



**United States Environmental Protection Agency
Region 8 Air and Radiation Division
Air Pollution Control
40 CFR Part 49 Tribal Minor New Source Review Permit to Construct
Technical Support Document
Proposed Permit # SMNSR-UO-000003-2019.001**

Caerus Uintah, LLC
Natural Buttes 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.

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I. Introduction

On July 2, 2019, the EPA received an application from Chipeta Processing, LLC (Chipeta), requesting a synthetic minor permit for the Natural Buttes Station (Natural Buttes) in accordance with the requirements of the Tribal Minor New Source Review (MNSR) Permit Program at 40 CFR part 49. This permit action applies to an existing facility operating on the Uintah and Ouray Indian Reservation in Utah. The physical location is Latitude 40.01722, Longitude -109.508056, in Uintah County, Utah. On July 1, 2020, Caerus Uintah, LLC (Caerus) bought Natural Buttes from Chipeta and is now the owner and operator of the Natural Buttes facility.

This permit will 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 requested emission limits and provisions from the permit application for existing emissions units operating at the facility. The facility is a major source of carbon monoxide (CO) emissions with respect to the Title V Operating Permit Program at 40 CFR Part 71 (Part 71) and currently holds an active Part 71 permit that the EPA administratively amended on June 6, 2001 (Permit #V-UO-0003-00.01).

Natural Buttes in its current configuration began operation on May 15, 2014, before the effective date of the MNSR Permit Program, and was therefore not subject to any preconstruction authorization requirement.¹ The legally and practicably enforceable Consent Decree (CD) requirements² applied to Natural Buttes before the effective date of the MNSR Permit Program and established the source as a synthetic minor source with regard to Part 71, because the CD limited allowable emissions of CO to a level below the major source threshold (*see* 40 CFR 71.2). In response to the permit application, the EPA is using the authority at 40 CFR 49.158 to issue a synthetic MNSR program permit that incorporates enforceable emissions limits and restrictions that were previously established through the CD.

Caerus has requested 93% emission control efficiency for CO, which is consistent with the requirements under the Kerr McGee (KMG) CD which is applicable to other formerly Anadarko facilities. Also, Caerus requested enforceable requirements, consistent with the CD, for installation and operation of a catalytic control system and air-to-fuel ratio (AFR) controls on for two field gas-fired 4-stroke lean-burn (4SLB) reciprocating internal combustion engines (RICE) (used for field gas compression at the facility), including associated CO control efficiency requirements.

When the MNSR permit is effective, the permit limitations will enhance the legal and practicable enforceability of existing requirements from the CD that limit emissions from Natural Buttes below levels which would trigger applicability of other CAA requirements, such as the Prevention of Significant Deterioration (PSD) Permit Program at 40 CFR part 52 and Part 71.

II. Facility Description and History

Natural Buttes collects natural gas from surrounding fields and routes the gas stream through an inlet 3-phase separator where liquids are gravitationally separated from the stream. Produced water with entrained condensate is routed to the two storage tanks prior to injection into a saltwater disposal well. Vapors from these water storage tanks are sent to a flare for combustion. Condensate that is separated is

¹ *See* 40 CFR 49.151(c)(iii)(A).

² *See* March 27, 2008 Consent Decree Civil Action No. 07-CV-01034-EWN-KMT

routed to the sales pipeline to Chipeta Gas Plant.

Natural gas exits the 3-phase separator and is compressed prior to entering the hydrogen sulfide (H₂S) treatment vessels. The gas stream is then split before it enters either of the two tri-ethylene glycol (TEG) dehydration units. The following describes the process of each of the TEG dehydration units: the compressed natural gas enters a dehydration unit and is bubbled up through lean TEG in a process vessel called a contactor. During this process, water vapor is removed from the gas to a concentration determined by a sales contract. The rich TEG exits the contactor and is depressurized in a TEG flash tank. The emissions from both flash tanks are routed back to the separator. The depressurized TEG is routed to and regenerated using heat in a vessel called a TEG reboiler. Pneumatic pumps that control the injection rate are powered by instrument air. The vapors from both reboilers are also routed back to the separator. The regenerated lean TEG is circulated back to the contactor.

The emissions 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 before any pre-construction permitting requirements or were approved/required through the alternative methods as identified below. Table 2, Facility-wide Allowable Emissions, provides an accounting of enforceable controlled emissions in tons per year (tpy) resulting from applicability to the enforceable requirements of the CD. The allowable emissions reported in Table 2 are the same as the allowable emissions that would result from compliance with this permit if it becomes final and effective as proposed.

Table 1. Existing Emission Units

Unit Description (Acronyms defined below)	Controls	Original Preconstruction Approval Date &/or Emission Control Requirement Details
Two 4SLB, field gas-fired RICE for gas compression, with a maximum site rating of 3550 hp	Oxidation Catalyst	Began operations May 15, 2014. No pre-construction approval required for the installation of the engine. Installed before 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 the engine 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).
Pneumatic controllers (low-bleed, no-bleed or instrument air-driven)	None	Began operations May 15, 2014 No pre-construction approval required for the installation of the controllers. Installed and converted to instrument air before 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.

Unit Description (Acronyms defined below)	Controls	Original Preconstruction Approval Date &/or Emission Control Requirement Details
One 9.2 MMscf/yr Process Flare	None (Emissions unit is a control device)	Began operations May 15, 2014. No pre-construction approval required for the installation of the heater. Installed before the promulgation of the MNSR Permit Program.
One 1.5 MMBtu/hr Line Heater	None	Began operations May 15, 2014. No pre-construction approval required for the installation of the heater. Installed before the promulgation of the MNSR Permit Program.
One 300 bbl Atmospheric Slop Oil Tank	None	Began operations May 15, 2014. No pre-construction approval required for the installation of the heater. Installed before the promulgation of the MNSR Permit Program.
Two 75.0 MMscfd low emissions TEG dehydration units	None	Began operations May 15, 2014. No pre-construction approval required for the installation of the heater. Installed before the promulgation of the MNSR Permit Program.
Two 400 bbl produced water tanks	None	Began operations May 15, 2014. No pre-construction approval required for the installation of the tanks. Installed before the promulgation of the MNSR Permit Program.
Tank Truck Loading	None	Began operations May 15, 2014. No pre-construction approval required for the construction of the facility. Commenced before the promulgation of the MNSR Permit Program.
H ₂ S Treating Vessels	None	Began operations May 15, 2014. No pre-construction approval required for the installation of the heater. Installed before the promulgation of the MNSR Permit Program.
Pigging Operations	None	Began operations May 15, 2014. No pre-construction approval required for the installation of the heater. Installed before the promulgation of the MNSR Permit Program.
Facility Fugitives	None	Began operations May 15, 2014. No pre-construction approval required for the construction of the facility. Commenced before the promulgation of the MNSR Permit Program.

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

Table 2. Facility-Wide Allowable Emissions

Pollutant	PTE (tpy)	Allowable (Controlled) Emissions (tpy)	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 ₂ O – Nitrous oxide HFCs – Hydrofluorocarbons PFCs – Perfluorocarbons SF ₆ – Sulfur hexafluoride CO ₂ e – Equivalent CO ₂ . A measure used to compare the emissions from various greenhouse gases based upon their global warming potential (GWP) <i>HFCs, PFCs, and SF₆ emissions are not created during oil and natural gas production operations.</i> NA – Not Available *BTEX = benzene, toluene, ethylbenzene and xylenes. **Total HAP is inclusive of but not limited to the individual HAP listed above.
PM		0.0	
PM ₁₀		0.1	
PM _{2.5}		0.0	
SO ₂		0.0	
NO _x	69.3	69.3	
CO	172.1	12.7	
VOC	93.3	93.3	
Greenhouse Gases			
CO₂e (Total)		27247.9	
Hazardous Air Pollutants (HAP)			
Acetaldehyde	1.84	1.84	
Acrolein	1.14	1.14	
Benzene	0.5	0.1	
Ethyl-Benzene		0.2	
Toluene	.32	0.5	
n-Hexane	2.9	2.7	
Xylene	0.04	NA	
Formaldehyde	27.42	3.06	
2,2,4-Trimethylpentane		NA	
Cyclohexane		NA	
Total HAP**	34.2	9.5	

III. Proposed Synthetic Minor Permit Action

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

Caerus operates two field gas-fired 3,550 hp 4SLB RICE. The primary forms of emission control for field gas-fired lean-burn RICE are catalytic control systems, the most common systems being those that use oxidation catalysts. Oxidation catalyst control systems are effective for control of CO, VOC and formaldehyde. These catalysts do not typically control NO_x 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 engines rated at or above 500 hp using an oxidation catalyst

control system capable of 93% CO control efficiency when operating at 90% load or higher. In addition to the conditions proposed in this MNSR permit, the two engines are subject to operation and maintenance requirements for area sources under NESHAP ZZZZ. Caerus 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 Caerus's permit application, we are proposing the construction, operation, control, testing, recordkeeping and reporting requirements in Table 3 for the two engines, that are consistent with the requirements in the CD. Since the area source requirements under NESHAP ZZZZ are independently enforceable, we are only proposing conditions consistent with those in the CD in this permit and are not proposing conditions consistent with the applicable NESHAP ZZZZ requirements.

Table 3. Proposed Engine Construction, Operation, Emissions, Testing, Monitoring, Recordkeeping and Reporting Requirements

Type	Proposed Requirement
Construction, Control and Operation	<p>Install, continuously operate and maintain a catalytic control system on each engine that reduces emissions of CO by at least 93.0% when the engine is operating at 90% load or higher.</p> <p>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 the engines meets the CO control efficiency requirement.</p>
Performance Testing	<p>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 rebuilt or replaced engines.</p> <p>Semiannual subsequent performance testing. Testing may be reduced to an annual basis after two consecutive passing tests.</p> <p>Performance tests shall be conducted using a portable analyzer to measure oxygen (O₂) and CO according to the Carbon Monoxide Control Efficiency Portable Analyzer Monitoring Protocol (included as an appendix to the proposed MNSR permit, copied from Appendix F of the CD).</p>
Recordkeeping	<p>Keep records of: all manufacturer and/or vendor specifications for the engines, catalytic control systems and portable analyzer; all calibration and maintenance conducted for the engines, catalytic control systems and portable analyzers; all</p>

	required performance tests; all engine rebuilds and replacements; and all deviations of permit conditions (including corrective actions and timeframe for return to compliance).
Reporting	<p>Submit all initial performance test reports to the EPA within 60 days of completing the tests.</p> <p>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.</p>

In the absence of the enforceable CD requirements, the uncontrolled CO emissions for this facility would be 172.1 tpy. These proposed CO control efficiency and operational requirements will maintain the facility-wide allowable CO emissions of 12.7 tpy originally established by the CD. The controlled allowable 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%.

B. 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 rule at 40 CFR 49.154(d) (emphasis added) provides that *if* the permitting authority has “reason to be concerned” that construction of new minor sources or modifications at existing minor sources would “cause or contribute to a National Ambient Air Quality Standards (NAAQS) or PSD increment violation,” it “*may*” require an Air Quality Impacts Analysis (AQIA) (dispersion modeling analysis per 40 CFR part 51, appendix W) to be submitted as part of an application. The purpose of the discretion provided at § 49.154(d) is to “ensure that construction of new minor sources or modifications at existing minor sources do not cause or contribute to a NAAQS or PSD increment violation” while not “overburdening all minor sources in Indian country with these types of air quality analysis.” 76 FR 38761.

Here, the source was constructed before the effective date of the MNSR Permit Program, and issuance of this proposed permit will have the effect of incorporating the CD requirements for the existing emissions control devices in a MNSR permit, thus enhancing their legal and practicable enforceability. The source is not constructing or modifying its facility. The synthetic minor permit the EPA proposes to issue would not, in fact, authorize or cause “construction” of any new emissions sources or “modification” at the existing source, much less a modification that would lead to allowable emissions increases from existing units. Therefore, the Agency finds that there is no “reason to be concerned” that construction or modification would cause or contribute to a NAAQS or PSD increment violation as a

result of issuing this permit, and an AQIA is not required or appropriate.³

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 allowable emissions or new construction. Therefore, we did not offer the Ute Indian Tribe the opportunity to consult on this action. However, the Ute Tribe received a copy of the permit application and 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>). We ask the tribe to communicate to the EPA any preliminary questions and comments on the application within 10 business days from the receipt of 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 policies. 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

³ The conclusion is not affected by the recent designation of portions of the Uinta Basin below 6,250 feet elevation as nonattainment for the 2015 ozone NAAQS. See 83 Fed. Reg. 25776 (June 4, 2018) (effective August 3, 2018). This source is located within the ozone nonattainment area, but it is already constructed and has been operating for years, and this proposed action would not, in fact, authorize any construction or modification or create any associated construction or modification-related "reason to be concerned," triggering a possible request for an AQIA.

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 this 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. We did not offer the Ute Tribe the opportunity to consult on this action. However, the Ute 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. Natural Buttes is located on Indian country lands within the exterior boundaries of the Uintah and Ouray Indian Reservation in Utah. The exact location is Latitude 40.01722N, Longitude -109.508056W, 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.

Due to the COVID-19 pandemic, for information regarding review of the application, the proposed permit, this technical support document and all supporting materials for the proposed permit, please use the following contacts:

Ute Indian Tribe
Energy & Minerals Division
Contact: Mike Natchees, Director, Air Quality Program, (435) 725-4974 or miken@utetribes.com

and

U.S. EPA
Region 8 Air and Radiation Division
Contact: Lohitaksha (Lo.) Rao, Environmental Scientist, (303) 312-6249 or
rao.lohitaksha@epa.gov

The proposed permit and related documents can be accessed 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 Natural Buttes Compressor Station,” or submitted directly through <https://www.regulations.gov>, from Docket ID #[EPA-R08-OAR-2019-0407](#). All comments will be considered and answered by the EPA in making the final decision on the permit. The EPA keeps a record of the commenters and of the issues raised during the public participation process.

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.

In light of the current COVID-19 pandemic, the EPA reserves the right to delay, within reason, or hold virtual public hearings if possible. Further guidance regarding public hearings will be decided at a later date taking into account local health and safety with regards to the COVID-19 pandemic.

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.