3.2.

8.3 Pretest Calibration Error Check Data. On Form C, record the analyzer responses to the zero and span gases for CO and O_2 injected prior to testing each new source. Record the calibration zero and span gas concentrations for CO and O_2. For CO, record the absolute difference between the analyzer response and the calibration gas concentration, divide by the span gas concentration, and multiply by 100 to obtain the percent of span. For O_2, record the absolute value of the difference between the analyzer response and the O_2 calibration gas concentration. Record whether the calibration is valid by comparing the percent of span or difference between the calibration gas concentration and analyzer O_2 response, as applicable, with the specifications under Section 4.1 for the zero calibrations and Section 4.2 for the span calibrations. Record the response times for the CO zero and span gases as described under Section 7.3.3. Select the longer of the two times as the response time for that pollutant.

8.4 Test Data. On Form D-1 record the source operating parameters during the test. Record the test start and end times. From the analyzer responses recorded each minute during the test, obtain the average flue gas concentration of each pollutant.

9. CONTROL EFFICIENCY CALCULATIONS

9.1 Control Efficiency Calculations. CO control efficiencies will be calculated using the following calculation:

$$\% \quad Control = \frac{(C_{pre} - C_{post})}{C_{pre}} \times 100$$

where: % control = actual control efficiency of the oxidation catalyst
C_{Pre} = stack gas concentration at the pre-catalyst sampling location (ppm)
C_{post} = stack gas concentration at the post-catalyst sampling location (ppm)

9.2 Interference Check. Utilize the data collected in Section 6.3.4 and the average pre-catalyst CO emission concentrations to calculate interference responses (I_{CO}) for the CO cell. If an interference response exceeds 5 percent, all emission test results since the last successful interference test for that compound are invalid.

9.2.1 CO Interference Calculation.

$$I_{CO} = [(\frac{R_{CO\text{-}NO}}{C_{NOG}})(\frac{C_{NOS}}{C_{COS}})]x100$$

where:
I_{CO} = CO interference response (percent)
$R_{CO\text{-}NO}$ = CO response to NO span gas (ppm CO)
C_{NOG} = concentration of NO span gas (ppm NO)
C_{NOS} = Anticipated concentration of NO in stack gas (250 ppm NO)
C_{COS} = concentration of CO in stack gas (ppm CO)

10. REPORTING REQUIREMENTS AND RECORD KEEPING REQUIREMENTS

Test reports shall be submitted to the Environmental Protection Agency (EPA), as required by Section IV C of Consent Decree, within thirty (30) days of completing the test. A separate test report shall be submitted for each facility where an emission source was tested and, at a minimum, the following information shall be included:

- **Form A, Linearity/Interference Check Data Sheet,** Submit the linearity check as required by Section 6.2 for the nominal range tested.
- **Form B, Stability Check Data Sheet,** Submit the stability check as required by Section 6.4 for the nominal range tested.
- **Form C, Calibration Error Check Data Sheet**
- **Form D-1,** Submit the appropriate test results form.

Records pertaining to the information above and supporting documentation shall be kept for five (5) years and made available upon request by EPA. Additionally, if the source is equipped with a fuel meter, records of all maintenance and calibrations of the fuel meter shall be kept for five (5) years from the date of the last maintenance or calibration.

Form A

Linearity/Interference Check Data Sheet

Date:_____

Analyst:_____

Analyzer Manufacturer/Model #:_____

Analyzer Serial #:_____

Pollutant		Calibration Gas Concentration (ppm)	Analyzer Response (ppm CO)	Analyzer Response % O_2	Absolute Difference (ppm)	Percent of Span	Linearity Valid (Yes or No)
CO	Zero						
	Mid						
	Span						
NO	Span						

Form B
Stability Check Data Sheet

Date:_____ **Analyst:**_____
Analyzer Manufacturer/Model #:_____

Analyzer Serial #:_____

Pollutant: CO Span Gas Concentration (ppm):_____

STABILITY CHECK					
Elapsed Time (Minutes)	Analyzer Response	Elapsed Time (Continued)	Analyzer Response	Elapsed Time (Continued)	Analyzer Response
1		17		33	
2		18		34	
3		19		35	
4		20		36	
5		21		37	
6		22		38	
7		23		39	
8		24		40	
9		25		41	
10		26		42	
11		27		43	
12		28		44	
13		29		45	
14		30		46	
15		31		47	
16		32		48	

For 30-minute Stability Check Period:

Maximum Concentration (ppm): _____ **Minimum Concentration (ppm):** _____

For 15-minute Stability Check Period:

Maximum Concentration (ppm): _____ **Minimum Concentration (ppm):** _____

Maximum Deviation = 100*(Max. Conc. - Min. Conc.)/Span Gas Conc. = _____ **percent**

Stability Time (minutes): _____

Form C
Calibration Error Check Data Sheet

Company:_____ **Facility:**_____

Source Tested:_____ **Date:**_____

Analyst:_____ **Analyzer Serial #:**_____

Analyzer Manufacturer/Model #:_____

PRETEST CALIBRATION ERROR CHECK								
			A	B	|A-B|	|A-B|/SG*100		
		Pump Flow Rate (Indicate Units)	Analyzer Reading (Indicate Units)	Calibration Gas Concentration (Indicate Units)	Absolute Difference (Indicate Units)	Percent of Span Note 1	Calibration Valid (Yes or No)	Response Time (Minutes)
CO	Zero							
	Span							
O_2	Zero							
	Span							

SG = Span Gas

Form D-1
Reciprocating Engine Test Results

Company:_____ **Facility:**_____

Source Tested:_____ **Date:**_____

Source Manufacturer/Model #:_____

Site-rated Horsepower:_____ **Source Serial #:**_____

Type of Emission Control:_____

Analyst:_____ **Analyzer Serial #:**_____

Analyzer Manufacturer/Model #:_____

Operating Conditions

Source operating at 90 percent or greater site-rated horsepower during testing? yes no

Engine Tested Horsepower (hp)	Engine RPM	Engine Fuel Consumption (Indicate Units)	Fuel Heat Content (Btu/cf)	Engine Specific Fuel Consumption (Btu/hp-hr)[1]

[1] As reported by the Manufacturer

Test Results

Test Start Time:_____ _____Test End Time:_____

O_2	CO				
Avg. Tested O_2 %	Avg. Pre-Catalyst CO ppm	Avg. Post-Catalyst CO ppm	Tested CO Reduction (%)	Required CO Reduction (%)	CO Interference Response (I_{CO}, %):
				93%	

I certify to the best of my knowledge the test results are accurate and representative of the emissions from this source.

_____ _____

Print Name **Signature**

Air Pollution Control
40 CFR Part 49 Tribal Minor New Source Review Permit to Construct
Technical Support Document
Proposed Permit #SMNSR-UO-000128-2016.002

Anadarko Uintah Midstream, LLC
White River Compressor Station
Uintah and Ouray Indian Reservation
Uintah County, Utah

In accordance with the requirements of the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR part 49, this federal permit to construct is being issued under authority of the Clean Air Act (CAA). The EPA has prepared this technical support document describing the conditions of this permit and presents information that is germane to this permit action.

Table of Contents

I. Introduction

On September 15, 2016, the EPA received an application from Anadarko Uintah Midstream, LLC (Anadarko), requesting a synthetic minor permit for the White River Compressor Station (White River) in accordance with the requirements of the MNSR Permit Program.

This permit action will apply to an existing facility operating on the Uintah and Ouray Indian Reservation in Utah. The physical location is Latitude 39.96883N, Longitude -109.38347W, in Uintah County, Utah.

This permit does not authorize the construction of any new emission sources, or emission increases from existing units, nor does it otherwise authorize any other physical modifications to the facility or its operations. This permit is only intended to incorporate required and requested enforceable emission limits and operational restrictions from a March 27, 2008, federal Consent Decree (CD) between the United States of America (Plaintiff), and the State of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT), and the September 15, 2016 synthetic MNSR application.

Anadarko has requested legally and practically enforceable requirements for the installation and operation of two (2) low-emission tri-ethylene glycol (TEG) dehydration systems for dehydrating gas compressed into a high-pressure pipeline, consistent with the CD. Anadarko also requested enforceable requirements for installation and operation of a catalytic control system and air-to-fuel ratio (AFR) controls on six (6) field gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (RICE) (used for field gas compression at the facility), including associated carbon monoxide (CO) control efficiency requirements, consistent with the CD. Lastly, Anadarko requested an enforceable requirement to install and operate only low- or no-bleed or instrument air-driven pneumatic controllers, consistent with the CD.

Upon compliance with the permit, the legally and practically enforceable reductions in emissions can be used when determining the applicability of other CAA requirements, such as the Prevention of Significant Deterioration (PSD) Permit Program at 40 CFR part 52 and the Title V Operating Permit Program at 40 CFR part 71 (Part 71).

II. Facility Description and History

White River collects field gas from the surrounding field via the low pressure gas collection system and compresses the gas into an intermediate pressure pipeline. The field gas enters the compressor station through the inlet slug catcher where liquids are gravitationally separated from the stream. Condensate recovered is sent to the blowcase system and put back into the discharge line leaving the compressor station. Produced water is stored in the atmospheric storage tanks onsite until loaded into trucks and transported offsite. The field gas goes through two stages of compression before dehydration. The field gas is dehydrated using low-emission dehydrators before being discharged from the facility.

The emission units identified in Table 1 are currently installed and/or operating at the facility. The information provided in this table is for informational purposes only and is not intended to be viewed as enforceable restrictions or open for public comment. The units and control requirements identified here either existed prior to any pre-construction permitting requirements or were approved/required through the alternative methods as identified below. Table 2, Facility-wide Emissions, provides an accounting of enforceable controlled emissions in tons per year (tpy).

Table 1. Existing Emission Units

Unit Description	Controls	Original Preconstruction Approval Date &/or Emission Control Requirement Details
Three (3) 4SLB, field gas-fired RICE for gas compression, each with a maximum site rating of 1,340 hp*. [Unit IDs WRS 1 (210), WRS 2 (310), and WRS 3 (220)]	Oxidation Catalyst	No pre-construction approval required for the installation of the engines. Installed prior to the promulgation of the MNSR Permit Program. Control requirements established for all engines in the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT. Area source operation and maintenance required for all three (3) engines per applicability to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Reciprocating Internal Combustion Engines at 40 CFR part 63, subpart ZZZZ (NESHAP ZZZZ).
Three (3) 4SLB, field gas-fired RICE for gas compression, each with a maximum site rating of 1,775 hp. [Unit IDs WRS 4 (260), WRS 5 (270), WRS 6 (280)]	Oxidation Catalyst	No pre-construction approval required for the installation of the engines. Installed prior to the promulgation of the MNSR Permit Program. Control requirements established for all engines in the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT. Area source operation and maintenance required for all three (3) engines per applicability to the NESHAP ZZZZ.
Two (2) 70 MMscfd* tri-ethylene glycol (TEG) low-emission dehydration units.	Low-Emission Dehydrator Technology	No pre-construction approval required for the installation of the TEG dehydration unit. Installed prior to the promulgation of the MNSR Permit Program. Control requirements established in the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT.
Pneumatic controllers (low-bleed, no-bleed or instrument air-driven).	None	No pre-construction approval required for the installation of the controllers. Installed and converted to instrument air prior to the promulgation of the MNSR Permit Program. Low- or no-bleed and instrument air conversion requirements established in the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT.
Two (2) 1.2 MMBtu/hr* reboilers.	None	No pre-construction approval required for the installation of the burners. Installed prior to the promulgation of the MNSR Permit Program.
One (1) 0.5 MMBtu/hr heater.	None	No pre-construction approval required for the installation of the heater. Installed prior to the promulgation of the MNSR Permit Program.
Three (3) 400 bbl* each atmospheric produced water storage tanks.	None	No pre-construction approval required for the installation of the tanks. Installed prior to the promulgation of the MNSR Permit Program.

Unit Description	Controls	Original Preconstruction Approval Date &/or Emission Control Requirement Details
Facility Fugitives.	None	No pre-construction approval required for the construction of the facility. Commenced prior to the promulgation of the MNSR Permit Program.

* hp = horsepower; bbl = barrel; MMBtu/hr = million British thermal units per hour; MMscfd = million standard cubic feet per day.

Table 2. Facility-wide Emissions

Pollutant	Controlled Potential Emissions (tpy)
PM	0.0
PM_{10}	0.0
$PM_{2.5}$	NA
SO_2	NA
NO_X	96.1
CO	45.0
VOC	66.7
Greenhouse Gases	
CO_2e (Total)	**41,154.4**
Hazardous Air Pollutants (HAP)	
Acetaldehyde	2.5
Acrolein	1.5
Benzene	0.3
Ethyl-Benzene	NA
Toluene	0.1
n-Hexane	1.4
Xylene	NA
Formaldehyde	7.6
2,2,4-Trimethylpentane	NA
Cyclohexane	NA
Total HAP**	**13.4**

PM – Particulate Matter
PM_{10} – Particulate Matter less than 10 microns in size
$PM_{2.5}$ – Particulate Matter less than 2.5 microns in size
SO_2 – Sulfur Dioxide
NO_X – Nitrogen Oxides
CO – Carbon Monoxide
VOC – Volatile Organic Compounds
CO_2 – Carbon dioxide
CH_4 – Methane
N_2O – Nitrous oxide
HFCs – Hydrofluorocarbons
PFCs – Perfluorocarbons
SF_6 – Sulfur hexafluoride
CO_2e – Equivalent CO_2. A measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP)

HFCs, PFCs, and SF_6 emissions are not created during oil and natural gas production operations.

NA – Not Available

*BTEX = benzene, toluene, ethylbenzene and xylenes.

**Total HAP is inclusive of but not limited to the individual HAP listed above.

III. Proposed Synthetic Minor Permit Action

A. Low-Emission Dehydration System

Field gas often contains water vapor at the production site which must be removed to avoid pipeline corrosion and solid hydrate formation. The natural gas industry commonly uses the glycol absorption process to remove naturally occurring water from raw field gas. Most commonly, the glycol absorbent used is TEG. The TEG dehydration process produces VOC and HAP emissions from pressure reduction of rich glycol (immediately post absorption and prior to stripping and regeneration) and from the stripping of the rich glycol to regenerate lean glycol to

be reused in the process. The HAP emissions consist primarily of benzene, toluene, ethylbenzene and n-hexane.

A flash tank is typically utilized to separate these vapors at a pressure where they can be utilized for fuel. Distillation removes the absorbed water along with any remaining hydrocarbon, including VOC and HAP, from the glycol to the still column vent as overhead vapor. The typical form of emission control for conventional dehydrator still vents that emit the non-condensable portion of this overhead vapor is to route the vapors to a combustion device, such as a thermal oxidizer or reboiler burner to destroy the hydrocarbon content of the vapors. However, Anadarko has installed and operates two (2) low-emission TEG dehydrators at White River. These units capture the non-condensable portion of the still vent and the flash tank vapors and recompress the vapor with a reciprocating or scroll compressor that routes the vapor to the station inlet as natural gas product or to the station fuel system. The units also employ an electric glycol circulation pump and, except for the recompression of non-condensable vapors, resemble conventional glycol dehydrators in their configuration.

To ensure that the non-condensable vapor compression systems are fully integrated into dehydrator operation such that the units cannot be disabled so as to operate while venting to the atmosphere, the units: 1) incorporate an integral vapor recovery function that prevents the dehydrator from operating independently of the vapor recovery function; 2) either return the captured vapors to the inlet of the facility where the glycol dehydrators are located or route the captured vapors to that facility's fuel gas supply header; and 3) thereby, emit no more than 1.0 ton per year of VOC each.

The low-emission glycol dehydrators have at least three (3) levels of protection to prevent emissions from occurring:

(a) Physical electrical hard-wiring between the vapor recovery unit (VRU) compressor and the glycol circulation pumps ensures that if the VRU compressor goes down, the glycol pump also shuts down thereby halting the circulation of glycol through the wet gas as well as the emissions associated with the regeneration of glycol;

(b) A second level of protection redundancy has been incorporated by using the station Programmable Logic Controller (PLC) to shut down the dehydration system in the event the VRU compressor goes down; and

(c) A third level of protection is the routing of non-condensables directly to combustion devices in the stations that utilize micro-turbine electrical generators or central heat medium systems.

The units were certified through a third-party independent engineering evaluation to have zero (0) emissions of VOC from the routing of regenerator and flash tank overheads to an integrated VRU, and that safeguards exist to ensure that the dehydrators shut down if the VRU is shut down for any reason. The independent engineering evaluation is available in the administrative docket for this permit.

Based on our review of Anadarko’s permit application, we are proposing the emission, operational, monitoring, recordkeeping and reporting requirements in Table 3 for the Low-Emission Dehydrators, which are consistent with the requirements in the CD. The proposed

requirements are based, in part, on the unit specifications and independent engineering evaluation provided by Anadarko in the permit application and ensure that the requested emission limits are legally and practically enforceable.

Table 3. Proposed Low-Emission Dehydrators Construction, Operational, Monitoring, Recordkeeping and Reporting Requirements

Type	**Proposed Requirement**
Construction and Operation	Install, operate and maintain no more than two (2) Low-Emission Dehydrators that each meet specifications set forth in an Appendix to the permit, which is reproduced from the CD and that means a dehydration unit that: • Incorporates an integral vapor recovery function such that the dehydrator cannot operate independent of the vapor recovery function; • Either returns the captured vapors to the inlet of the facility where the dehydrator is located or routes the captured vapors to the facility's fuel gas supply header; and • Is designed and operated to emit less than 1.0 ton of VOC in any consecutive 12-month period, inclusive of VOC emissions from the reboiler burner.
Recordkeeping	Keep records of all manufacturer specifications and all required inspections and repairs.
Reporting	Submit a summary of all inspections and repairs conducted in each annual report to the EPA.

The proposed emission restrictions will result in a total of 1.0 tpy of VOC from each of the two (2) Low-Emission Dehydrators. These controlled emissions are based on the dehydrators operating a maximum of 8,760 hours in a year, at a maximum capacity of 140 MMscfd, and as certified "Low-Emission Dehydrators."

B. 4SLB Field Gas-Fired Compressor Engines and Controls

White River operates six (6) field gas-fired 4SLB RICE and the primary form of emission control for field gas-fired lean-burn RICE is catalytic control systems, most commonly systems that use oxidation catalysts. Oxidation catalyst control systems are effective for control of CO, VOC and formaldehyde. These catalysts do not typically control NOx emissions. However, lean-burn engines are designed to operate with more dilute field gas streams (a higher air-to-fuel ratio) than rich-burn engines. Because they operate on more dilute field gas streams, lean-burn

engines also operate at lower combustion temperatures producing less NO_X emissions than rich-burn engines.

The CD contains requirements to control these six (6) engines using oxidation catalyst control systems capable of 93% CO control efficiency when operating at 90% load or higher. In addition to the conditions proposed in this MNSR permit, the six (6) engines are subject to operation and maintenance requirements for area sources under NESHAP ZZZZ. Anadarko is requesting to incorporate the engine requirements from the CD into this MNSR permit to provide legal and practical enforceability after the CD is terminated.

Based on our review of Anadarko's permit application, we are proposing the construction, operation, control, testing, recordkeeping and reporting requirements in Table 4 for the six (6) engines, that are consistent with the requirements in the CD.

Table 4. Proposed Engine Construction, Operation, Emissions, Testing, Monitoring, Recordkeeping and Reporting Requirements

Type	**Proposed Requirement**
Construction, Control and Operation	Install, continuously operate and maintain a catalytic control system on each engine capable of reducing emissions of CO by at least 93.0% when the engine is operating at 90% load or higher. Follow engine and control manufacturer recommended maintenance schedules and procedures or equivalent procedures developed by the vendor or Permittee, to ensure optimum engine and control performance such that each engine meets the CO control efficiency requirement.
Performance Testing	Initial performance testing for compliance with the CO control efficiency within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial startup, including initial startup for engines that are rebuilt or replaced. Semiannual subsequent performance testing. Performance tests shall be conducted using a portable analyzer to measure oxygen (O_2) and CO according to Carbon Monoxide Control Efficiency Portable Analyzer Monitoring Protocol (included as an appendix to the proposed MNSR permit, copied from Appendix F of the CD).
Recordkeeping	Keep records of: all manufacturer and/or

	vendor specifications for each engine, catalytic control system and portable analyzer; all calibration and maintenance conducted for each engine, catalytic control system and portable analyzer; all required performance tests; all engine rebuilds and replacements; and all deviations of permit conditions (including corrective actions and timeframe for return to compliance).
Reporting	Submit all initial performance test reports to the EPA within 60 days of completing the test. Include a summary of all maintenance conducted, corrective actions, subsequent semi-annual testing and all deviations from permit conditions (including corrective actions and timeframe for return to compliance) in each required annual report to the EPA.

These proposed CO control efficiency and operational requirements will result in a facility-wide PTE of 45.0 tpy for CO emissions. The potential controlled emissions are based on the engines operating a maximum of 8,760 hours in a year and at the specified maximum horsepower ratings and accounting for catalytic control system manufacturer guaranteed CO control efficiencies of 93%.

C. Pneumatic Controllers

The CD contains a requirement that all pneumatic controllers be operated using instrument air or low-bleed controllers. Therefore, we are proposing such a condition in the permit.

IV. Air Quality Review

The MNSR regulations at 40 CFR 49.154(d) require that an Air Quality Impact Assessment (AQIA) modeling analysis be performed if there is reason to be concerned that new construction would cause or contribute to a National Ambient Air Quality Standard (NAAQS) or PSD increment violation. If an AQIA reveals that the proposed construction could cause or contribute to a NAAQS or PSD increment violation, such impacts must be addressed before a pre-construction permit can be issued.

The emissions at this existing facility will not be increasing due to this permit action and the emissions will continue to be well controlled at all times. In addition, this permit action does not authorize the construction of any new emission sources, or emission increases from existing units, nor does it otherwise authorize any other physical modifications to the facility or its operations and the substantive requirements of the CD (emission controls and reductions) have already been fulfilled at this facility. In short, this action will have no adverse air quality impacts; therefore, we have determined that an AQIA modeling analysis is not required for this action.

V. Tribal Consultations and Communications

We offer tribal government leaders an opportunity to consult on all major and certain synthetic MNSR permit actions. This synthetic MNSR permit action incorporates existing requirements from the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT and does not authorize any increase in emissions or new construction. Therefore, we did not offer the Ute Indian Tribe the opportunity to consult on this action. However, the Ute Tribe may request consultation at any time. To date the Ute Indian Tribe has not requested consultation on this permit action.

All minor source applications (synthetic minor, minor modification to an existing facility, new true minor and general permit) are submitted to both the tribe and the EPA per the application instructions (see https://www.epa.gov/caa-permitting/tribal-nsr-permits-region-8). The tribe has 10 business days from the receipt of the application to communicate to the EPA any preliminary questions and comments on the application. In the event an AQIA is triggered, we email a copy of that document to the tribe within 5 business days from the date that we receive it.

Additionally, we notify the tribe of the public comment period for the proposed permit and provide copies of the notice of public comment opportunity to post in various locations of their choosing on the Reservation. We also notify the tribe of the issuance of the final permit.

VI. Environmental Justice

On February 11, 1994, the President issued Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order calls on each federal agency to make environmental justice a part of its mission by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The EPA defines "Environmental Justice" to include meaningful involvement of all people regardless of race, color, national origin or income with respect to the development, implementation and enforcement of environmental laws, regulations and polices. The EPA's goal is to address the needs of overburdened populations or communities to participate in the permitting process. *Overburdened* is used to describe the minority, low-income, tribal and indigenous populations or communities in the United States that potentially experience disproportionate environmental harms and risks due to exposures or cumulative impacts or greater vulnerability to environmental hazards.

This discussion describes our assessment of the potential environmental impacts to potentially overburdened communities in connection with issuing this permit in Uintah County, Utah, within the exterior boundaries of the Uintah and Ouray Indian Reservation, and describes our efforts at meaningful public involvement in the permit issuance process.

A. Environmental Impacts to Potentially Overburdened Communities

This permit action would not authorize the construction of any new air emission sources, or air emission increases from existing units, nor would it otherwise authorize any other physical modifications to the associated facility or its operations. The air emissions at the existing facility will not increase due to the associated action and the emissions will continue to be well controlled at all times. This action will have no adverse air quality impacts.

Furthermore, the permit would contain a provision stating, "*The permitted source shall not cause or contribute to a National Ambient Air Quality Standard violation or a PSD increment violation.*" Noncompliance with this permit provision is a violation of the permit and is grounds for enforcement action and for permit termination or revocation. As a result, we conclude that issuance of the aforementioned permit will not have disproportionately high or adverse human health effects on any communities in the vicinity of the Uintah and Ouray Indian Reservation.

B. Enhanced Public Participation

Given the presence of potentially overburdened communities in the vicinity of the facility, we are providing an enhanced public participation process for this permit.

1. Interested parties can subscribe to the EPA email list that notifies them of public comment opportunities on the Uintah and Ouray Indian Reservation for proposed air pollution control permits via email at https://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8.

2. All minor source applications (synthetic minor, modification to an existing facility, new true minor or general permit) are submitted to both the tribe and the EPA per the application instructions (see https://www.epa.gov/caa-permitting/tribal-nsr-permits-region-8).

3. We ask that the tribe communicate to the EPA any preliminary questions and comments on the application within 10 business days of receiving it.

4. In the event an AQIA is triggered, we email a copy of that document to the tribe within 5 business days from the date we receive it.

5. We notify the tribe of the public comment period for the proposed permit and provide copies of the notice of public comment opportunity to post in various locations of their choosing on the Reservation. We also notify the tribe of the issuance of the final permit.

6. We offer tribal government leaders an opportunity to consult on all major and certain synthetic MNSR permit actions. This synthetic MNSR permit action incorporates existing requirements from the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT and does not authorize any increase in emissions or new construction. Therefore, we did not offer the Ute Tribe the opportunity to consult on this action. However, the Ute Indian Tribe may request consultation at any time.

VII. Authority

Requirements under 40 CFR part 49 to obtain a permit apply to new and modified minor stationary sources, and minor modifications at existing major stationary sources ("major" as defined in 40 CFR 52.21). In addition, the MNSR Permit Program provides a mechanism for an otherwise major stationary source to voluntarily accept restrictions on its potential to emit to become a synthetic minor source. We are charged with direct implementation of these provisions where there is no approved Tribal implementation plan for implementation of the MNSR regulations. Pursuant to section 301(d)(4) of the CAA (42 U.S.C. Section 7601(d)), we are authorized to implement the MNSR regulations at

40 CFR part 49 in Indian country. The White River Compressor Station is located on Indian country lands within the exterior boundaries of the Uintah and Ouray Indian Reservation in Utah. The exact location is Latitude 39.96883N, Longitude -109.38347W, in Uintah County, Utah.

VIII. Public Notice and Comment, Hearing and Appeals

A. Public Comment Period

In accordance with 40 CFR 49.157, we must provide public notice and a 30-day public comment period to ensure that the affected community and the general public have reasonable access to the application and proposed permit information. The application, the proposed permit, this technical support document and all supporting materials for the proposed permit are available at:

Ute Indian Tribe
Energy and Minerals Department
P.O. Box 70
988 South 7500 East, Annex Building
Fort Duchesne, Utah 84026
Contact: Minnie Grant, Air Coordinator, 435-725-4900 or minnieg@utetribe.com

and

U.S. EPA
Region 8 Air Program Office
1595 Wynkoop Street (8P-AR)
Denver, Colorado 80202-1129
Contact: Eric Wortman, Environmental Scientist, 617-918-1624 or wortman.eric@epa.gov

All documents are available for review at our office Monday through Friday from 8:00 a.m. to 4:00 p.m. (excluding federal holidays). Additionally, the proposed permit and technical support document can be reviewed on our website at: https://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8.

Any person may submit written comments on the proposed permit and may request a public hearing during the public comment period. These comments must raise any reasonably ascertainable issues with supporting arguments by the close of the public comment period (including any public hearing). Comments may be sent to the EPA address above, or sent via an email to r8airpermitting@epa.gov, with the topic "Comments on SMNSR Permit for the White River Compressor Station."

B. Public Hearing

A request for a public hearing must be in writing and must state the nature of the issues proposed to be raised at the hearing. We will hold a hearing whenever there is, on the basis of requests, a significant degree of public interest in a proposed permit. We may also hold a public hearing at our discretion whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision.

C. Final Permit Action

In accordance with 40 CFR 49.159, a final permit becomes effective 30 days after permit issuance, unless: (1) a later effective date is specified in the permit; (2) appeal of the final permit is made as detailed in the next section; or (3) we may make the permit effective immediately upon issuance if no comments resulted in a change or denial of the proposed permit. We will send notice of the final permit action to any individual who commented on the proposed permit during the public comment period. In addition, the source will be added to a list of final permit actions which is posted on our website at: https://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-8. Anyone may request a copy of the final permit at any time by contacting the Tribal Air Permit Program at (800) 227–8917 or sending an email to r8airpermitting@epa.gov.

D. Appeals to the Environmental Appeals Board

In accordance with 40 CFR 49.159, within 30 days after a final permit decision has been issued, any person who filed comments on the proposed permit or participated in the public hearing may petition the Environmental Appeals Board (EAB) to review any condition of the permit decision. The 30-day period within which a person may request review under this section begins when we have fulfilled the notice requirements for the final permit decision. Motions to reconsider a final order by the EAB must be filed within 10 days after service of the final order. A petition to the EAB is under section 307(b) of the CAA, a prerequisite to seeking judicial review of the final agency action. For purposes of judicial review, final agency action occurs when we issue or deny a final permit and agency review procedures are exhausted.

MEMO TO FILE

DATE: August 28, 2017

SUBJECT: Uintah and Ouray Indian Reservation, White River Compressor Station; Anadarko Uintah Midstream, LLC., Environmental Justice

FROM: Colin Schwartz, EPA Region 8 Air Program

TO: Source Files:
205c AirTribal, UO, Anadarko Uintah Midstream, LLC. White River Compressor Station
SMNSR-UO-000128-2016.002, 9/6/2012
FRED # 109633

On February 11, 1994, the President issued Executive Order 12898, entitled "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order calls on each federal agency to make environmental justice a part of its mission by "identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority populations and low-income populations."

The EPA defines "Environmental Justice" as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices. The EPA's goal with respect to Environmental Justice in permitting is to enable overburdened communities to have full and meaningful access to the permitting process and to develop permits that address environmental justice issues to the greatest extent practicable under existing environmental laws. *Overburdened* is used to describe the minority, low-income, tribal and indigenous populations or communities in the United States that potentially experience disproportionate environmental harms and risks as a result of greater vulnerability to environmental hazards.

This discussion describes our assessment of the potential environmental impacts to overburdened communities in connection with issuing this permit in Uintah County, Utah, within the exterior boundaries of the Uintah and Ouray Indian Reservation, and describes our efforts at meaningful public involvement in the permit issuance process.

As described in the following sections of this memorandum, we conclude that issuance of the aforementioned permit is not expected to have disproportionately high or adverse human health effects on overburdened or any communities in the vicinity of the facility.

Permit Request

The EPA received an application from Anadarko Uintah Midstream, LLC (Anadarko) for a synthetic minor permit for the existing White River Compressor Station in accordance with the

requirements of the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR Part 49.

This permit would not authorize the construction of any new emission sources, or emission increases from existing units, nor would it otherwise authorize any other physical modifications to the facility or its operations. This permit is only intended to incorporate required and requested enforceable emission limits and operational restrictions from a March 27, 2008, Federal Consent Decree (CD) between the United States of America (Plaintiff), and the State of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT), and the September 15, 2016 synthetic MNSR application. Anadarko has requested legally and practically enforceable requirements for the installation and operation of two (2) low-emission tri-ethylene glycol (TEG) dehydration systems for dehydrating field gas, consistent with the CD. Anadarko also requested enforceable requirements for installation and operation of a catalytic control system on six (6) field gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (used for field gas compression at the facility), including associated carbon monoxide (CO) control efficiency requirements, consistent with the CD. Lastly, Anadarko requested an enforceable requirement to install and operate only low-bleed, no-bleed, or instrument air-driven pneumatic controllers, consistent with the CD.

Upon compliance with this permit, Anadarko will have legally and practically enforceable restrictions on emissions that can be used when determining the applicability of other CAA permitting requirements, such as under the Prevention of Significant Deterioration Permit Program at 40 CFR Part 52 and the Title V Operating Permit Program at 40 CFR Part 71. The EPA has determined that issuance of this MNSR permit will not contribute to National Ambient Air Quality Standards (NAAQS) violations, or have potentially adverse effects on ambient air quality.

The facility is located at:

Sec 12 T10S R22E
39.96883N, Longitude -109.38347W

Air Quality Review

The MNSR regulations at 40 CFR 49.154(d) require that an Air Quality Impact Assessment (AQIA) modeling analysis be performed if there is reason to be concerned that new construction would cause or contribute to a National Ambient Air Quality Standard (NAAQS) or PSD increment violation. If an AQIA reveals that the proposed construction could cause or contribute to a NAAQS or PSD increment violation, such impacts must be addressed before a pre-construction permit can be issued. Because the permit actions do not authorize the construction of any new emission sources, or emission increases from existing units we have determined that an AQIA modeling analysis is not required for this action.

For purposes of Executive Order 12898 on environmental justice, the EPA has recognized that compliance with the NAAQS is “emblematic of achieving a level of public health protection

that, based on the level of protection afforded by a primary NAAQS, demonstrates that minority or low-income populations will not experience disproportionately high and adverse human health or environmental effects due to the exposure to relevant criteria pollutants." *In re Shell Gulf of Mexico, Inc. & Shell Offshore, Inc.*, 15 E.A.D., slip op. at 74 (EAB 2010). This is because the NAAQS are health-based standards, designed to protect public health with an adequate margin of safety, including sensitive populations such as children, the elderly, and asthmatics.

The EPA has determined that issuance of this MNSR permit will not contribute to National Ambient Air Quality Standards (NAAQS) violations, or have potentially adverse effects on ambient air quality.

Environmental Impacts to Potentially Overburdened Communities

This permit action would not authorize the construction of any new air emission sources, or air emission increases from existing units, nor does it otherwise authorize any other physical modifications to the associated facility or its operations. The air emissions at the existing facility will not increase due to the associated action.

Furthermore, the permit contains a provision stating, "*this MNSR permit will not contribute to National Ambient Air Quality Standards violations, or have potentially adverse effects on ambient air quality.*" Noncompliance with this permit provision would be a violation of the permit and would be grounds for enforcement action and for permit termination or revocation. As a result, we conclude that issuance of the aforementioned permit will not have disproportionately high or adverse human health effects on any communities in the vicinity of the Uintah and Ouray Indian Reservation.

Tribal Consultation and Enhanced Public Participation

Given the presence of potentially overburdened communities in the vicinity of the facility, we are providing an enhanced public participation process for this permit.

1. Interested parties can subscribe to an EPA email list that notifies them of public comment opportunities on the Uintah and Ouray Indian Reservation for proposed air pollution control permits via email at https://www.epa.gov/caa-permitting/caa-permit-public-comment-opportunities-region-8.

2. All minor source applications (synthetic minor, modification to an existing facility, new true minor or general permit) are submitted to both the Tribe and us per the application instructions (see https://www.epa.gov/caa-permitting/tribal-nsr-permits-region-8).

3. The Tribe is asked to respond within 10 business days to us with questions and comments on the application.

4. In the event an AQIA is triggered, we email a copy of that document to the Tribe within 5 business days from the date we receive it.

5. We notify the Tribe of the public comment period for the proposed permit and provide copies of the notice of public comment opportunity to post in various locations of their choosing on the Reservation. We also notify the Tribe of the issuance of the final permit.

6. We offer tribal government leaders an opportunity to consult on all major and certain synthetic MNSR permit actions. This synthetic MNSR permit action incorporates existing requirements from the March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT and does not authorize any increase in emissions or new construction. Therefore, we did not offer the Ute Tribe the opportunity to consult on this action. However, the Ute Tribe may request consultation at any time.

MEMO TO FILE

DATE: August 28, 2017

SUBJECT: Uintah and Ouray Indian Reservation, White River Compressor Station; Anadarko Uintah Midstream, LLC., Endangered Species Act

FROM: Colin Schwartz, EPA Region 8 Air Program

TO: Source Files:
205c AirTribal, UO, Anadarko Uintah Midstream, LLC. White River Compressor Station
SMNSR-UO-000128-2016.002, 9/6/2012
FRED # 109633

Pursuant to Section 7 of the Endangered Species Act (ESA), 16 U.S.C. §1536, and its implementing regulations at 50 CFR, part 402, the EPA is required to ensure that any action authorized, funded, or carried out by the Agency is not likely to jeopardize the continued existence of any Federally-listed threatened or endangered species (TES) or result in the destruction or adverse modification of such species' designated critical habitat. Under ESA, those agencies that authorize, fund, or carry out the federal action are commonly known as "action agencies." If an action agency determines that its federal action "may affect" listed species or critical habitat, it must consult with the U.S. Fish and Wildlife Service (FWS). If an action agency determines that the federal action will have no effect on listed species or critical habitat, the agency will make a "no effect" determination. In that case, the action agency does not initiate consultation with the FWS and its obligations under Section 7 are complete.

In complying with its duty under ESA, the EPA, as the action agency, examined the potential effects on listed species and designated critical habitat relating to issuing this Clean Air Act (CAA) synthetic minor New Source Review permit in Uintah County, Utah, on Indian country lands within the Uintah and Ouray Indian Reservation.

This memorandum describes EPA's efforts to assess potential effects on TES in connection with issuing this Clean Air Act (CAA) synthetic minor New Source Review permit in Uintah County, Utah, on Indian country lands within the Uintah and Ouray Indian Reservation. As explained further below, EPA has concluded that the proposed permit action will have "*No effect"* on listed TES or designated critical habitat.

Permit Request

The EPA received an application from Anadarko Uintah Midstream, LLC (Anadarko) for a synthetic minor permit for the existing White River Compressor Station in accordance with the requirements of the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR Part 49.

This permit would not authorize the construction of any new emission sources, or emission increases from existing units, nor would it otherwise authorize any other physical modifications to the facility or its operations. This permit is only intended to incorporate required and requested enforceable emission limits and operational restrictions from a March 27, 2008, Federal Consent Decree (CD) between the

United States of America (Plaintiff), and the State of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT), and the September 15, 2016 synthetic MNSR application. Anadarko has requested legally and practically enforceable requirements for the installation and operation of two (2) low-emission tri-ethylene glycol (TEG) dehydration systems for dehydrating field gas, consistent with the CD. Anadarko also requested enforceable requirements for installation and operation of a catalytic control system on six (6) field gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (used for field gas compression at the facility), including associated carbon monoxide (CO) control efficiency requirements, consistent with the CD. Lastly, Anadarko requested an enforceable requirement to install and operate only low-bleed, no-bleed, or instrument air-driven pneumatic controllers, consistent with the CD.

Upon compliance with this permit, Anadarko will have legally and practically enforceable restrictions on emissions that can be used when determining the applicability of other CAA permitting requirements, such as under the Prevention of Significant Deterioration Permit Program at 40 CFR Part 52 and the Title V Operating Permit Program at 40 CFR Part 71. The EPA has determined that issuance of this MNSR permit will not contribute to National Ambient Air Quality Standards (NAAQS) violations, or have potentially adverse effects on ambient air quality.

The facility is located at:

Sec 12 T10S R22E
39.96883N, Longitude -109.38347W

Conclusion

The EPA has concluded that the proposed synthetic minor NSR permit action will have "*No effect"* on listed TES or designated critical habitat. This proposed permit action does not authorize the construction of any new emission sources, or emission increases from existing units, nor does it otherwise authorize any other physical modifications to the associated facility or its operations. The emissions, approved at present, from the existing facility will not increase due to the associated permit action. Because the EPA has determined that the federal action will have no effect on TES or designated critical habitat, the agency has made a *"No effect"* determination. Therefore, the EPA did not initiate consultation with the FWS and our obligations under Section 7 are complete.

MEMO TO FILE

DATE: August 28, 2017

SUBJECT: Uintah and Ouray Indian Reservation, White River Compressor Station; Anadarko Uintah Midstream, LLC., National Historic Preservation Act

FROM: Colin Schwartz, EPA Region 8 Air Program

TO: Source Files:
205c AirTribal, UO, Anadarko Uintah Midstream, LLC. White River Compressor Station
SMNSR-UO-000128-2016.002, 9/6/2012
FRED # 109633

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment with regard to such undertakings. Under the ACHP's implementing regulations at 36 C.F.R. Part 800, Section 106 consultation is generally with state and tribal historic preservation officials in the first instance, with opportunities for the ACHP to become directly involved in certain cases. An "undertaking" is "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval." 36 C.F.R. § 800.16(y).

Under the NHPA Section 106 implementing regulations, if an undertaking is a type of activity that has the potential to cause effects on historic properties, assuming any are present, then federal agencies consult with relevant historic preservation partners to determine the area of potential effect (APE) of the undertaking, to identify historic properties that may exist in that area, and to assess and address any adverse effects that may be caused on historic properties by the undertaking. If an undertaking is a type of activity that does not have the potential to cause effects on historic properties, the federal agency has no further obligations. 36 C.F.R. § 800.3(a)(1).

This memorandum describes EPA's efforts to assess potential effects on historic properties in connection with issuing this Clean Air Act (CAA) synthetic minor New Source Review permit in Uintah County, Utah, on Indian country lands within the Uintah and Ouray Indian Reservation. As explained further below, EPA is finding that the proposed action does not have the potential to cause effects on historic properties, even assuming such historic properties are present.

Permit Request

The EPA received an application from Anadarko Uintah Midstream, LLC (Anadarko) for a synthetic minor permit for the existing White River Compressor Station in accordance with the requirements of the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR Part 49.

This permit would not authorize the construction of any new emission sources, or emission increases from existing units, nor would it otherwise authorize any other physical modifications to the facility or its operations. This permit is only intended to incorporate required and requested enforceable emission limits and operational restrictions from a March 27, 2008, Federal Consent Decree (CD) between the United States of America (Plaintiff), and the State of Colorado, the Rocky Mountain Clean Air Action and the Natural Resources Defense Council (Plaintiff-Intervenors), and Kerr-McGee Corporation (Civil Action No. 07-CV-01034-EWN-KMT), and the September 15, 2016 synthetic MNSR application. Anadarko has requested legally and practically enforceable requirements for the installation and operation of two (2) low-emission tri-ethylene glycol (TEG) dehydration systems for dehydrating field gas, consistent with the CD. Anadarko also requested enforceable requirements for installation and operation of a catalytic control system on six (6) field gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (used for field gas compression at the facility), including associated carbon monoxide (CO) control efficiency requirements, consistent with the CD. Lastly, Anadarko requested an enforceable requirement to install and operate only low-bleed, no-bleed, or instrument air-driven pneumatic controllers, consistent with the CD.

Upon compliance with this permit, Anadarko will have legally and practically enforceable restrictions on emissions that can be used when determining the applicability of other CAA permitting requirements, such as under the Prevention of Significant Deterioration Permit Program at 40 CFR Part 52 and the Title V Operating Permit Program at 40 CFR Part 71. The EPA has determined that issuance of this MNSR permit will not contribute to National Ambient Air Quality Standards (NAAQS) violations, or have potentially adverse effects on ambient air quality.

The facility is located at:

Sec 12 T10S R22E
39.96883N, Longitude -109.38347W

Finding of No Historic Properties Affected

The EPA has reviewed the proposed actions for potential impacts on historic properties. Because the activities authorized by the EPA permit does not authorize the construction of any new emission sources, or emission increases from existing units, nor does it otherwise authorize any other physical modifications to the facility or its operations, the Agency finds that this permit action will have no effect on historic properties, even assuming any are present.

State and Tribal Consultation

Because this undertaking is a type of activity that does not have the potential to cause effects on historic properties, the EPA has no further obligations under Section 106 of the National Historic Preservation Act or 36 C.F.R. part 800.

OMB Control No. 2060-0003
Approval expires 04/30/2012

United States Environmental Protection Agency Program Address Phone Fax Web address	*Reviewing Authority* *Program* *Address* *Phone* *Fax* *Web address*

FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN COUNTRY

Application for New Construction

(Form NEW)

Please check all that apply to show how you are using this form:

- ☐ **Proposed Construction of a New Source**
- ☐ **Proposed Construction of New Equipment at an Existing Source**
- ☐ **Proposed Modification of an Existing Source**
- ☒ **Other – Please Explain**

Existing Source operating under synthetic minor limits, as regulated under Consent Decree, submitting an application for a synthetic minor permit under Part 49.

Please submit information to:

Ms. Claudia Smith
U.S. EPA Region 8
1595 Wynkoop Street, 8P-AR
Denver, CO 80202-1129

A. GENERAL SOURCE INFORMATION

1. (a) **Company Name** Anadarko Uintah Midstream LLC (b) **Operator Name** Anadarko Uintah Midstream LLC	2. **Source Name** White River Compressor Station
3. Type of Operation Nat.Gas Compression & Transmission	4. Portable Source? ☐ Yes ☒ No 5. Temporary Source? ☐ Yes ☒ No
6. NAICS Code	7. SIC Code 1311
8. Physical Address (home base for portable sources)	

9. Reservation*	10. County*	11a. Latitude*	11b. Longitude*
Uintah and Ouray	Uintah	39.96883 ° N	-109.38347 ° W
12a. Quarter Quarter Section*	**12b. Section***	**12c. Township***	**12d. Range***
NE 1/4 NE 1/4	12	10S	22E

*Provide all proposed locations of operation for portable sources

B. PREVIOUS PERMIT ACTIONS (Provide information in this format for each permit that has been issued to this source. Provide as an attachment if additional space is necessary)

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

C. CONTACT INFORMATION

Company Contact Mike Weaver	Title Midstream Operations Manager
Mailing Address P.O.Box 173779, Denver, CO 80202-3779	
Email Address Mike.Weaver@anadarko.com	
Telephone Number 720-929-6792	Facsimile Number
Operator Contact (if different from company contact) Andy Zeller	Title Plant Foreman
Mailing Address	
Email Address andy.zeller@anadarko.com	
Telephone Number 435-781-7001	Facsimile Number
Source Contact Natalie Ohlhausen	Title Sr. HSE Representative
Mailing Address P.O.Box 173779, Denver, CO 80202-3779	
Email Address Natalie.Ohlhausen@Anadarko.com	
Telephone Number 720-929-6498	Facsimile Number
Compliance Contact Same as Source Contact	Title
Mailing Address	
Email Address	
Telephone Number	Facsimile Number

D. ATTACHMENTS

Include all of the following information (see the attached instructions)

☒ **FORM SYNMIN -** New Source Review Synthetic Minor Limit Request Form, if synthetic minor limits are being requested.

☒ Narrative description of the proposed production processes. This description should follow the flow of the process flow diagram to be submitted with this application.

☒ Process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

☒ A list and descriptions of all proposed emission units and air pollution-generating activities.

☒ Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

☒ Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

☒ Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

☒ A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

☒ **Criteria Pollutant Emissions -** Estimates of Current Actual Emissions, Current Allowable Emissions, Post-Change Uncontrolled Emissions, and Post-Change Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

These estimates are to be made for each emission unit, emission generating activity, and the project/source in total.

☐ **Modeling – Air Quality Impact Analysis (AQIA)**

☐ **ESA (Endangered Species Act)**

☐ **NHPA (National Historic Preservation Act)**

E. TABLE OF ESTIMATED EMISSIONS

The following tables provide the total emissions in tons/year for all pollutants from the calculations required in Section D of this form, as appropriate for the use specified at the top of the form.

E(i) – Proposed New Source

Pollutant	Potential Emissions (tpy)	Proposed Allowable Emissions (tpy)
PM		0.0
PM_{10}		0.0
$PM_{2.5}$		0.0
SO_x		
NO_x		96.1
CO		45.0
VOC		66.7
Pb		
CO2e		41154.4
Fluorides		
H_2SO_4		
H_2S		
TRS		
RSC		

PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns in size
$PM_{2.5}$ - Particulate Matter less than 2.5 microns in size
SOx - Sulfur Oxides
NOx - Nitrogen Oxides
CO - Carbon Monoxide
VOC - Volatile Organic Compound
Pb - Lead and lead compounds
Fluorides - Gaseous and particulates
H_2SO_4 - Sulfuric Acid Mist
H_2S - Hydrogen Sulfide
TRS - Total Reduced Sulfur
RSC - Reduced Sulfur Compounds

Emissions calculations must include fugitive emissions if the source is one the following listed sources, pursuant to CAA Section 302(j):

(a) Coal cleaning plants (with thermal dryers);
(b) Kraft pulp mills;
(c) Portland cement plants;
(d) Primary zinc smelters;
(e) Iron and steel mills;
(f) Primary aluminum ore reduction plants;
(g) Primary copper smelters;
(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;
(i) Hydrofluoric, sulfuric, or nitric acid plants;
(j) Petroleum refineries;
(k) Lime plants;
(l) Phosphate rock processing plants;
(m) Coke oven batteries;
(n) Sulfur recovery plants;
(o) Carbon black plants (furnace process);
(p) Primary lead smelters;
(q) Fuel conversion plants;
(r) Sintering plants;
(s) Secondary metal production plants;
(t) Chemical process plants
(u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
(v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(w) Taconite ore processing plants;
(x) Glass fiber processing plants;
(y) Charcoal production plants;
(z) Fossil fuel-fired steam electric plants of more that 250 million British thermal units per hour heat input, and
(aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

Anadarko Unitah Midstream, LLC

Facility: White River Compressor Station

Emission Summary

Uncontrolled Emissions

Unit ID	Description	HR/YR	NOx	CO	VOC	PM10	CO2e	CH2O	Acetaldehyde	Benzene	Toluene	n-Hexane	Acrolein	HAPS TOT
WRS 1 (210)	G3516TALE	8760	19.4	110.0	4.3	0.00	5784.07	3.8	0.36	0.00	-	-	0.22	4.34
WRS 2 (310)	G3516TALE	8760	19.4	110.0	4.3	0.00	5784.07	3.8	0.36	0.00	-	-	0.22	4.34
WRS 3 (220)	G3516TALE	8760	19.4	110.0	4.3	0.00	5784.07	3.8	0.36	0.00	-	-	0.22	4.34
WRS 4 (260)	G3606 LE	8760	12.0	97.7	12.0	0.00	7312.49	6.9	0.46	0.02	-	0.06	0.28	7.68
WRS 5 (270)	G3606 LE	8760	12.0	97.7	12.0	0.00	7312.49	6.9	0.46	0.02	-	0.06	0.28	7.68
WRS 6 (280)	G3606 LE	8760	12.0	97.7	12.0	0.00	7312.49	6.9	0.46	0.02	-	0.06	0.28	7.68
DEHY -1	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
DEHY -2	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
Tank-28800	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	
Tank-28810	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	
Tank-28830	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	
HTR-1	Line Heater	8760	0.3	0.2	Insig.	-	320.30	-	-	-	-	-	-	0.00
HTR-2	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
HTR-3	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
FUG	Fugitives	8760	-	-	5.8	-	-	-	-	-	-	-	-	0.00
Total			**96.1**	**624.4**	**69.9**	**0.0**	**41154.4**	**31.8**	**2.5**	**0.2**	**0.1**	**1.6**	**1.5**	**36.1**

PTE Emissions (TPY)

Unit ID	Description	HR/YR	NOx	CO	VOC	PM10	CO2e	CH2O	Acetaldehyde	Benzene	Toluene	n-Hexane	Acrolein	HAPS TOT
WRS 1 (210)	G3516TALE	8760	19.4	7.7	3.2	0.0	5784.1	0.9	0.36	0.0	-	-	0.22	1.51
WRS 2 (310)	G3516TALE	8760	19.4	7.7	3.2	0.0	5784.1	0.9	0.36	0.0	-	-	0.22	1.51
WRS 3 (220)	G3516TALE	8760	19.4	7.7	3.2	0.0	5784.1	0.9	0.36	0.0	-	-	0.22	1.51
WRS 4 (260)	G3606 LE	8760	12.0	6.8	12.0	0.0	7312.5	1.6	0.46	0.0	-		0.28	2.41
WRS 5 (270)	G3606 LE	8760	12.0	6.8	12.0	0.0	7312.5	1.6	0.46	0.0	-		0.28	2.41
WRS 6 (280)	G3606 LE	8760	12.0	6.8	12.0	0.0	7312.5	1.6	0.46	0.0	-		0.28	2.41
DEHY -1	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
DEHY -2	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
Tank-28800	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	0.6
Tank-28810	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	0.6
Tank-28830	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	0.6
HTR-1	Line Heater	8760	0.3	0.2	Insig.	-	320.30	-	-	-	-	-	-	0.00
HTR-2	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
HTR-3	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
FUG	Fugitives	8760	-	-	5.8	-	-	-	-	-	-	-	-	0.00
Total			**96.1**	**45.0**	**66.7**	**0.0**	**41154.4**	**7.6**	**2.5**	**0.3**	**0.1**	**1.4**	**1.5**	**13.4**

Facility: White River Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 1 (210)**				
Source Description	4-Cycle Lean Burn				
Engine Usage	Compressor Engine				
Engine Make	Caterpillar	Potential operation	8760	hr/yr	
Engine Model	G3516TALE				
Serial Number	WPW00315	Manufacture Date	7/20/2006		
Date in Service	4/3/2008	Potential fuel usage	96.2	MMscf/yr	
Emission Controls	Lean Burn		10979	scf/hr	
	Oxidation Catalyst/AFR				
		Stack ID	**WRS 1 (210)**		
Engine Rating	1340 BHP	Stack Height		ft	
Fuel Heating Value	905.0 Btu/scf	Stack Diameter	1.0	ft	
Heat Rate	9.94 MMBtu/hr	Exit Velocity	78.4	ft/s	
Engine Heat Rate	7415 Btu/hp-hr	Exit Temperature	840	deg F	
		Volume Flow Rate	3,690	ft³/min	

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO	2.53	8.50	1340	8760	25.11	**110.0**	Manuf. Data
VOC	0.10	0.33	1340	8760	0.97	**4.3**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
CO2e	0.3	447	1340	8760	1320.6	**5784.1**	GHG Subpart C Calc.
HAPs							
HCHO	0.09	0.29	1340	8760	0.86	**3.75**	Manuf. Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						4.36	

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO*	0.18	0.60	1340	8760	1.76	**7.7**	Manuf. Control Data
VOC*	0.07	0.25	1340	8760	0.73	**3.2**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
HAPs							
HCHO*	0.02	0.07	1340	8760	0.21	**0.90**	Manuf. Control Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						1.51	

***CO: 93% Control Efficiency; VOC: 25% Control Efficiency; Formaldehyde: 76% Control Efficiency**

Facility: White River Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 2 (310)**				
Source Description	4-Cycle Lean Burn				
Engine Usage	Compressor Engine				
Engine Make	Caterpillar	Potential operation	8760	hr/yr	
Engine Model	G3516TALE				
Serial Number	WPW01001	Manufacture Date	6/11/2007		
Date in Service	7/10/2008	Potential fuel usage	96.2	MMscf/yr	
Emission Controls	Lean Burn		10979	scf/hr	
	Oxidation Catalyst/AFR				
		Stack ID	**WRS 2 (310)**		
Engine Rating	1340 BHP	Stack Height		ft	
Fuel Heating Value	905.0 Btu/scf	Stack Diameter	1.0	ft	
Heat Rate	9.94 MMBtu/hr	Exit Velocity	78.4	ft/s	
Engine Heat Rate	7415 Btu/hp-hr	Exit Temperature	840	deg F	
		Volume Flow Rate	3,690	ft³/min	

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO	2.53	8.50	1340	8760	25.11	**110.0**	Manuf. Data
VOC	0.10	0.33	1340	8760	0.97	**4.3**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
CO2e	0.3	447	1340	8760	1320.6	**5784.1**	GHG Subpart C Calc.
HAPs							
HCHO	0.09	0.29	1340	8760	0.86	**3.75**	Manuf. Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						4.36	

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO*	0.18	0.60	1340	8760	1.76	**7.7**	Manuf. Control Data
VOC*	0.07	0.25	1340	8760	0.73	**3.2**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
HAPs							
HCHO*	0.02	0.07	1340	8760	0.21	**0.90**	Manuf. Control Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						1.51	

***CO: 93% Control Efficiency; VOC: 25% Control Efficiency; Formaldehyde: 76% Control Efficiency**

Facility: White River Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 3 (220)**				
Source Description	4-Cycle Lean Burn				
Engine Usage	Compressor Engine				
Engine Make	Caterpillar	Potential operation	8760	hr/yr	
Engine Model	G3516TALE				
Serial Number	4EK00363	Manufacture Date	12/9/2004		
Date in Service	9/3/2008	Potential fuel usage	96.2	MMscf/yr	
Emission Controls	Lean Burn		10979	scf/hr	
	Oxidation Catalyst/AFR				
		Stack ID	**WRS 3 (220)**		
Engine Rating	1340 BHP	Stack Height		ft	
Fuel Heating Value	905.0 Btu/scf	Stack Diameter	1.0	ft	
Heat Rate	9.94 MMBtu/hr	Exit Velocity	78.4	ft/s	
Engine Heat Rate	7415 Btu/hp-hr	Exit Temperature	840	deg F	
		Volume Flow Rate	3,690	ft³/min	

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO	2.53	8.50	1340	8760	25.11	**110.0**	Manuf. Data
VOC	0.10	0.33	1340	8760	0.97	**4.3**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
CO2e	0.3	447	1340	8760	1320.6	**5784.1**	GHG Subpart C Calc.
HAPs							
HCHO	0.09	0.29	1340	8760	0.86	**3.75**	Manuf. Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						4.36	

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO*	0.18	0.60	1340	8760	1.76	**7.7**	Manuf. Control Data
VOC*	0.07	0.25	1340	8760	0.73	**3.2**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
HAPs							
HCHO*	0.02	0.07	1340	8760	0.21	**0.90**	Manuf. Control Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						1.51	

***CO: 93% Control Efficiency; VOC: 25% Control Efficiency; Formaldehyde: 76% Control Efficiency**

White Reiver Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 4 (260)**			
Source Description	4-Cycle Lean Burn			
Engine Usage	Compressor Engine			
Engine Make	Caterpillar	Potential operation	8760	hr/yr
Engine Model	G3606 LE	Manufacture Date	10/23/2005	
Serial Number	4ZS00536	Potential fuel usage	121.6	MMscf/yr
Date in Service	6/27/2012		13880	scf/hr
Emission Controls	Lean Burn, Low Emissions Oxidation Catalyst			
		Stack ID	**WRS 4 (260)**	
Site Rating	1775 BHP	Stack Height	32.80	ft
Fuel Heating Value	905 Btu/scf	Stack Diameter	1.66	ft
Heat Rate	12.56 MMBtu/hr	Exit Velocity	92.4	ft/s
Engine Heat Rate	7077 Btu/hp-hr	Exit Temperature	868	deg F
		Volume Flow Rate	11,989	ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission Factor
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO	1.78	5.70	1775	8760	195394.1	**97.7**	Manuf. Data
VOC	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO	0.12	0.40	1775	8760	13711.9	**6.86**	AP-42, Table 3.2-2
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission Factor
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO*	0.12	0.40	1775	8760	13677.6	**6.8**	Manuf. Data
VOC*	0.22	0.70	1775	8760	23995.8	**12.00**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO*	0.03	0.10	1775	8760	3290.9	**1.65**	Manuf. Control Data
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

***Claiming 93% destruction efficiency for CO, and 76% efficiency for HCHO for the oxidation catalyst.**

White Reiver Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 5 (270)**			
Source Description	4-Cycle Lean Burn			
Engine Usage	Compressor Engine			
Engine Make	Caterpillar	Potential operation	8760	hr/yr
Engine Model	G3606 LE	Manufacture Date	2/8/2006	
Serial Number	4ZS00580	Potential fuel usage	121.6	MMscf/yr
Date in Service	6/27/2012		13880	scf/hr
Emission Controls	Lean Burn, Low Emissions			
	Oxidation Catalyst			
		Stack ID	**WRS 5 (270)**	
Site Rating	1775 BHP	Stack Height	32.80	ft
Fuel Heating Value	905 Btu/scf	Stack Diameter	1.66	ft
Heat Rate	12.56 MMBtu/hr	Exit Velocity	92.4	ft/s
Engine Heat Rate	7077 Btu/hp-hr	Exit Temperature	868	deg F
		Volume Flow Rate	11,989	ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission Factor
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO	1.78	5.70	1775	8760	195394.1	**97.7**	Manuf. Data
VOC	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO	0.12	0.40	1775	8760	13711.9	**6.86**	AP-42, Table 3.2-2
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission Factor
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO*	0.12	0.40	1775	8760	13677.6	**6.8**	Manuf. Data
VOC*	0.22	0.70	1775	8760	23995.8	**12.00**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO*	0.03	0.10	1775	8760	3290.9	**1.65**	Manuf. Control Data
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

***Claiming 93% destruction efficiency for CO, and 76% efficiency for HCHO for the oxidation catalyst.**

White Reiver Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 6 (280)**			
Source Description	4-Cycle Lean Burn			
Engine Usage	Compressor Engine			
Engine Make	Caterpillar	Potential operation	8760	hr/yr
Engine Model	G3606 LE	Manufacture Date	6/25/207	
Serial Number	4ZS00821	Potential fuel usage	121.6	MMscf/yr
Date in Service	6/29/2015		13880	scf/hr
Emission Controls	Lean Burn, Low Emissions Oxidation Catalyst			
		Stack ID	**WRS 6 (280)**	
Site Rating	1775 BHP	Stack Height	32.80	ft
Fuel Heating Value	905 Btu/scf	Stack Diameter	1.66	ft
Heat Rate	12.56 MMBtu/hr	Exit Velocity	92.4	ft/s
Engine Heat Rate	7077 Btu/hp-hr	Exit Temperature	868	deg F
		Volume Flow Rate	11,989	ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission Factor
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO	1.78	5.70	1775	8760	195394.1	**97.7**	Manuf. Data
VOC	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO	0.12	0.40	1775	8760	13711.9	**6.86**	AP-42, Table 3.2-2
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission Factor
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO*	0.12	0.40	1775	8760	13677.6	**6.8**	Manuf. Data
VOC*	0.22	0.70	1775	8760	23995.8	**12.00**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO*	0.03	0.10	1775	8760	3290.9	**1.65**	Manuf. Control Data
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

***Claiming 93% destruction efficiency for CO, and 76% efficiency for HCHO for the oxidation catalyst.**

Smith, Claudia

From: Smith, Claudia
Sent: Monday, October 17, 2016 4:25 PM
To: Ohlhausen, Natalie
Subject: RE: Anadarko Minor NSR Permit Application _ White River Compressor Station

Natalie,

The permit application for White River Compressor Station contains that detail for proposed monitoring and testing requirements, so it will be taken into account for our review and drafting of the site-specific permit. I did not mean to imply that the conditions for this permit would be identical to the LINN permits, just that many of the conditions would be similar. However, our permits do have to meet certain requirements for enforceability, so we will be drafting it to meet those requirements. That may or may not include some additional requirements not found in the consent decree (issued over 8 years ago), but I have not started drafting it yet, so I cannot say for sure at this point. Anadarko will have the opportunity to comment on the proposed permit during the public comment period.

Thanks,

Claudia

From: Ohlhausen, Natalie [mailto:Natalie.Ohlhausen@anadarko.com]
Sent: Thursday, October 13, 2016 4:46 PM
To: Smith, Claudia <Smith.Claudia@epa.gov>
Subject: RE: Anadarko Minor NSR Permit Application _ White River Compressor Station

Claudia,

Below is the test method currently referenced in the consent decree for determining CO limits. It does include a determination for g/hp-hr.

Test Methods:
Measure the O2 and CO at the outlet of the control device using portable analyzer. Use ASTM D6522-00 (2005), Method 10 of 40 CFR appendix A, or some other EPA approved Method for CO.
Measurements to determine O2 must be made at the same time as the measurements for CO concentration.
Convert to g/hp-hr using Method 19 and the manufacturer's specific fuel consumption or measured fuel consumption and horsepower at the time of the testing.
Conduct one (1) test run for each performance test required. Each test run must last at least 21 minutes

It seems like these test methods would be sufficient to demonstrate compliance with the enforceable limits of the permit since they were sufficient for the consent decree. Since none of the engines are JJJJ applicable, it seems unnecessary to apply that more complex test methods of JJJJ for the purposes of establishing enforceable limits.

Natalie Ohlhausen
Direct: 720-929-6498
Mobile: 281-785-8929

From: Smith, Claudia [mailto:Smith.Claudia@epa.gov]
Sent: Thursday, October 13, 2016 3:25 PM
To: Ohlhausen, Natalie
Subject: RE: Anadarko Minor NSR Permit Application _ White River Compressor Station

Natalie,

Which testing requirements in the LINN permit are particularly concerning?

Thanks,

Claudia

From: Ohlhausen, Natalie [mailto:Natalie.Ohlhausen@anadarko.com]
Sent: Thursday, October 13, 2016 3:23 PM
To: Smith, Claudia <Smith.Claudia@epa.gov>
Subject: RE: Anadarko Minor NSR Permit Application _ White River Compressor Station

Claudia,

I was looking at the permit for LINN Operating, Inc. but that permit seems to be for a NSPS JJJJ engine which has more testing requirements than the KMG Consent Decree. My understanding was that the permit would have the same testing requirements as the CD with addition of NOx trending during testing to demonstrate that the unit was not being tuned during testing.

Natalie Ohlhausen
Direct: 720-929-6498
Mobile: 281-785-8929

From: Smith, Claudia [mailto:Smith.Claudia@epa.gov]
Sent: Friday, September 23, 2016 12:05 PM
To: Ohlhausen, Natalie
Subject: RE: Anadarko Minor NSR Permit Application _ White River Compressor Station

Hi, Natalie,

The permit we issued to LINN Operating, Inc. for the Section 22 Compressor Station contains similar language for engines. You can view that permit at: https://www.epa.gov/caa-permitting/caa-permits-issued-epa-region-8.

Thanks,

Claudia

From: Ohlhausen, Natalie [mailto:Natalie.Ohlhausen@anadarko.com]
Sent: Friday, September 23, 2016 11:54 AM
To: Smith, Claudia <Smith.Claudia@epa.gov>
Subject: RE: Anadarko Minor NSR Permit Application _ White River Compressor Station

Claudia,

Neither of those conditions should be an issue. I will be sure to write them into our next applications.

Do you have standard language for the NOx portable analyzer monitoring that I can drop into our next round of applications? We have 15 more that will be nearly identical to the White River application.

Thank you,

Natalie Ohlhausen
Direct: 720-929-6498
Mobile: 281-785-8929

From: Smith, Claudia [mailto:Smith.Claudia@epa.gov]
Sent: Wednesday, September 21, 2016 4:58 PM
To: Ohlhausen, Natalie
Subject: Re: Anadarko Minor NSR Permit Application _ White River Compressor Station

Hi, Natalie,

I've reviewed the White River Compressor Station synthetic minor NSR application and it appears I have the information I need to begin processing the permit. In addition to the requested 93% CO reduction requirement for engines, we will probably have to propose lbs/hr or g/hp-hr CO emission limits for each engine , plus NOx portable analyzer monitoring simultaneously with CO portable analyzer monitoring to verify that the engines are not being tuned prior to testing and measurements to meet the CO limits (standard condition).

Thank you,

Claudia Smith

From: Ohlhausen, Natalie <Natalie.Ohlhausen@anadarko.com>
Sent: Thursday, September 15, 2016 12:52:57 PM
To: Smith, Claudia
Subject: Anadarko Minor NSR Permit Application _ White River Compressor Station

Claudia,

Attached is a copy of the Minor NSR Permit Application for the Anadarko Uintah Midstream, LLC (Anadarko) White River Compressor Station. This application is being submitted in order to establish Federally enforceable emission limits as required by the KMG Consent Decree, 07–CV–01034–EWN–KMT. A hard copy of this application is also being sent via US MAIL.

As we discussed earlier this year, this is first of 15 applications that Anadarko will be submitting in order to establish federally enforceable emission limits. The plan is use the White River application as the template for all future applications in order to facilitate a streamlined submittal and review.

If you have any questions please contact me.

Thank you,

Natalie Ohlhausen | Sr. HSE Representative
Anadarko Petroleum Corporation | 1099 18th Street | Denver, CO 80202
Direct: 720-929-6498 | Mobile: 281-785-8929

Chipeta Processing LLC
P.O. Box 173779, Denver, Colorado 80217-3779
720-929-6000 Fax 720-929-7000

September 15, 2016

SENT VIA CERTIFIED MAIL No.: 7014 2120 0003 6311 0582

Ms. Claudia Smith
U.S. EPA, Region 8
1595 Wynkoop Street, 8P-AR
Denver, CO 80202-1129

RE: Synthetic Minor NSR Permit Application under Part 49
White River Compressor Station

Dear Ms. Smith:

Anadarko Uintah Midstream, LLC (Anadarko) is submitting the attached permit application under Part 49 Minor NSR rules for the White River Compressor Station located in Uintah County, Utah. Anadarko is submitting this minor source application to establish federally enforceable limits as required by the Civil Action No. 07–CV–01034–EWN–KMT (KMG Consent Decree).

The attached application contains the following:

Appendix A: EPA Form New
Appendix B: EPA Form SYNMIN
Appendix C: Process Description, Flow Diagram, and Plot Plan
Appendix D: Emission Unit and Emission Control Descriptions
Appendix E: Emission Summary
Appendix F: Detailed Emission Calculations
Appendix G: Regulatory Analysis

Sincerely,

Anadarko Uintah Midstream, LLC

Natalie Ohlhausen
Sr. HSE Representative

Enclosures

Appendix A

Form NEW

(Application for New Construction)

OMB Control No. 2060-0003
Approval expires 04/30/2012

United States Environmental Protection Agency Program Address Phone Fax Web address	*Reviewing Authority* *Program* *Address* *Phone* *Fax* *Web address*

FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN COUNTRY

Application for New Construction
(Form NEW)

Please check all that apply to show how you are using this form:

- ☐ **Proposed Construction of a New Source**
- ☐ **Proposed Construction of New Equipment at an Existing Source**
- ☐ **Proposed Modification of an Existing Source**
- ☒ **Other – Please Explain**

Existing Source operating under synthetic minor limits, as regulated under Consent Decree, submitting an application for a synthetic minor permit under Part 49.

Please submit information to:

Ms. Claudia Smith
U.S. EPA Region 8
1595 Wynkoop Street, 8P-AR
Denver, CO 80202-1129

A. GENERAL SOURCE INFORMATION

1. (a) **Company Name** Anadarko Uintah Midstream LLC (b) **Operator Name** Anadarko Uintah Midstream LLC		2. **Source Name** White River Compressor Station	
3. Type of Operation Nat.Gas Compression & Transmission		4. Portable Source? ☐ Yes ☒ No 5. Temporary Source? ☐ Yes ☒ No	
6. NAICS Code		7. SIC Code 1311	
8. Physical Address (home base for portable sources)			
9. Reservation* Uintah and Ouray	10. County* Uintah	11a. Latitude* 39.96883 ° N	11b. Longitude* -109.38347 ° W
12a. Quarter Quarter Section* NE 1/4 NE 1/4	12b. Section* 12	12c. Township* 10S	12d. Range* 22E

*Provide all proposed locations of operation for portable sources

B. PREVIOUS PERMIT ACTIONS (Provide information in this format for each permit that has been issued to this source. Provide as an attachment if additional space is necessary)

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

Source Name on the Permit
Permit Number (xx-xxx-xxxxx-xxxx.xx)
Date of the Permit Action

C. CONTACT INFORMATION

Company Contact Mike Weaver	Title Midstream Operations Manager
Mailing Address P.O.Box 173779, Denver, CO 80202-3779	
Email Address Mike.Weaver@anadarko.com	
Telephone Number 720-929-6792	Facsimile Number
Operator Contact (if different from company contact) Andy Zeller	Title Plant Foreman
Mailing Address	
Email Address andy.zeller@anadarko.com	
Telephone Number 435-781-7001	Facsimile Number
Source Contact Natalie Ohlhausen	Title Sr. HSE Representative
Mailing Address P.O.Box 173779, Denver, CO 80202-3779	
Email Address Natalie.Ohlhausen@Anadarko.com	
Telephone Number 720-929-6498	Facsimile Number
Compliance Contact Same as Source Contact	Title
Mailing Address	
Email Address	
Telephone Number	Facsimile Number

D. ATTACHMENTS

Include all of the following information (see the attached instructions)

☒ **FORM SYNMIN** - New Source Review Synthetic Minor Limit Request Form, if synthetic minor limits are being requested.

☒ Narrative description of the proposed production processes. This description should follow the flow of the process flow diagram to be submitted with this application.

☒ Process flow chart identifying all proposed processing, combustion, handling, storage, and emission control equipment.

☒ A list and descriptions of all proposed emission units and air pollution-generating activities.

☒ Type and quantity of fuels, including sulfur content of fuels, proposed to be used on a daily, annual and maximum hourly basis.

☒ Type and quantity of raw materials used or final product produced proposed to be used on a daily, annual and maximum hourly basis.

☒ Proposed operating schedule, including number of hours per day, number of days per week and number of weeks per year.

☒ A list and description of all proposed emission controls, control efficiencies, emission limits, and monitoring for each emission unit and air pollution generating activity.

☒ **Criteria Pollutant Emissions** - Estimates of Current Actual Emissions, Current Allowable Emissions, Post-Change Uncontrolled Emissions, and Post-Change Allowable Emissions for the following air pollutants: particulate matter, PM_{10}, $PM_{2.5}$, sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compound (VOC), lead (Pb) and lead compounds, fluorides (gaseous and particulate), sulfuric acid mist (H_2SO_4), hydrogen sulfide (H_2S), total reduced sulfur (TRS) and reduced sulfur compounds, including all calculations for the estimates.

These estimates are to be made for each emission unit, emission generating activity, and the project/source in total.

☐ **Modeling – Air Quality Impact Analysis (AQIA)**

☐ **ESA (Endangered Species Act)**

☐ **NHPA (National Historic Preservation Act)**

E. TABLE OF ESTIMATED EMISSIONS

The following tables provide the total emissions in tons/year for all pollutants from the calculations required in Section D of this form, as appropriate for the use specified at the top of the form.

E(i) – Proposed New Source

Pollutant	Potential Emissions (tpy)	Proposed Allowable Emissions (tpy)	
PM		0.0	PM - Particulate Matter PM_{10} - Particulate Matter less than 10 microns in size $PM_{2.5}$ - Particulate Matter less than 2.5 microns in size SOx - Sulfur Oxides NOx - Nitrogen Oxides CO - Carbon Monoxide VOC - Volatile Organic Compound Pb - Lead and lead compounds Fluorides - Gaseous and particulates H_2SO_4 - Sulfuric Acid Mist H_2S - Hydrogen Sulfide TRS - Total Reduced Sulfur RSC - Reduced Sulfur Compounds
PM_{10}		0.0	
$PM_{2.5}$		0.0	
SO_x			
NO_x		96.1	
CO		15.4	
VOC		66.7	
Pb			
CO2e		41154.4	
Fluorides			
H_2SO_4			
H_2S			
TRS			
RSC			

Emissions calculations must include fugitive emissions if the source is one the following listed sources, pursuant to CAA Section 302(j):

(a) Coal cleaning plants (with thermal dryers);
(b) Kraft pulp mills;
(c) Portland cement plants;
(d) Primary zinc smelters;
(e) Iron and steel mills;
(f) Primary aluminum ore reduction plants;
(g) Primary copper smelters;
(h) Municipal incinerators capable of charging more than 250 tons of refuse per day;
(i) Hydrofluoric, sulfuric, or nitric acid plants;
(j) Petroleum refineries;
(k) Lime plants;
(l) Phosphate rock processing plants;
(m) Coke oven batteries;
(n) Sulfur recovery plants;
(o) Carbon black plants (furnace process);
(p) Primary lead smelters;
(q) Fuel conversion plants;
(r) Sintering plants;
(s) Secondary metal production plants;
(t) Chemical process plants
(u) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;
(v) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
(w) Taconite ore processing plants;
(x) Glass fiber processing plants;
(y) Charcoal production plants;
(z) Fossil fuel-fired steam electric plants of more that 250 million British thermal units per hour heat input, and
(aa) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

E(ii) – Proposed New Construction at an Existing Source or Modification of an Existing Source

Pollutant	Current Actual Emissions (tpy)	Current Allowable Emissions (tpy)	Post-Change Potential Emissions (tpy)	Post-Change Allowable Emissions (tpy)
PM				
PM_{10}				
$PM_{2.5}$				
SO_x				
NO_x				
CO				
VOC				
Pb				
Fluorides				
H_2SO_4				
H_2S				
TRS				
RSC				

PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns in size
$PM_{2.5}$ - Particulate Matter less than 2.5 microns in size
SOx - Sulfur Oxides
NOx - Nitrogen Oxides
CO - Carbon Monoxide
VOC - Volatile Organic Compound
Pb - Lead and lead compounds
Fluorides - Gaseous and particulates
H_2SO_4 - Sulfuric Acid Mist
H_2S - Hydrogen Sulfide
TRS - Total Reduced Sulfur
RSC - Reduced Sulfur Compounds

[Disclaimers] The public reporting and recordkeeping burden for this collection of information is estimated to average 20 hours per response, unless a modeling analysis is required. If a modeling analysis is required, the public reporting and recordkeeping burden for this collection of information is estimated to average 60 hours per response .Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Appendix B

Form SYNMIN

(Application for Synthetic Minor Limit)

OMB Control No. 2060-0003
Approval expires 04/30/2012

United States Environmental Protection Agency Program Address Phone Fax Web address	*Reviewing Authority Program* *Address* *Phone* *Fax* *Web address*

FEDERAL MINOR NEW SOURCE REVIEW PROGRAM IN INDIAN COUNTRY

Application For Synthetic Minor Limit

(Form SYNMIN)

Please submit information to:

Ms. Claudia Smith
U.S. EPA Region 8
Air and Toxics Division
1595 Wynkoop
Denver, CO 80202-1129

A. GENERAL INFORMATION

Company Name Anadarko Uintah Midstream LLC	**Source Name** White River Compressor Station	
Company Contact or Owner Name Mike Weaver		Title Midstream Operations Manager
Mailing Address P.O.Box 173779, Denver, CO 80202-3779		
Email Address Mike.Weaver@anadarko.com		
Telephone Number 720-929-6792	Facsimile Number	

B. ATTACHMENTS

For each criteria air pollutant, hazardous air pollutant and for all emission units and air pollutant-generating activities to be covered by a limitation, include the following:

☒ **Item 1** - The proposed limitation and a description of its effect on current actual, allowable and the potential to emit.
☒ **Item 2** - The proposed testing, monitoring, recordkeeping, and reporting requirements to be used to demonstrate and assure compliance with the proposed limitation.
☐
☒ **Item 3** - A description of estimated efficiency of air pollution control equipment under present or anticipated operating conditions, including documentation of the manufacturer specifications and guarantees.
☐
☒ **Item 4** - Estimates of the Post-Change Allowable Emissions that would result from compliance with the proposed limitation, including all calculations for the estimates.
☒ **Item 5** – Estimates of the potential emissions of Greenhouse Gas (GHG) pollutants:

Appendix C

Process Description,
Process Flow Diagram, &
Plot Plan

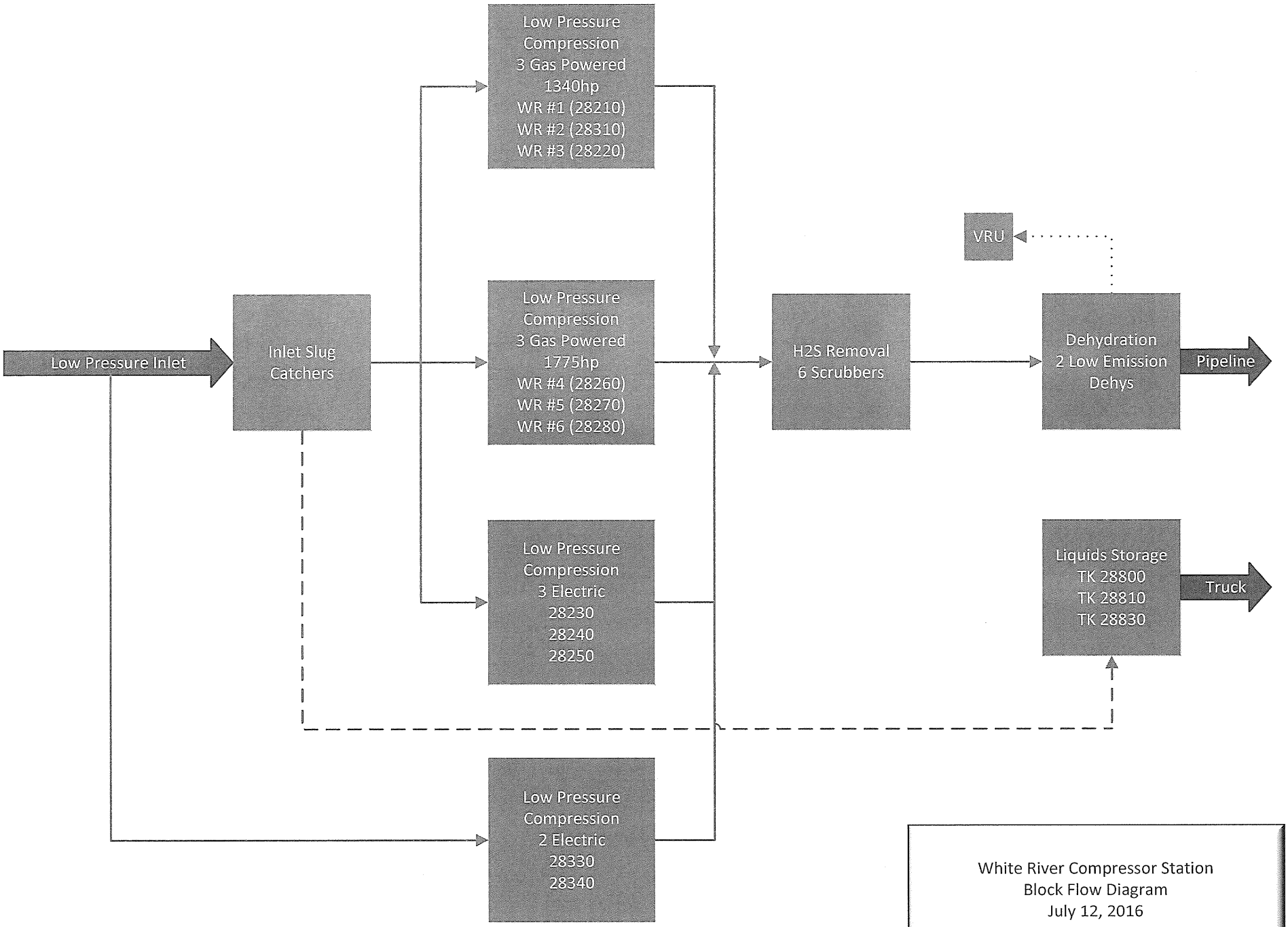
Process Description

Anadarko Uintah Midstream LLC (Anadarko) owns and operates the White River Compressor Station (White River), within the exterior boundaries of the Uintah and Ouray Indian Reservation, in Uintah County, Utah.

Natural gas from the surrounding field is routed to the compressor station via the gas collection system. Natural gas enters the compressor station through the inlet slug catcher where liquids are gravitationally separated from the stream. Condensate recovered is sent to the blowcase system and put back into the discharge line leaving the station. Gas goes through two stages of compression before discharge from the facility. Water is stored in the atmospheric storage tanks along with condensate collected. Liquids are held in storage tanks onsite until loaded into trucks for transport to sale.

White River operations consists of:

- Three Caterpillar G3515 compressor engines (WRS 1, 2 and 3),
- Three Caterpillar G3606 compression engines (WRS 3, 4 and 5),
- Two low emission dehydration units (DEHY-1 and 2)
- Three produced water tanks (Tank-28800, 28810, and 28830)
- One 0.5 MMBtu/hr line heater (HTR-1)
- Two 1.2 MMBtu/hr dehydration unit reboilers (HTR-2 and 3)
- Piping components (FUG)


Low Pressure Compression
3 Gas Powered
1340hp
WR #1 (28210)
WR #2 (28310)
WR #3 (28220)
VRU
Low Pressure Inlet
Inlet Slug Catchers
Low Pressure Compression
3 Gas Powered
1775hp
WR #4 (28260)
WR #5 (28270)
WR #6 (28280)
H2S Removal
6 Scrubbers
Dehydration
2 Low Emission
Dehys
Pipeline
Low Pressure Compression
3 Electric
28230
28240
28250
Liquids Storage
TK 28800
TK 28810
TK 28830
Truck
Low Pressure Compression
2 Electric
28330
28340
White River Compressor Station
Block Flow Diagram
July 12, 2016

PLANT & TRUE NORTH

N

PREVAILING WIND (SUMMER) SW

S

PREVAILING WIND (WINTER)

GATE (ESD)

N. 8+00'-0"

N. 7+00'-0"

MAIN GATE

GATE (ESD)

N. 6+00'-0"

GATE (ESD)

N. 5+00'-0"

N. 4+00'-0"

GATE

N. 3+00'-0"

GATE (ESD)

E. 0+00'-0"

E. 1+00'-0"

E. 2+00'-0"

GATE (ESD)

E. 3+00'-0"

E. 4+00'-0"

E. 5+00'-0"

GATE (ESD)

E. 6+00'-0"

E. 7+00'-0"

E. 8+00'-0"

GATE (ESD)

WELDING SHED

℄ HEAD TUBE N. 6+70'-0"

℄ PSC-28115 E. 1+61'-4"

16" WHITE RIVER INLET

R-28103 6" WHITE RIVER COMPRESSOR INLET

L.P. INLET FINGER SLUG CATCHER

INLET FINGER SLUG CATCHER (FUTURE)

℄ LIQUIDS TANKS E. 1+85'-0"

℄ HPS TANKS E. 2+03'-0"

(FUTURE) TK-28XXX

(FUTURE) TK-28XXX

TK-28830 N. 6+08'-0"

TK-28955 N. 6+08'-0"

TK-28810 N. 5+92'-0"

TK-28945 N. 5+92'-0"

TK-28800 N. 5+76'-0"

TK-28935 N. 5+76'-0"

C-28820

F-28960

℄ N. 5+47'-6" EDGE OF SKID

PRODUCED WATER PUMP BUILDING

℄ N. 5+30'-2" EDGE OF SKID

E. 1+81'-0" EDGE OF SKID

AUTOMATION BUILDING

GAS METERING AREA

H.P. ESD VALVE

V-28110 L.P. INLET SLUG CATCHER

45°

℄ FLANGE E. 0+80'-8 1/2"

℄ FLANGE N. 4+51'-2 3/4"

R-28102 6" WHITE RIVER INLET

16" WHITE RIVER COMPRESSOR INLET

L-28105 H.P. LAUNCHER

R-28200 L.P. RECEIVER

P-28140A P-28140B P-28140C

℄ FLANGE N. 4+69'-4"

E. 1+20'-0" E. 1+24'-0" E. 1+28'-0"

HOLD: SKID FOUNDATION

BTEX 1ST STAGE SUCTION SKID

VRU SKIDS

BTEX 1ST STAGE COMP. SKID

EDGE OF SKIDS E. 3+26'-0"

EDGE OF SKID N. 6+53'-0"

EDGE OF SKID N. 6+39'-10"

EDGE OF SKID E. 3+10'-0"

FUEL GAS RECEIVER V-28610

F.G. SKID

EDGE OF SKID N. 6+12'-6"

℄ E. 3+18'-0"

E. 3+64'-1 3/8"

3 PHASE SEPARATOR

℄ SADDLE E. 3+73'-6"

℄ E. 3+72'-0"

℄ F-28875 E. 3+98'-6"

℄ V-28870 N. 6+10'-6"

℄ BOLTS TIE-DOWN N. 5+99'-7 3/4"

℄ P-28880B N. 5+91'-1 1/2"

℄ P-28880A N. 5+84'-1 1/2"

N. 5+83'-8 1/8"

N. 5+92'-6 1/8"

DRY GAS SCRUBBERS

V-28595 N. 5+89'-0"

V-28XXX (FUTURE)

℄ V-28590

VENT SCRUBBER

℄ V-28122 N. 5+72'-6"

℄ V-28530 N. 5+73'-0"

CLYCOL CONTACTORS

℄ V-28510 N. 5+49'-0"

INLET FILTER SEPARATORS

V-28130 N. 5+55'-6"

V-28120 N. 5+45'-6"

℄ E. 3+90'-0"

SADDLE E. 3+13'-2"

℄ E. 3+63'-0"

℄ E. 3+65'-8"

℄ V-28117 N. 5+17'-0"

I.P. FILTER COALESCER

℄ V-28118 N. 5+15'-0" L.P. FILTER COALESCER

℄ V-28119 N. 5+15'-0" L.P. FILTER COALESCER

H2S TREATMENT

℄ V-28400 E. 3+85'-0"

℄ V-28410 E. 3+97'-0"

℄ V-28460 E. 4+09'-0"

℄ V-28450 E. 4+31'-6"

℄ V-28440 E. 4+44'-6"

℄ V-28430 E. 4+56'-6"

℄ VESSELS N. 5+41'-3"

E. 4+50'-11"

EDGE OF COOLER E. 4+70'-6"

AC-28335

AC-28345

AC-28355

AC-28245

℄ COOLER LEGS E. 5+31'-7/8"

COOLER LEGS N. 5+17'- 3 1/2"

C-28260 E. 5+69'-0"

GAS COMPRESSOR (L.P.)

C-28270 E. 5+05'-0"

GAS COMPRESSOR (L.P.)

C-28280 E. 5+41'-0"

GAS COMPRESSOR (L.P.)

N. 5+23'-0" EDGE OF SKID

N. 5+25'-0" EDGE OF SKIDS

℄ FUEL GAS SEP. E. 5+67'-3

℄ F-28611 N. 5+17'-0"

METHANOL TANK

AC-28385B

AC-28385A

℄ OF NOZZ. N. 4+42'-8 1/2"

EDGE OF SKIDS N. 4+63'-11 1/2"

TK-28900 ℄ N. 4+65'-0"

P-28910 P-28915 P-28970 EGR TEG TANK

TK-28905 ℄ N. 4+52'-0"

TK-28980 ANTIFROTH TANK ℄ N. 4+40'-0"

TK-28970 LUBE OIL TANK ℄ N. 4+28'-0"

TK-28975 WASTE OIL TANK ℄ N. 4+16'-0"

LOADING RACK

CHEMICAL STORAGE AREA

TANKS E. 3+75'-0"

℄ OF NOZZ. N. 4+62'-1 1/4"

ELECTRIC INLET COMPRESSOR (L.P.)

ELECTRIC INLET COMPRESSOR (L.P.)

ELECTRIC INLET COMPRESSOR (L.P.)

ELECTRIC INLET COMPRESSOR (L.P.)

ELECTRIC INLET COMPRESSOR (L.P.)

℄ COOLER LEGS E. 4+70'-9"

℄ COOLER LEGS E. 4+77'-0"

℄ COOLER LEGS E. 4+86'-9"

℄ COOLER LEGS E. 5+03'-2 7/8"

C-28230 E. 5+12'-0"

C-28240 E. 5+47'-0"

C-28250 E. 5+82'-0"

N. 4+60'-3 5/8" EDGE OF SKIDS

℄ RECEIVER E. 7+09'-0"

IA RECEIVER ℄ H. 4+68'-6"

EDGE OF SKID N. 4+57'-0"

V-28297

IA PACKAGE

MCC

EDGE OF SKID E. 7+04'-0"

POC 60'-6" X 16'-6"

SUB-STATION

C-28210 GAS INLET COMPRESSOR (L.P.) ℄ N. 4+45'-0"

C-28310 GAS INLET COMPRESSOR (L.P.) ℄ N. 4+10'-0"

C-28220 GAS INLET COMPRESSOR (L.P.) ℄ N. 3+75'-0"

COMP. WORK LINE (TYP.) E. 2+91'-10"

℄ VESSEL E. 4+30'-0"

℄ V-28598 N. 3+ 35'-0"

BLOWDOWN

0' 25' 50' 75' 100'

NOTE:
CROSS REFERENCELOCATION CO-ORDINATES WITH FOUNDATION LOCATION PLAN

REV.	DESCRIPTION	DATE	BY	CHK'D	ENG	DISC	PRJ
1	EQUIPMENT ADDED	9/27/12	JES				
0	AS-NOTED	1/24/12	JES				

DISCIPLINE	REVIEWED	DATE
PROCESS		
MECHANICAL		
PIPING		
ELECTRICAL		
I & C		
CIVIL/STRUCTURAL		
PROJECT		

REFERENCE DRAWINGS

NO.	DESCRIPTION

Anadarko Petroleum Corporation

ZAP ENGINEERING & CONSTRUCTION SERVICES, INC.
12567 W. Cedar Drive Ph. (720) 529-4430
Lakewood, CO. 80228 ZAPECS.com

WHITE RIVER COMPRESSOR STATION
FIRE AND SAFETY LOCATION PLAN

CLIENT No.:	CLIENT APPR.:	APPR. DATE:
RESI No.:	SCALE:	CREATION DATE:
DRAWN BY:	DWG. No.: U28-GA-10	SHEET No. OF

N:\DWGS\UT\U28 WHITE RIVER\Plot Plan\U28GA10.dwg, 9/27/2012 12:34:32 PM

Appendix D

Emission Unit Description

CO Emissions:

As per the Kerr-McGee ("KMG") Consent Decree, KMG is requesting to make the emission limits outlined in paragraph ## federal enforceable as required by paragraph ##. All six engines located at the White River Compressor Station are fitted with oxidation catalyst which demonstrate a control efficiency of 93% is required for these RICEs as per the Kerr-McGee Consent Decree ***(paragraph 50).***

KMG is requesting the control requirements for CO in the Consent Decrees be incorporated as permit conditions.

- Proposed limits

  CO emission control efficiency of 93% for Engines WRS 1 (210), WRS 2 (310), WRS 3 (220), WRS 4 (260), WRS 5 (270), and WRS 6 (280)

- Proposed testing
  - Initial Testing
    - Swap-outs and Like-kind Replacement Engines
      - Initial compliance test shall be conducted within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup.

    - Test Methods:
      - Measure the O_2 and CO at the outlet of the control device using portable analyzer. Use ASTM D6522-00 (2005), Method 10 of 40 CFR appendix A, or some other EPA approved Method for CO.
        Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
      - Convert to g/hp-hr using Method 19 and the manufacturer's specific fuel consumption or measured fuel consumption and horsepower at the time of the testing.
      - Conduct one (1) test run for each performance test required. Each test run must last at least 21 minutes

  - Ongoing Testing
    - Semi-annual or annual testing must be completed to verify compliance with g/hp-hr limits. Existing engines currently follow a semi-annual testing schedule. After permit issuance, if there is documented history of two consecutive, passing compliance tests, the testing frequency shall be reduced to annually. Overall, the testing frequency will not be reduced to annual tests until there are two consecutive, passing compliance tests (taking into account pre-permit, compliant tests). Total facility CO emissions shall be calculated based on the results of the latest test and 8,760 hours per year of operation. Should there

be a failed test, testing will resort to semi-annual testing. Two compliant semi-annual tests will be required before reverting to annual testing. Semi-annual tests must be completed within 180 days of permit issuance and annual tests must be completed within 365 days of permit issuance. Subsequent semi-annual and annual tests must occur anytime within the January to June and July to December semi-annual period or calendar year period, for semi-annual and annual testing, respectively. This means there will be instances where the time in between semi-annual tests may exceed 180 days and the time in between annual tests may exceed 365 days.

- Test Methods:
  - Measure the O_2 and CO at the outlet of the control device using portable analyzer. Use ASTM D6522-00 (2005), Method 10 of 40 CFR appendix A, or some other EPA approved Method for CO.
    Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
  - Convert to g/hp-hr using Method 19 and the manufacturer's specific fuel consumption or measured fuel consumption and horsepower at the time of the testing.
  - Conduct one (1) test run for each performance test required. Each test run must last at least 21 minutes

- Reporting Requirements
  - Notification of performance test shall be submitted 30 days prior to the date of the performance test.
  - Test reports shall be submitted within 60 days of completion of any compliance test.

- Operation and Maintenance Requirements
  - At all times, the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

<u>Formaldehyde Emissions:</u>

- This facility is a not major source of HAPs and is therefore not subject to the major source requirements of NESHAP Subpart ZZZZ. Therefore, no limits are being requested.

<u>NOx Emissions:</u>

- This facility NOx emissions are below the PSD threshold and, therefore, no limits are being requested.

VOC Emissions:

- Engines
  - VOC emissions based off manufacture's information. Total facility emissions are below the PSD threshold and, therefore, no limits are being requested.

- Produced Water Tanks
  - The produced water tanks at this station collect minimal condensate volumes. The VOC emissions from each tank are estimated based on process model to less than 6tpy.

- Low-Emission Dehydrators
  - Permit Limit:
    - All new and existing glycol dehydration units shall meet the following requirements.
      - "Low-Emission Dehydrator shall meet the specifications set forth in Appendix C (attached) and shall mean a dehydration unit that:
        - Incorporates an integral vapor recovery function such that the dehydrator cannot operate independent of the vapor recovery function;
        - Either returns the captured vapors to the inlet of the facility where such dehydrator is located or routes the captured vapors to that facility's fuel gas supply header; and
        - Has a PTE less than 1.0 TPY of VOCs, inclusive of VOC emissions from the reboiler burner.

  - New Units
    - The new dehydrator units being installed (DEHY-1 & DEHY-2) shall meet the requirements set forth in Appendix C as per KMG CD ***(paragraphs 6 and 9)*** **.**

  - Reporting
    - Written notification to EPA within 60 Days of each installation of a new Low-Emission Dehydrator, and include a description of the equipment installed and a certification that the Low-Emission Dehydrator meets the criteria set forth in this permit above as per KMG CD ***(paragraph 10).*** The certification shall be signed by a Responsible Official or by a delegated employee representative, unless otherwise required by applicable statute or regulation. All reports and submissions shall include the following certification:

      I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the

person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete.

- Recordkeeping
  - Shall maintain records and information adequate to demonstrate its compliance with the requirements of this permit for five years.

- Pneumatic Controllers
  - Permit Limit:
    - All pneumatic controllers shall be operated on instrument air.

Appendix E

Emission Summary

Anadarko Unitah Midstream, LLC
Facility: White River Compressor Station

Emission Summary

Uncontrolled Emissions

Unit ID	Description	HR/YR	NOx	CO	VOC	PM10	CO2e	CH2O	Acetaldehyde	Benzene	Toluene	n-Hexane	Acrolein	HAPS TOT
WRS 1 (210)	G3516TALE	8760	19.4	24.1	4.3	0.00	5784.07	3.8	0.36	0.00	-	-	0.22	4.34
WRS 2 (310)	G3516TALE	8760	19.4	24.1	4.3	0.00	5784.07	3.8	0.36	0.00	-	-	0.22	4.34
WRS 3 (220)	G3516TALE	8760	19.4	24.1	4.3	0.00	5784.07	3.8	0.36	0.00	-	-	0.22	4.34
WRS 4 (260)	G3606 LE	8760	12.0	42.8	12.0	0.00	7312.49	6.9	0.46	0.02	-	0.06	0.28	7.68
WRS 5 (270)	G3606 LE	8760	12.0	42.8	12.0	0.00	7312.49	6.9	0.46	0.02	-	0.06	0.28	7.68
WRS 6 (280)	G3606 LE	8760	12.0	42.8	12.0	0.00	7312.49	6.9	0.46	0.02	-	0.06	0.28	7.68
DEHY -1	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
DEHY -2	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
Tank-28800	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	
Tank-28810	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	
Tank-28830	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	
HTR-1	Line Heater	8760	0.3	0.2	Insig.	-	320.30	-	-	-	-	-	-	0.00
HTR-2	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
HTR-3	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
FUG	Fugitives	8760	-	-	5.8	-	-	-	-	-	-	-	-	0.00
Total			**96.1**	**202.1**	**69.9**	**0.0**	**41154.4**	**31.8**	**2.5**	**0.2**	**0.1**	**1.6**	**1.5**	**36.1**

PTE Emissions (TPY)

Unit ID	Description	HR/YR	NOx	CO	VOC	PM10	CO2e	CH2O	Acetaldehyde	Benzene	Toluene	n-Hexane	Acrolein	HAPS TOT
WRS 1 (210)	G3516TALE	8760	19.4	1.7	3.2	0.0	5784.1	0.9	0.36	0.0	-	-	0.22	1.51
WRS 2 (310)	G3516TALE	8760	19.4	1.7	3.2	0.0	5784.1	0.9	0.36	0.0	-	-	0.22	1.51
WRS 3 (220)	G3516TALE	8760	19.4	1.7	3.2	0.0	5784.1	0.9	0.36	0.0	-	-	0.22	1.51
WRS 4 (260)	G3606 LE	8760	12.0	3.0	12.0	0.0	7312.5	1.6	0.46	0.0	-		0.28	2.41
WRS 5 (270)	G3606 LE	8760	12.0	3.0	12.0	0.0	7312.5	1.6	0.46	0.0	-		0.28	2.41
WRS 6 (280)	G3606 LE	8760	12.0	3.0	12.0	0.0	7312.5	1.6	0.46	0.0	-		0.28	2.41
DEHY -1	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
DEHY -2	Low Emissions TEG Dehy	8760	-	-	1.0	-	-	-	-	-	-	-	-	0.00
Tank-28800	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	0.6
Tank-28810	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	0.6
Tank-28830	400bbl Produced Water Tank	8760	-	-	4.4	-	2.3	-	-	0.1	0.0	0.5	-	0.6
HTR-1	Line Heater	8760	0.3	0.2	Insig.	-	320.30	-	-	-	-	-	-	0.00
HTR-2	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
HTR-3	Dehy Reboiler	8760	0.8	0.6	Insig.	-	768.71	-	-	-	-	-	-	0.00
FUG	Fugitives	8760	-	-	5.8	-	-	-	-	-	-	-	-	0.00
Total			**96.1**	**15.4**	**66.7**	**0.0**	**41154.4**	**7.6**	**2.5**	**0.3**	**0.1**	**1.4**	**1.5**	**13.4**

Appendix F

Detailed Emission Calculation

Facility: White River Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 1 (210)**		
Source Description	4-Cycle Lean Burn		
Engine Usage	Compressor Engine		
Engine Make	Caterpillar	Potential operation	8760 hr/yr
Engine Model	G3516TALE		
Serial Number	WPW00315	Manufacture Date	7/20/2006
Date in Service	4/3/2008	Potential fuel usage	96.2 MMscf/yr
Emission Controls	Lean Burn		10979 scf/hr
	Oxidation Catalyst/AFR		
		Stack ID	**WRS 1 (210)**
Engine Rating	1340 BHP	Stack Height	ft
Fuel Heating Value	905.0 Btu/scf	Stack Diameter	1.0 ft
Heat Rate	9.94 MMBtu/hr	Exit Velocity	78.4 ft/s
Engine Heat Rate	7415 Btu/hp-hr	Exit Temperature	840 deg F
		Volume Flow Rate	3,690 ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO	0.55	1.86	1340	8760	5.49	**24.1**	Manuf. Data
VOC	0.10	0.33	1340	8760	0.97	**4.3**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
CO2e	0.3	447	1340	8760	1320.6	**5784.1**	GHG Subpart C Calc
HAPs							
HCHO	0.09	0.29	1340	8760	0.86	**3.75**	Manuf. Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						4.36	

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO*	0.04	0.13	1340	8760	0.38	**1.7**	Manuf. Control Data
VOC*	0.07	0.25	1340	8760	0.73	**3.2**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
HAPs							
HCHO*	0.02	0.07	1340	8760	0.21	**0.90**	Manuf. Control Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						1.51	

***CO: 93% Control Efficiency; VOC: 25% Control Efficiency; Formaldehyde: 76% Control Efficiency**

Facility: White River Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 2 (310)**		
Source Description	4-Cycle Lean Burn		
Engine Usage	Compressor Engine		
Engine Make	Caterpillar	Potential operation	8760 hr/yr
Engine Model	G3516TALE		
Serial Number	WPW01001	Manufacture Date	6/11/2007
Date in Service	7/10/2008	Potential fuel usage	96.2 MMscf/yr
Emission Controls	Lean Burn		10979 scf/hr
	Oxidation Catalyst/AFR		
		Stack ID	**WRS 2 (310)**
Engine Rating	1340 BHP	Stack Height	ft
Fuel Heating Value	905.0 Btu/scf	Stack Diameter	1.0 ft
Heat Rate	9.94 MMBtu/hr	Exit Velocity	78.4 ft/s
Engine Heat Rate	7415 Btu/hp-hr	Exit Temperature	840 deg F
		Volume Flow Rate	3,690 ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO	0.55	1.86	1340	8760	5.49	**24.1**	Manuf. Data
VOC	0.10	0.33	1340	8760	0.97	**4.3**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
CO2e	0.3	447	1340	8760	1320.6	**5784.1**	GHG Subpart C Calc
HAPs							
HCHO	0.09	0.29	1340	8760	0.86	**3.75**	Manuf. Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						4.36	

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO*	0.04	0.13	1340	8760	0.38	**1.7**	Manuf. Control Data
VOC*	0.07	0.25	1340	8760	0.73	**3.2**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
HAPs							
HCHO*	0.02	0.07	1340	8760	0.21	**0.90**	Manuf. Control Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						1.51	

***CO: 93% Control Efficiency; VOC: 25% Control Efficiency; Formaldehyde: 76% Control Efficiency**

Facility: White River Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 3 (220)**		
Source Description	4-Cycle Lean Burn		
Engine Usage	Compressor Engine		
Engine Make	Caterpillar	Potential operation	8760 hr/yr
Engine Model	G3516TALE		
Serial Number	4EK00363	Manufacture Date	12/9/2004
Date in Service	9/3/2008	Potential fuel usage	96.2 MMscf/yr
Emission Controls	Lean Burn		10979 scf/hr
	Oxidation Catalyst/AFR		
		Stack ID	**WRS 3 (220)**
Engine Rating	1340 BHP	Stack Height	ft
Fuel Heating Value	905.0 Btu/scf	Stack Diameter	1.0 ft
Heat Rate	9.94 MMBtu/hr	Exit Velocity	78.4 ft/s
Engine Heat Rate	7415 Btu/hp-hr	Exit Temperature	840 deg F
		Volume Flow Rate	3,690 ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO	0.55	1.86	1340	8760	5.49	**24.1**	Manuf. Data
VOC	0.10	0.33	1340	8760	0.97	**4.3**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
CO2e	0.3	447	1340	8760	1320.6	**5784.1**	GHG Subpart C Calc
HAPs							
HCHO	0.09	0.29	1340	8760	0.86	**3.75**	Manuf. Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						4.36	

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/hr)	(tpy)	Factor
NOx	0.45	1.50	1340	8760	4.43	**19.4**	Manuf. Data
CO*	0.04	0.13	1340	8760	0.38	**1.7**	Manuf. Control Data
VOC*	0.07	0.25	1340	8760	0.73	**3.2**	Manuf. Data
SOx	5.88E-04	0.002	1340	8760	0.01	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
PM2.5	7.71E-05	0.0003	1340	8760	0.00	**0.00**	AP-42, Table 3.2-2
HAPs							
HCHO*	0.02	0.07	1340	8760	0.21	**0.90**	Manuf. Control Data
Benzene	4.40E-04	0.0015	1340	8760	0.004	**0.02**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0173	1340	8760	0.051	**0.22**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.0281	1340	8760	0.083	**0.36**	AP-42, Table 3.2-2
						1.51	

***CO: 93% Control Efficiency; VOC: 25% Control Efficiency; Formaldehyde: 76% Control Efficiency**

White Reiver Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 4 (260)**		
Source Description	4-Cycle Lean Burn		
Engine Usage	Compressor Engine		
Engine Make	Caterpillar	Potential operation	8760 hr/yr
Engine Model	G3606 LE	Manufacture Date	10/23/2005
Serial Number	4ZS00536	Potential fuel usage	121.6 MMscf/yr
Date in Service	6/27/2012		13880 scf/hr
Emission Controls	Lean Burn, Low Emissions Oxidation Catalyst		
		Stack ID	**WRS 4 (260)**
Site Rating	1775 BHP	Stack Height	32.80 ft
Fuel Heating Value	905 Btu/scf	Stack Diameter	1.66 ft
Heat Rate	12.56 MMBtu/hr	Exit Velocity	92.4 ft/s
Engine Heat Rate	7077 Btu/hp-hr	Exit Temperature	868 deg F
		Volume Flow Rate	11,989 ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	Factor
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO	0.78	2.50	1775	8760	85699.2	**42.8**	Manuf. Data
VOC	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO	0.12	0.40	1775	8760	13711.9	**6.86**	AP-42, Table 3.2-2
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	Factor
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO*	0.05	0.18	1775	8760	5998.9	**3.0**	Manuf. Data
VOC*	0.22	0.70	1775	8760	23995.8	**12.00**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO*	0.03	0.10	1775	8760	3290.9	**1.65**	Manuf. Control Data
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

***Claiming 93% destruction efficiency for CO, and 76% efficiency for HCHO for the oxidation catalyst.**

White Reiver Compressor Station
Engine Detail Sheet

Source ID Number	**WRS 5 (270)**		
Source Description	4-Cycle Lean Burn		
Engine Usage	Compressor Engine		
Engine Make	Caterpillar	Potential operation	8760 hr/yr
Engine Model	G3606 LE	Manufacture Date	2/8/2006
Serial Number	4ZS00580	Potential fuel usage	121.6 MMscf/yr
Date in Service	6/27/2012		13880 scf/hr
Emission Controls	Lean Burn, Low Emissions Oxidation Catalyst		
		Stack ID	**WRS 5 (270)**
Site Rating	1775 BHP	Stack Height	32.80 ft
Fuel Heating Value	905 Btu/scf	Stack Diameter	1.66 ft
Heat Rate	12.56 MMBtu/hr	Exit Velocity	92.4 ft/s
Engine Heat Rate	7077 Btu/hp-hr	Exit Temperature	868 deg F
		Volume Flow Rate	11,989 ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	Factor
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO	0.78	2.50	1775	8760	85699.2	**42.8**	Manuf. Data
VOC	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO	0.12	0.40	1775	8760	13711.9	**6.86**	AP-42, Table 3.2-2
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	Factor
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO*	0.05	0.18	1775	8760	5998.9	**3.0**	Manuf. Data
VOC*	0.22	0.70	1775	8760	23995.8	**12.00**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO*	0.03	0.10	1775	8760	3290.9	**1.65**	Manuf. Control Data
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

***Claiming 93% destruction efficiency for CO, and 76% efficiency for HCHO for the oxidation catalyst.**

White Reiver Compressor Station

Engine Detail Sheet

Source ID Number	**WRS 6 (280)**		
Source Description	4-Cycle Lean Burn		
Engine Usage	Compressor Engine		
Engine Make	Caterpillar	Potential operation	8760 hr/yr
Engine Model	G3606 LE	Manufacture Date	6/25/207
Serial Number	4ZS00821	Potential fuel usage	121.6 MMscf/yr
Date in Service	6/29/2015		13880 scf/hr
Emission Controls	Lean Burn, Low Emissions Oxidation Catalyst		
		Stack ID	**WRS 6 (280)**
Site Rating	1775 BHP	Stack Height	32.80 ft
Fuel Heating Value	905 Btu/scf	Stack Diameter	1.66 ft
Heat Rate	12.56 MMBtu/hr	Exit Velocity	92.4 ft/s
Engine Heat Rate	7077 Btu/hp-hr	Exit Temperature	868 deg F
		Volume Flow Rate	11,989 ft³/min

Uncontrolled Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	Factor
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO	0.78	2.50	1775	8760	85699.2	**42.8**	Manuf. Data
VOC	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO	0.12	0.40	1775	8760	13711.9	**6.86**	AP-42, Table 3.2-2
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

PTE Emissions

Pollutant	Emission Factor		Rating	Operating Hrs	Estimated Emissions		Source of Emission
	(lb/MMBtu)	(g/hp-hr)	(hp)	(hrs/yr)	(lb/yr)	(tpy)	Factor
NOx	0.22	0.70	1775	8760	23995.8	**12.0**	Manuf. Data
CO*	0.05	0.18	1775	8760	5998.9	**3.0**	Manuf. Data
VOC*	0.22	0.70	1775	8760	23995.8	**12.00**	Manuf. Data
SOx	5.88E-04	0.002	1775	8760	64.7	**0.03**	AP-42, Table 3.2-2
PM10	7.71E-05	0.0002	1775	8760	8.5	**0.00**	AP-42, Table 3.2-2
CO2e	132.9	427	1775	8760	1669.5	**7312.5**	GHG Subpart C Calc.
HAPs							
HCHO*	0.03	0.10	1775	8760	3290.9	**1.65**	Manuf. Control Data
Benzene	4.40E-04	0.001	1775	8760	48.4	**0.024**	AP-42, Table 3.2-2
n-Hexane	1.11E-03	0.004	1775	8760	122.1	**0.061**	AP-42, Table 3.2-2
Acrolein	5.14E-03	0.0165	1775	8760	0.065	**0.28**	AP-42, Table 3.2-2
Acetaldehyde	8.36E-03	0.027	1775	8760	919.9	**0.460**	AP-42, Table 3.2-2

***Claiming 93% destruction efficiency for CO, and 76% efficiency for HCHO for the oxidation catalyst.**

Facility: White River Compressor Station
Dehy Vent Detail Sheet

				Elevation:	ft asl
Source ID Number	**DEHY -1**	Source Location	Zone: 13		
Source Description	70 MMSCFD TEG Dehydrator			UTME:	
Equipment Usage	Glycol Dehydrator			UTMN:	
Equipment Make		Potential operation			8760 hr/yr
Equipment Model					
Serial Number					
Date in Service	Dehy-1 2/5/2008				
Emission Controls	Low Emissions TEG Dehy				
Equipment Configuration	TEG				
Permit Status	TBD				

Estimated Emissions

Component	CAS		CONTROLLED Potential Emissions (lb/hr)	CONTROLLED Potential Emissions (ton/yr)	UNCONTROLLED Potential Emissions (lb/hr)	UNCONTROLLED Potential Emissions (ton/yr)
Regenerator Emissions						
Methane			0.00	0.00		0.00
Ethane			0.00	0.00		0.00
Propane			0.00	0.00		0.00
Isobutane			0.00	0.00		0.00
n-Butane			0.00	0.00		0.00
Isopentane			0.00	0.00		0.00
n-Pentane			0.00	0.00		0.00
Cyclopentane			0.00	0.00		0.00
n-Hexane	110-54-3	HAP	0.00	0.00		0.00
Cyclohexane			0.00	0.00		0.00
Other Hexanes			0.00	0.00		0.00
Heptanes			0.00	0.00		0.00
Methylcyclohexane			0.00	0.00		0.00
Benzene	71-43-2	HAP	0.00	0.00		0.00
Toluene	108-88-3	HAP	0.00	0.00		0.00
Ethylbenzene	100-41-4	HAP	0.00	0.00		0.00
Xylenes	1330-20-7	HAP	0.00	0.00		0.00
C8+ Heavies			0.00	0.00		0.00
Total Emissions			0.00	0.00	0.00	0.00
Total HC Emissions			0.00	0.00	0.00	0.00
Total VOC Emissions			0.00	0.00	0.23	1.00
Total HAP Emissions			0.00	0.00	0.00	0.00
Total BTEX Emissions			0.00	0.00	0.00	0.00

(Continued)

Source ID Number	DEHY -1
Source Description	70 MMSCFD

GRI Glycalc Inputs

Annual Hrs of Operation	8760	(<= 8760 hr/yr)
Type of Glycol Used	TEG	(EG, TEG, DEG)
Wet Gas Temperature	80	deg F
Wet Gas Pressure	600	psig
Wet Gas Water Content	Saturated	lb H20/MMscf or Saturated
Dry Gas Flow Rate	70	MMscf/day
Dry Gas Water Content	7	lb H20/MMscf (or # absorber stages)
Glycol Recirc.	5	gal / # water
Pump Type	Electric	Electric / Gas @ 1.5% H20 -- Default
Gas Pump Volume Ratio	N/A	acfm gas / gpm glycol
Flash Tank Present?	Y	(Y/N)
Flash Tank Temperature	160	deg F
Flash Tank Pressure	130	psig
Flash Tank Control	Recycle	
Stripping Gas Used	Dry Gas	(None, Dry Gas, Flash Gas, Nitrogen)
Stripping Gas Flow Rate	25	scfm
Condenser Present?	Y	
Condenser Temperature	140	
Condenser Pressure	Atm	

Gas Analyses from July 2008 (3rd Qtr)

Component	Wet Gas (% Vol.)
Helium	0.005
Carbon Dioxide	0.591
Hydrogen Sulfide	ND
Nitrogen	0.167
Methane	91.57
Ethane	4.425
Propane	1.626
Isobutane	0.335
n-Butane	0.432
Isopentane	0.180
n-Pentane	0.151
Cyclopentane	0.009
n-Hexane	0.073
Cyclohexane	0.043
Other Hexanes	0.131
Heptanes	0.095
Methylcyclohexane	0.062
2,2,4-Trimethylpentane	0
Benzene	0.017
Toluene	0.021
Ethylbenzene	0.001
Xylenes	0.008
C8+ Heavies	0.058
Total	100

Facility: White River Compressor Station
Dehy Vent Detail Sheet

				Elevation:	ft asl
Source ID Number	**DEHY -2**	Source Location	Zone: 13		
Source Description	70 MMSCFD TEG Dehydrator			UTME:	
Equipment Usage	Glycol Dehydrator			UTMN:	
Equipment Make		Potential operation			8760 hr/yr
Equipment Model					
Serial Number					
Date in Service	Dehy-1 7/10/2008				
Emission Controls	Low Emissions TEG Dehy				
Equipment Configuration	TEG				
Permit Status	TBD				

Estimated Emissions

Component	CAS		CONTROLLED Potential Emissions (lb/hr)	CONTROLLED Potential Emissions (ton/yr)	UNCONTROLLED Potential Emissions (lb/hr)	UNCONTROLLED Potential Emissions (ton/yr)
Regenerator Emissions						
Methane			0.00	0.00		0.00
Ethane			0.00	0.00		0.00
Propane			0.00	0.00		0.00
Isobutane			0.00	0.00		0.00
n-Butane			0.00	0.00		0.00
Isopentane			0.00	0.00		0.00
n-Pentane			0.00	0.00		0.00
Cyclopentane			0.00	0.00		0.00
n-Hexane	110-54-3	HAP	0.00	0.00		0.00
Cyclohexane			0.00	0.00		0.00
Other Hexanes			0.00	0.00		0.00
Heptanes			0.00	0.00		0.00
Methylcyclohexane			0.00	0.00		0.00
Benzene	71-43-2	HAP	0.00	0.00		0.00
Toluene	108-88-3	HAP	0.00	0.00		0.00
Ethylbenzene	100-41-4	HAP	0.00	0.00		0.00
Xylenes	1330-20-7	HAP	0.00	0.00		0.00
C8+ Heavies			0.00	0.00		0.00
Total Emissions			0.00	0.00	0.00	0.00
Total HC Emissions			0.00	0.00	0.00	0.00
Total VOC Emissions			0.00	0.00	0.23	1.00
Total HAP Emissions			0.00	0.00	0.00	0.00
Total BTEX Emissions			0.00	0.00	0.00	0.00

(Continued)

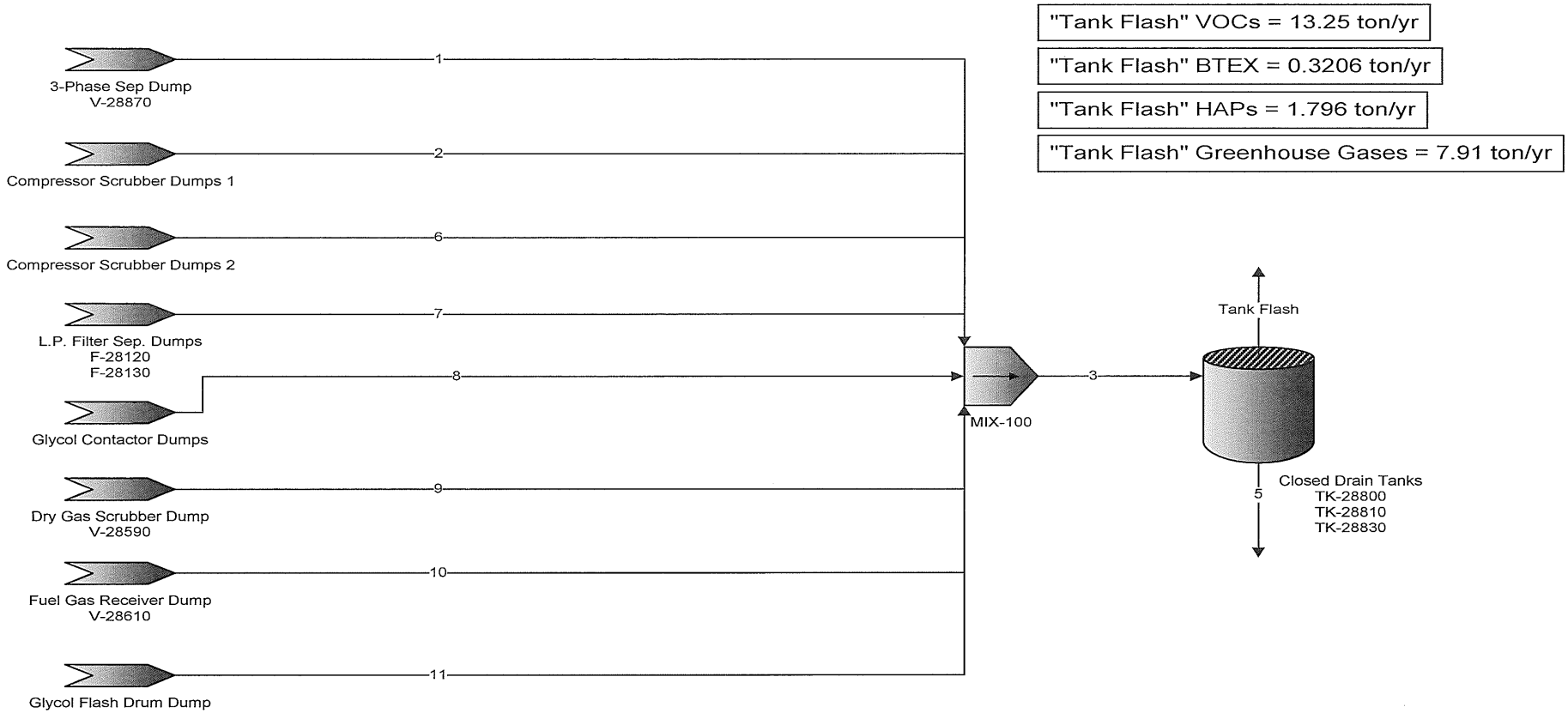
Source ID Number	DEHY -2
Source Description	70 MMSCFD

GRI Glycalc Inputs

Annual Hrs of Operation	8760	(<= 8760 hr/yr)
Type of Glycol Used	TEG	(EG, TEG, DEG)
Wet Gas Temperature	80	deg F
Wet Gas Pressure	600	psig
Wet Gas Water Content	Saturated	lb H20/MMscf or Saturated
Dry Gas Flow Rate	70	MMscf/day
Dry Gas Water Content	7	lb H20/MMscf (or # absorber stages)
Glycol Recirc.	5	gal / # water
Pump Type	Electric	Electric / Gas @ 1.5% H20 -- Default
Gas Pump Volume Ratio	N/A	acfm gas / gpm glycol
Flash Tank Present?	Y	(Y/N)
Flash Tank Temperature	160	deg F
Flash Tank Pressure	130	psig
Flash Tank Control	Recycle	
Stripping Gas Used	Dry Gas	(None, Dry Gas, Flash Gas, Nitrogen)
Stripping Gas Flow Rate	25	scfm
Condenser Present?	Y	
Condenser Temperature	140	
Condenser Pressure	Atm	

Gas Analyses from July 2008 (3rd Qtr)

Component	Wet Gas (% Vol.)
Helium	0.005
Carbon Dioxide	0.591
Hydrogen Sulfide	ND
Nitrogen	0.167
Methane	91.57
Ethane	4.425
Propane	1.626
Isobutane	0.335
n-Butane	0.432
Isopentane	0.180
n-Pentane	0.151
Cyclopentane	0.009
n-Hexane	0.073
Cyclohexane	0.043
Other Hexanes	0.131
Heptanes	0.095
Methylcyclohexane	0.062
2,2,4-Trimethylpentane	0
Benzene	0.017
Toluene	0.021
Ethylbenzene	0.001
Xylenes	0.008
C8+ Heavies	0.058
Total	100


"Tank Flash" VOCs = 13.25 ton/yr
"Tank Flash" BTEX = 0.3206 ton/yr
"Tank Flash" HAPs = 1.796 ton/yr
"Tank Flash" Greenhouse Gases = 7.91 ton/yr
3-Phase Sep Dump
V-28870
1
Compressor Scrubber Dumps 1
2
Compressor Scrubber Dumps 2
6
L.P. Filter Sep. Dumps
F-28120
F-28130
7
Glycol Contactor Dumps
8
Dry Gas Scrubber Dump
V-28590
9
Fuel Gas Receiver Dump
V-28610
10
Glycol Flash Drum Dump
11
MIX-100
3
Tank Flash
5
Closed Drain Tanks
TK-28800
TK-28810
TK-28830
Non-considered, but negligible contributors:
* V-28611 (Start/Fuel gas receiver)

White River Compressor Station
Annual Condensate Throughput

Condensate		Production	Average Production
Year	Month	bbls/month	bbls/day
2014	Jan	20	1
	Feb	5	0
	Mar	455	15
	Apr	30	1
	May	0	0
	Jun	0	0
	Jul	0	0
	Aug	0	0
	Sep	0	0
	Oct	0	0
	Nov	180	6
	Dec	110	4
2015	Jan	210	7
	Feb	80	3
	Mar	0	0
	Apr	150	0
	May	40	1
	Jun	160	5
	Jul	160	5
	Aug	0	0
	Sep	0	0
	Oct	0	0
	Nov	0	0
	Dec	0	0
	Average Daily Productior		2

White River Compressor Station
Heater Emission Calculation Sheet
Insignificant Source

Heater Data

ID	HTR-1	
Description	Line Heater	
Nameplate Rating:	0.50	(MMBtu/hr)
Efficiency:	0.80	(decimal)
Heat Input:	0.63	(MMBtu/hr)
Operation:	8760	(hr/yr)
Fuel Heat Value:	1200.0	(Btu/scf)
VOC Wt Fraction:	0.07	(decimal, VOC weight fraction of the fuel gas)

Emission Factors

	NO_X	CO	TOC	CH_2O
lb/MMscf	100	84	11	0.075
Adjusted lb/MMscf *	117.6	87.7	12.9	0.09
lb/MMBtu	0.115	0.086	0.013	0.000

* Emission factor conversion based on footnote "a" of AP-42 Table 1.4-1 to convert from 1,020 Btu/scf to the above Fuel Heat Value in units of Btu/scf.

Emission Calculations

NO_X		CO		VOC		CH_2O	
(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
0.07	**0.32**	0.05	**0.24**	0.00	**0.00**	0.00	**0.00**

CO2e Emission Calculations

Conversions:

1 Metric Ton = 2204.62 lbs
1 kg = 0.001 metric tons

Pollutant	kg/mmbtu	metric ton	tpy
CO_2	53.02	290	319.98
CH_4	0.001	0.0	0.01
N_2O	0.0001	0.0	0.00
		CO_{2e} =	320

$CO_{2e} = CO_2 + (CH_4 * 21) + (N_2O * 310)$

White River Compressor Station
Heater Emission Calculation Sheet
Insignificant Source

Heater Data

ID	HTR-2	HTR-3
Description	Dehy Reboiler	
Nameplate Rating:	1.20	(MMBtu/hr)
Efficiency:	0.80	(decimal)
Heat Input:	1.50	(MMBtu/hr)
Operation:	8760	(hr/yr)
Fuel Heat Value:	1200.0	(Btu/scf)
VOC Wt Fraction:	0.07	(decimal, VOC weight fraction of the fuel gas)

Emission Factors

	NO_X	CO	TOC	CH_2O
lb/MMscf	100	84	11	0.075
Adjusted lb/MMscf *	117.6	87.7	12.9	0.09
lb/MMBtu	0.115	0.086	0.013	0.000

* Emission factor conversion based on footnote "a" of AP-42 Table 1.4-1 to convert from 1,020 Btu/scf to the above Fuel Heat Value in units of Btu/scf.

Emission Calculations

NO_X		CO		VOC		CH_2O	
(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)	(lb/hr)	(ton/yr)
0.17	**0.76**	0.13	**0.56**	0.00	**0.00**	0.00	**0.00**

CO2e Emission Calculations

Conversions:

1 Metric Ton = 2204.62 lbs
1 kg = 0.001 metric tons

Pollutant	kg/mmbtu	metric ton	tpy
CO_2	53.02	697	767.96
CH_4	0.001	0.0	0.01
N_2O	0.0001	0.0	0.00
		CO_{2e} =	769

$CO_{2e} = CO_2 + (CH_4 * 21) + (N_2O * 310)$

Component Source Counts for Gas Plant/Compressor Station Units

Equipment Type	Compressor	Separator	Condensate Tank	TEG Unit	DEA Unit	C3 Refrig Skid	Expan Demeth	Mole Sieve System	Flare
For this facility, Number of Units	6	1	3	1					
Valves - Inlet Gas	40	6	4	75	15	40	40	25	8
Valves - Liquid	5	4	6	20	60	35	35	0	2
Relief Valves	2	2	2	4	4	6	6	4	2
Pump Seals - Liquid	0	0	2	4	4	0	0	0	0
Flanges/Connectors - Inlet Gas	150	50	50	250	250	250	250	100	75
Flanges/Connectors - Liquid	10	10	10	20	20	20	20	20	10
Compressor Seals	4	0	0	0	0	6	0	0	0

Fugitives

Equipment Type	Emission Factor (lb/hr/ source)	Source Count *	% VOC C3+	%HAP	**VOC Emission Rate (lb/hr)**	**HAP Emission Rate (lb/hr)**	**HAP Emission Rate (tpy)**	**VOC Emission Rate (tpy)**
Valves - Inlet Gas	0.00992	333	11.40%	0.12%	0.377	0.004	0.017	1.65
Valves - Liquid	0.00550	72	100.00%	11.40%	0.396	0.045	0.198	1.73
Relief Valves	0.01940	24	11.40%	0.12%	0.053	0.001	0.002	0.23
Pump Seals - Liquid	0.02866	10	100.00%	11.40%	0.287	0.033	0.143	1.26
Flanges/Connectors - Inlet Gas	0.00086	1350	11.40%	0.12%	0.132	0.001	0.006	0.58
Flanges/Connectors - Liquid	0.00024	120	100.00%	11.40%	0.029	0.003	0.014	0.13
Compressor Seals	0.01940	24	11.40%	0.12%	0.053	0.001	0.002	0.23
Total					1.326	0.088	**0.38**	**5.81**

* Source counts estimated from similar facilities. These counts are not actuals.

Source: EPA Protocol for Equipment Leak Emission Estimates, November, 1995, EPA-453/R-95-017

Appendix G

Regulatory Analysis

Regulatory Analysis

40 CFR 60 - New Source Performance Standards (NSPS)

Subpart A: General Provisions. This subpart applies to the owner or operator of any stationary source which contains an affected facility, the construction or modification of which is commenced after the date of publication of any standard in part 60. The general provisions under subpart A apply to sources that are subject to the specific subparts of part 60. Natural Buttes is subject to 40 CFR part 60, subpart GG and subpart KKK; therefore, the General Provisions of part 60 do apply.

Subpart Dc Standards of Performance for Small Industrial, Commercial, Institutional Steam Generating Units, applies to steam generating units having a capacity between 10 MMBtu/hr and 100 MMBtu/hr that are construction, reconstructed or modified after June 9, 1989. There are no emission units that meet the definition of a steam generating unit at this facility. Therefore, the requirements of subpart Dc do not apply.

Subpart Kb Standards of Performance for Volatile Organic Liquid Storage Vessels, applies to each storage vessel with a capacity greater than or equal to 75 cubic meters used to store volatile organic liquids (VOL) for which construction, reconstruction, or modification is commenced after July 23, 1984. There are no storage tanks greater than 75 cubic meters that store volatile organic liquids at this facility which vent emissions to the atmosphere, therefore Subpart Kb does not apply.

Subpart KKK Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants apply to affected facilities in onshore natural gas processing plants that commenced construction, modification or reconstruction after January 20, 1984. A natural gas processing plant is defined in the Subpart as any site "engaged in the extraction of natural gas liquids from field gas".
This facility does not contain processes which extract natural gas liquids from field gas. Therefore, this rule does apply.

Subpart LLL Standards of Performance for Onshore Natural Gas Processing; SO2 Emissions. This rule applies to sweetening units and sulfur recovery units at onshore natural gas processing facilities. This facility is not an onshore natural gas processing facility. Therefore, this rule does not apply.

Subpart IIII Standards of Performance for Stationary Compression Ignition Internal Combustion Engines applies to manufacturers, owners and operators of stationary compression ignition (CI) internal combustion engines (ICE). There are no stationary compression ignition engines at this site, therefore Subpart IIII does not apply.

Subpart JJJJ Standards of Performance for Stationary Spark Ignition Internal Combustion Engines applies to manufacturers, owners and operators of stationary spark ignition (SI) internal combustion engines (ICE). This applies to engines that were ordered from the manufacturer after June 12, 2006 and;

- Are greater than 500 hp and manufactured after July 1, 2007 or
- Lean burn engines greater than 500 hp but less than 1,350 hp and manufactured after January 1, 2008

Engines WR#1, WR#2, and WR#3 are lean burn engines greater than 500 hp but less than 1,350 hp that were manufactured January 1, 2008; therefore, subpart JJJJ does not apply to these engines. Engines WR #4, WR #5, and WR #6 are engines greater than 500 hp that were manufactured prior to July 1, 2007; therefore, subpart JJJJ does not apply to these engines.

Subpart OOOO Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution. This subpart establishes emissions standards and compliance schedules for the control of VOCs and SO2 emissions from affected facilities that commenced construction, modification or reconstruction after August 23, 2011.The rule applies to equipment leaks at onshore natural gas processing plants and compressors. This facility is not a natural gas processing plant and compressors were constructed prior to August 23, 2011; therefore, subpart OOOO is not applicable.

40 CFR 61 - National Emission Standards for Hazardous Air Pollutants

Subpart V National Emission Standard for Equipment Leaks (Fugitive Emission Sources). This subpart applies to sources that are intended to operate in volatile hazardous air pollutant (VHAP) service. Based on engineering judgment, historical and recent gas composition and facility process it can be predicted that the percent VHAP content will never exceed 10 percent by weight; therefore Subpart V is not an applicable regulation for the facility.

40 CFR 63 - National Emission Standards for Hazardous Air Pollutants (NESHAP)

Subpart HH National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities, applies to glycol dehydration units, storage vessels with potential for flash emissions, and ancillary equipment operating in volatile hazardous air pollutant service that is located at a natural gas processing plant which is a major source of HAPS. White River is not a natural gas processing plant therefore Subpart HH does not apply.

Subpart HHH National Emission Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities. This rule applies to natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user, and that are a major source of HAP emissions. This subpart does not apply to White River, as the facility does not meet the definition of a Natural Gas Transmission and Storage Facility

Subpart EEEE National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline). This rule establishes national emission limitations, operating limits, and work practice standards for organic HAPs emitted from organic liquids distribution operations at major sources of HAP emissions. In this subpart, organic liquids distribution operations do not include oil and natural gas production field facilities as defined in subpart HH or natural gas transmission and storage facilities as defined in subpart HHH. White River meets the definition an oil and natural gas production field facility as defined in §63.761 of subpart HH. Therefore, this rule does not apply to the White River facility.

Subpart ZZZZ National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) establishes national emission limitations and operating limitations for HAPs emitted from stationary reciprocating internal combustion engines, and requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations. White River is an area source of HAPs; therefore, the facility is not subject to major source ZZZZ requirements. All six engines (emission units WRS1 through WRS6) at the facility are subject to the August 20, 2010 revisions to MACT ZZZZ for existing units at areas sources of HAPs. White River is by definition a remote sources and will comply with applicable requirements of this regulation.

40 CFR 98 – Green House Gas Reporting

Subpart A, General Provisions applies to a facility that contains any source category (as defined in subparts C through JJ of this part) that is listed in this paragraph (a)(2) in any calendar year starting in 2010 and that emits 25,000 metric tons CO2e or more per year in combined emissions from stationary fuel combustion units, miscellaneous uses of carbonate, and all source categories that are listed in this regulation. The facility is subject to the reporting requirements of Subpart C and Subpart W.