United States Environmental Protection Agency
Region 8, Air and Radiation Division
Air Pollution Control
40 CFR Part 49 Federal Minor New Source Permit to Construct
Technical Support Document for
Proposed Permit # SMNSR-UO-007088-2020.003

KGH Operating
Bonanza State 20-15H
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 March 20, 2020, the EPA received an application from KGH Operating (KGH), requesting a synthetic minor permit to construct and operate a modification project at the Bonanza State 20-15H wellsite (20-15H) in accordance with the requirements of the MNSR Permit Program. An addendum to the application was submitted on April 9, 2020. This permit action applies to an existing facility operating on Indian country lands within the Uintah and Ouray Indian Reservation in Utah. The physical location is Latitude 40.01737, Longitude -109.1232, in Uintah County, Utah. Records of potential air emissions indicate the facility was a minor source ("minor" as defined in 40 CFR 52.21) with respect to the Prevention of Significant Deterioration (PSD) Permit Program at 40 CFR 52.21 at the time of construction. The EPA designated the area nonattainment for ozone[1] at which point the facility became a major source of nitrogen oxides (NO_X) and volatile organic compounds (VOC) emissions with respect to the Nonattainment New Source Review (NNSR) Permit Program at 40 CFR 49.166. The EPA issued a synthetic MNSR permit effective October 28, 2019 (Permit# SMNSR-UO-007088-2018.002) to establish a synthetic minor source ("synthetic minor" as defined in 40 CFR 49.152) of ozone precursor emissions, VOC and NO_X with respect to the NNSR Permit Program and the Title V Operating Permit Program at 40 CFR Part 71 (Part 71).

This permit would authorize the construction and operation of new emission sources, specifically a 1.0 million standard cubic foot per day (MMscfd) triethylene glycol (TEG) dehydration unit. The TEG dehydration unit would be constructed inside an existing building within the existing footprint of the facility. The permit would also authorize the removal of one of the permitted compressor engines currently operating at 20-15H and an unpermitted jet pump engine.

This permit also maintains previously established enforceable emissions restrictions for existing installed and operating emissions units and associated voluntarily installed and operated control devices. 20-15H began operation on February 6, 2018. KGH has requested enforceable requirements for the installation and operation of two flares, one flare to control VOC emissions from a 2-phase (liquids and gas) separator and a 3-phase (oil, natural gas and produced water) heater treater separator, and the other flare to control VOC emissions from crude oil and produced water storage tanks. The requested limits include the requirement that the mass content of the uncontrolled VOC emissions is reduced by at least 95.0% by weight and a requirement that throughput be limited to 5% of total facility production for the flare controlling emissions from the two separators. KGH also requested enforceable requirements for the installation and operation of a catalytic control system on one natural gas-fired 4-stroke rich-burn (4SRB) reciprocating internal combustion engine (used for gas compression at the facility), including associated NO_X control efficiency requirements.

This permit contains emissions limits, construction and operational limitations and associated monitoring, recordkeeping and reporting requirements. Upon compliance with the permit, KGH will

[1] On April 30, 2018, the EPA designated portions of the Indian country lands within the Uintah and Ouray Indian Reservation as marginal nonattainment for the 2015 ozone NAAQS, effective on August 3, 2018. 20-15H is located within that marginal ozone nonattainment area. Appendix S lists the marginal ozone nonattainment major source threshold for VOC or NO_X emissions as 100 tpy. At the time of construction, 20-15H was considered a minor source with respect to the PSD Permit Program, it is now considered an existing minor source of ozone precursor pollutants (VOC and NO_X) with respect to the NNSR Permit Program due to the legally and practicably enforceable restrictions on emissions with the issuance of permit SMNSR-UO-007088.002. The preconstruction review requirements of the NNSR Permit Program would apply to any future proposed modification at 20-15H that exceeds 100 tpy of VOC or NO_X emissions.

have legally and practically enforceable restrictions on emissions that can be used when determining the applicability of other CAA permitting requirements, such as those imposed by the NNSR Permit Program and 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.

II. Facility Description

The 20-15H facility is a single well facility that processes oil produced from one well drilled on this location.

A co-mingled fluid stream (natural gas, crude oil and produced water) flows from the well to the 2-phase horizontal gravitational separator, and then to the 3-phase heated horizontal separator (heater treater). In the heater treater, the fluid is heated to a desired temperature range to aid in separation of the oil, natural gas, and produced water. The crude oil and produced water flow to respective storage tanks. KGH operates one 195 hp natural gas-driven compressor on-site.

The gas stream then enters a TEG dehydration unit. The following describes the process of the TEG dehydration unit: 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 natural gas then exits the contactor, is metered and then routed into a sales pipeline. Should pipeline conditions prevent gas from flowing to the pipeline, the natural gas is routed to an engineered flare. The rich TEG exits the contactor and is depressurized in a TEG flash tank. The emissions from the flash tank are routed to the flare. The depressurized TEG is routed to and regenerated using heat in a vessel called a TEG reboiler. Methanol is injected at different points to the rich TEG to prevent hydrates from forming. Pneumatic pumps that control the injection rate are powered by instrument air. The vapors from the reboiler are routed to the flare. The regenerated lean TEG is circulated back to the contactor.

The crude oil generated is sent to one of three 400 bbl storage tanks. The crude oil is loaded into tanker trucks and hauled off-site for sale. The produced water generated is sent to one of three 400 bbl storage tanks. When an adequate volume of water is accumulated, it is loaded into tanker trucks and hauled offsite to a nearby treatment facility. The crude oil and produced water tank vapors are sent to an engineered flare.

The facility contains eight heaters: six tank heaters, one heater treater, and one line heater. The facility also contains nineteen pneumatic devices.

Methanol is used to prevent equipment and lines from freezing. Spent methanol is routed to the produced water storage tanks and vapors from methanol usage are controlled by the engineered flare along with produced water vapors.

There are fugitive emissions associated with the piping connections, valves, tank gauge (thief) hatches, tank vent valves and pneumatic controllers. These emissions occur due to the potential seeping of trace gas from connections and seals.

Operations typically run continuously 24 hours per day 7 days per week unless upset conditions require the well to be shut in.

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 prior to any pre-construction permitting requirements or were approved/required through the alternative methods as identified below.

Table 1. Existing Emission Units

Unit Description	Controls	Original Preconstruction Approval Date &/or Emission Control Requirement Details
Two 4-stroke rich-burn (4SRB), natural gas-fired reciprocating internal combustion engines (RICE) for gas compression, with a maximum site rating of 195 hp* each.	NSCR	One engine began operations on 2/23/18, the other began on 8/9/18. The facility registered as a new true minor source with the EPA on 9/11/2017 in accordance with the requirements of the Federal Implementation Plan for Managing Air Emissions from True Minor Sources in Indian Country in the Oil and Natural Gas Production and Natural Gas Processing Segments of the Oil and Natural Gas Sector at 40 CFR part 49 (National Oil & Natural Gas [O&NG] FIP). Area source operation and maintenance required for both engines per applicability to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for RICE at 40 CFR part 63, subpart ZZZZ (NESHAP ZZZZ).
One natural gas-fired pump engine, with maximum site rating of 162 hp.*	None	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP. Area source operation and maintenance required per applicability to NESHAP ZZZZ for RICE .
Nineteen pneumatic controllers (low-bleed, no-bleed or instrument air-driven).	None	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
One two-phase gravitational separator	Flare	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.

One 1.0 MMBtu/hr* three-phase heater treater	Flare	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
Six 0.5 MMBtu/hr* tank heaters	Flare	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
One 0.5 MMBtu/hr* line heater	Flare	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
Three 400 bbl each crude oil storage tanks.	Flare	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
Three 400 bbl each produced water storage tanks.	Flare	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
Facility Fugitives	None	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.
Tank Truck Loading	None	Began operations on 2/6/18. The facility registered as a new true minor oil and natural gas source with the EPA on 9/11/2017 in accordance with the requirements of the National O&NG FIP.

* hp = horsepower; MMBtu/hr = million British thermal units per hour; bbl = barrel; NSCR = non-selective catalytic reduction.

Pursuant to 40 CFR 49.152, “potential to emit” (PTE) is defined as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is enforceable as a practical matter. The emissions-generating units and activities identified in Table 2, Emissions Units and/or Activities Proposed for Construction Approval, with the associated

PTE, are proposed to be approved for installation and operation at the facility. Table 2 only contains the VOC PTE because VOC are the primary emissions from the proposed activities, and the hazardous air pollutants (HAP) emitted are primarily also VOC. These HAP emissions are double-counted in Table 3 to show potential uncontrolled emissions from each pollutant category. VOC emissions are the greatest source of emissions increase, the full list of PTE can be found in the application. Table 3, Facility Wide Emissions, provides an accounting of the current PTE, or the "allowable emissions," as defined at 40 CFR 49.152, for each NSR-regulated pollutant in tons per year (tpy). Table 3 also accounts for the proposed allowable emissions and the difference between the current allowable emissions and the proposed allowable emissions. Table 3 accounts for the proposed removal of one permitted 4SRB, natural gas-fired RICE for gas compression, and one natural gas-fired pump engine, as shown in Table 1 above. KGH is removing these two engines because the facility does not require the compression power as initially designed. Primary pollutants from the engines are NO_X and VOC.

Applicability to CAA permit requirements is based on the PTE of pollutants regulated by each permit program. Pursuant to 40 CFR 49.152, PTE is defined as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is enforceable as a practical matter. As explained in section III of this document, issuance of this proposed permit will have the impact of reducing the allowable emissions of VOC, HAP and NO_X emissions for 20-15H. As such, Table 3 also depicts the proposed change in PTE and the proposed allowable emissions that would be effective upon compliance with the final requested permit.

Table 2. Emissions Units and/or Activities Proposed for Construction Approval

Unit Description	Maximum Operational Design	VOC PTE (tpy)
One TEG Dehydrator	1.0 MMscfd natural gas throughput	36.15
One Glycol Reboiler	0.125 MMBtu/hr reboiler	0.08

Table 3. Facility-Wide Emissions

Pollutant	Current PTE/Allowable Emissions	Proposed Change in Allowable Emissions	Proposed Allowable (Controlled) Emissions (tpy)
PM	2.57	-0.18	2.38
PM_{10}	1.04	-0.18	0.86
$PM_{2.5}$	0.57	-0.18	0.39
SO_2	0.02	-	0.02
NO_X	40.43	-36.38	4.25

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

CO	9.27	-3.17	6.10	VOC – Volatile Organic Compounds 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. *Total Hazardous Air Pollutants (HAP) is inclusive of but not limited to the individual HAP.
VOC	30.54	-0.05	30.49	
CO_2e (Total)	38,466	2,512	40,978	
Benzene	1.19	4.53	1.0	
Total HAP*	1.19	30.60	2.88	

III. Proposed Synthetic Minor Permit Action

A. 2-Phase and 3-Phase Heater Treater Separator

A co-mingled fluid stream (natural gas, crude oil, and produced water) flows from the well to the 2-phase horizontal gravitational separator, and then to the 3-phase heated horizontal separator (heater treater). Natural gas is separated from the liquids and routed off-site for sale, any excess natural gas is routed through a closed-vent system to the flare. Crude oil flows from the separator into one of three 400 bbl crude oil storage tanks. Remaining fluid is routed from the separator to one of three 400 bbl produced water storage tanks. Flashing and working and breathing emissions from the crude oil and produced water storage tanks are also routed through a closed-vent system to a separate flare.

The flare will be operated 8,760 hours per year. Gas will be routed to it from the seperator only during times of pipeline shut in, which is assumed to account for up to 5% of production. Five percent of the facility's gas output is 16.43 MMscf/yr, which is reflected in the PTE (146.38 tpy VOC if the 5% of produced gas were vented) and the controlled emissions (7.32 tpy VOC based on the 5% being flared at 95% efficiency). The permit contains a condition that limits throughput to the flare to 5% of total facility production.

Based on our review of KGH's permit application, we are proposing the construction, control, operation, testing, monitoring, recordkeeping and reporting requirements in Table 4 for the heater treater and include any necessary testing, monitoring and recordkeeping requirements pursuant to 40 CFR 49.151(ii)(C), to ensure that the requested operational limits are legally and practically enforceable:

Table 4. Proposed Flare Construction, Control, Operation, Testing, Monitoring, Recordkeeping and Reporting Requirements

Type	Proposed Requirement
Construction, Control and Operation	Install, continuously operate and maintain no more than one heater treater equipped with no more than one 1.0 MMBtu/hr heater. Route all produced natural gas emissions from the heater treater separator through a closed-vent system to: (1) a gathering system to route gas offsite for sale; or (2) a flare designed, continuously operated and maintained to reduce mass content of uncontrolled VOC emissions by at least 95.0% by weight at all times that produced natural gas emissions are routed to it. The closed-vent systems shall be designed and maintained to operate with no detectable emissions. The flare shall be: • Operated at all times that produced natural gas emissions and crude oil and produced water storage tank emissions from working, standing, breathing and flashing losses are routed to it and per manufacturer, vendor or Permittee's written instructions; • Equipped with either: (1) a continuous burning pilot flame, a thermocouple and a malfunction alarm and notification system if the pilot flame fails; or (2) an operational electronically controlled automatic ignition system with a thermocouple that reignites the pilot flame whenever it goes out; • Equipped with a meter prior to the flare to measure and record the volume sent to the flare in order to ensure the facility remains under the 16.43 MMscf/yr limit (5% of production); • Equipped with a monitoring system for continuous measuring and recording of the parameters that indicate proper operation of the flare and the continuous burning pilot flame or electronically controlled automatic ignition system (such as a chart recorder, data logger or similar device); and • Maintained in a leak-free condition and operated with no visible smoke emissions.

Testing and Monitoring Requirements	• Continuously monitor operation of the flare using the parameter monitoring and recording system. • Monthly inspections of the closed-vent system, thermocouple, malfunction alarm and parameter monitoring system, as applicable, to verify proper operation. • Monthly visual inspections of the flare to ensure it operates with no visible smoke emissions using EPA Method 22. Respond to failed visible emissions tests by conducting repairs according to manufacturer instructions. Upon return to operation from any repair activities, conduct a follow-up visible emissions test. If the flare fails the follow-up visible emissions test, repeat procedures until the flare passes a follow-up test.
Recordkeeping	• All required inspections and tests, including dates and documentation of observations. • Any corrective action taken. • Records of all instances in which the pilot flame is not present, the closed-vent system has deficient condition or functioning, or the flare is not operating within the optimal parameters specified by the manufacturer, vendor or Permittee.
Reporting	Include a summary of all required closed-vent system and flare maintenance, inspection and monitoring conducted, corrective actions taken and all deviations from permit conditions in each required annual report to the EPA.

B. Dehydrator, Crude Oil and Produced Water Tanks and Controls

Natural gas from the field enters 20-15H as a co-mingled fluid stream (natural gas, crude oil and produced water) flowing from the well to the 2-phase horizontal gravitational separator, and then to the 3-phase heated horizontal separator (heater treater). In the heater treater, the fluid is heated to a desired temperature range to aid in separation of the oil, natural gas and produced water. The crude oil and produced water flow to respective storage tanks. The storage tanks are controlled by a flare to destroy at least 95.0% of the mass content of VOC in the emissions via combustion.

The natural gas industry commonly uses the glycol absorption process to remove naturally occurring water from raw natural 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.

The primary form of emission control is to capture and route the emissions from the still vent through a closed-vent system to a thermal oxidizer, flare, or other combustion device to destroy the hydrocarbon content of the vapors. KGH uses a flare designed and operated to destroy at least 95% of the VOC and total HAP emissions from the still vent. KGH has requested enforceable permit restrictions on the dehydration system to permanently recognize the use of the flare, as designed and operated to meet the manufacturer guaranteed 95% VOC and HAP destruction efficiency.

Based on our review of KGH's permit application, we are proposing the construction, operation, testing, monitoring, recordkeeping and reporting requirements in Table 5 for the crude oil and produced water storage tanks and dehydrator and are including any necessary testing, monitoring and recordkeeping requirements, pursuant to 40 CFR 49.151(ii)(C), to ensure that the requested operational limits are legally and practicably enforceable.

Table 5. Proposed Storage Tank Battery Construction, Control, Operation, Testing, Monitoring, Emissions, Recordkeeping and Reporting Requirements

Type	Proposed Requirement
Construction, Control and Operation	Install, continuously operate and maintain no more than 6 natural gas condensate and produced water storage tanks limited to a maximum storage capacity of 400 bbl each. Install, continuously operate and maintain no more than one TEG dehydrator as specified in the permit. Route all natural gas condensate and produced water storage tank emissions from working, standing, breathing and flashing losses, and all gases vapors and fumes emitted from the TEG dehydration unit, through a closed-vent system to a flare designed, continuously operated and maintained to reduce mass content of uncontrolled VOC emissions by at least 95.0% by weight. The closed-vent system shall be designed and maintained to operate with no detectable emissions.

	The flare shall be: • Operated at all times natural gas condensate and produced water storage tank emissions are routed to it; • Equipped and operated with a liquid knockout system to collect condensable vapors; • Equipped with a flash-back flame arrestor; • Equipped with a continuous burning pilot flame, thermocouple and malfunction alarm and notification system if the pilot flame fails, or an electronically controlled auto-ignition system with a malfunction and notification system if the pilot flame fails while natural gas condensate and produced water storage tank emissions, and TEG dehydration unit gases vapors and fumes are routed to it; and • Maintained in a leak-free condition and operated with no visible smoke emissions.
Emissions Limits	Actual emissions of benzene from the process vent to the atmosphere for the TEG dehydrator approved in this permit for installation and operation at the facility shall be maintained at less than 1 ton, in any consecutive 12-month period. The emission limit shall apply at all times.
Emissions Calculations Requirements	Actual benzene emissions shall be calculated using the GRI-GLYCalc^{TM} model, Version 4.0 or higher.
VOC Emissions Calculation	Calculate monthly VOC emissions from each natural gas condensate and produced water storage tank due to working, standing, breathing and flashing losses.
Testing and Monitoring Requirements	• Obtain an extended wet gas analysis of the inlet stream to the dehydrator within 180 days of the effective date of the permit and once per calendar year as specified in the permit thereafter. • Read and record the total flow of natural gas at the sales and fuel meters once every month.

	• Monthly auditory, visual and olfactory (AVO) inspections of the closed-vent system. Repair any deficient conditions within 30 days of identification. • Continuously monitor operation of the flare using the parameter monitoring and recording system. • Monthly inspections of the thermocouple, malfunction alarm and parameter monitoring system, as applicable, to verify proper operation. • Monthly visual inspections of the flare to ensure it operates with no visible smoke emissions using EPA Method 22. • Respond to failed visible emissions tests by conducting repairs according to manufacturer instructions. Upon return to operation from any repair activities, conduct a follow-up visible emissions test. If the flare fails the follow-up visible emissions test, repeat procedures until the flare passes a follow-up test.
Recordkeeping	• All required inspections, including dates and documentation of observations. • Any instances when the vent stream is diverted or bypassed from the flare. • Read and record the gylcol pump recirculation rate of each operating TEG recirculation pump connected to the dehydrator and the sum of the sales and fuel meter at least once every calendar month. • Maintain the records of the GRI-GLYCalc™ model output reports. • Any corrective action taken. • Document and maintain records of all inspections for the closed-vent system, as well as all flare inspections and testing. • Monthly and daily average bbl of condensate and produced water processed through the storage tanks. • All required inspections. • Monthly VOC emissions from the natural gas condensate and produced water storage tanks and calculations.
Reporting	Include a summary of all maintenance and monitoring conducted, corrective actions

	and all deviations from permit conditions in each required annual report to the EPA.

These proposed VOC and HAP emission control efficiency and operational requirements will result in a facility-wide total of 30.49 tpy of VOC and 2.88 tpy of total HAP, as well as 1 tpy of benzene from the dehydrator. The allowable controlled emissions are based on the flare operating 8,760 hours in any consecutive 12-month period and accounting for manufacturer guaranteed VOC and HAP emissions control efficiencies of 95.0%.

C. 4SRB Field Gas-Fired Compressor Engine and Controls

20-15H operates one field gas-fired 4SRB RICE. The primary form of emission control for field gas-fired rich-burn RICE is non-selective catalytic reduction (NSCR). NSCR control systems are effective for control of NO_X, carbon monoxide (CO) and hydrocarbons.

Based on our review of KGH's permit application, we are proposing the construction, control, operation, testing, recordkeeping and reporting requirements in Table 6 for the engine. Since the area source requirements under 40 CFR part 60, subpart JJJJ (NSPS JJJJ) are independently enforceable, we are only proposing conditions regarding the control of NO_X more stringent than those in NSPS JJJJ that are required for the facility to remain below the 100 tpy threshold for Title V Major Source status and are not proposing conditions applicable to NSPS JJJJ requirements.

Table 6. Proposed Engine Construction, Control, Operation, Testing, Recordkeeping and Reporting Requirements

Type	Proposed Requirement
Construction, Control and Operation	Install, continuously operate and maintain a NSCR system on the engine that limits NO_X emissions to 1.0 g/bhp-hr. 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 engine meets the NO_X control efficiency requirement.
Performance Testing	Initial performance testing for compliance with the NO_X 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. Testing may be reduced to an annual basis after two consecutive passing tests.
Recordkeeping	Keep records of all manufacturer and/or vendor specifications for the engine, NSCR system and portable analyzer; all calibration and maintenance conducted for the engine, NSCR 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.

In the absence of the enforceable permit requirements, the uncontrolled NO_X emissions for this facility would be 40.43 tpy. These proposed NO_X control efficiency and operational requirements will establish facility-wide allowable NO_X emissions of 4.25 tpy. The proposed allowable emissions are based on the engine operating a maximum of 8,760 hours in a year and at the specified maximum horsepower rating and accounting for NSCR manufacturer guaranteed NO_X control efficiency of 1.0g/bhp-hr.

IV. Air Quality Review

The Federal 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 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 location of 20-15H is in Uintah County approximately 50 miles east-southeast of Roosevelt and 37 miles southwest of Vernal, in the Uinta Basin at an elevation of approximately 5,800 feet above sea level. The Uinta Basin including Uintah County is located in an arid region of eastern Utah, east of the Wasatch Mountains and south of the Uinta Mountains, and is characterized by low and highly variable precipitation, abundant sunshine and low relative humidity and moderate temperatures with large

diurnal and annual ranges. The southern rim of the basin is formed by the Tavaputs Plateau of the Book Cliffs. The central portion of the basin has an elevation of 5,000 to 5,500 feet, and the surrounding mountains form a natural basin that is conducive to persistent cold air pool inversion during winter. The climate of the Uinta Basin is semi-arid, with occasionally severe winter cold. The population of the Uinta Basin is approximately 50,000 with most of the residents located in the major towns of Vernal and Roosevelt in the northern portion of the basin. There is intensive energy development in the central and southern portion of the basin with primarily oil wells in the western portion and natural gas production wells in the eastern portion of the basin. Annual precipitation averages only approximately 6 inches of rain per year and 19 inches of snowfall, compared to 39 inches of average rainfall and 26 inches of average snowfall nationally at the similar latitudes. The typical number of days with measurable precipitation is about 18. The average high temperature observed in July is 92 degrees Fahrenheit (º F) and the average low temperature observed in January is 5º F. Uintah County experiences an average of 240 sunny days with an ultraviolet (UV) index of 4.6. The average UV index nationwide is 4.3.

The Federal Major NSR Program for Nonattainment Areas in Indian Country (NNSR Permit Program) at 40 CFR part 49 is a preconstruction review requirement of the CAA that applies to proposed projects that are sufficiently large (in terms of emissions) to be a "major" stationary source or "major modification" of an existing stationary source in an area that the EPA has designated nonattainment for a NAAQS (See 40 CFR 49.167). Similar to the PSD Permit Program, source size is defined in terms of PTE, but a new stationary source or a modification to an existing stationary source is major if the proposed project has the PTE for any pollutant regulated under the 40 CFR part 49 requirements in amounts equal to or exceeding specified major source thresholds defined in 40 CFR part 51, appendix S.

On April 30, 2018, the EPA designated portions of the Indian country lands within the Uintah and Ouray Indian Reservation as Marginal nonattainment for the 2015 ozone NAAQS effective on August 3, 2018. 20-15H is located within that Marginal ozone nonattainment area. Appendix S lists the Marginal ozone nonattainment major source threshold for VOC or NO_X emissions as 100 tpy. The facility is operating under a synthetic MNSR effective October 28, 2019 (Permit# SMNSR-UO-007088-2018.002) which provides enforceable limits on VOC and NO_X emissions below Part 71 and NNSR thresholds. As such, 20-15H is a synthetic minor source of ozone precursor pollutants with respect to the NNSR Permit Program, it will continue to be considered an existing synthetic minor NNSR source for ozone precursor pollutants with issuance of this permit. The preconstruction review requirements of the NNSR Permit Program would apply to any future proposed modification at 20-15H that exceeds 100 tpy of VOC or NO_X emissions. 20-15H remains a true minor source with respect to the PSD Permit Program for all other criteria pollutants.

The state of Utah, National Park Service (NPS) and the Ute Tribe operate ozone, $PM_{2.5}$ and NO_2 monitors in and around the Uinta Basin. Table 7 provides the valid ambient air concentrations measured at the NPS and Ute Tribe stations in relation to the NAAQS for the years 2017 through 2019. The closest monitors to 20-15H are the Red Wash Monitor (about 14 miles) and the Ouray monitor (about 30 miles). Regulatory attainment of the NAAQS is determined using design values, which are available from the EPA at https://www.epa.gov/air-trends/air-quality-design-values.

Table 7. Background Ambient Air Concentrations for the Project Area, 2017-2019

Site Name, Responsible Agency	Site Number	Pollutant	Design Value[a]	Valid?
Dinosaur NM, NPS	49-047-1002	Ozone	70 ppb	Yes

Myton, Ute Indian Tribe	49-013-7011	Ozone	75 ppb	Yes
		NO_2	20 ppb	Yes
Redwash, Ute Indian Tribe	49-047-2002	Ozone	72 ppb	Yes
		NO_2	15 ppb	Yes
Ouray, Ute Indian Tribe	49-047-2003	Ozone	89 ppb	Yes
		NO_2	14 ppb	Yes
Whiterocks, Ute Indian Tribe	49-047-7022	Ozone	67 ppb	Yes
		NO_2	16 ppb	Yes

Notes: ppb = parts per billion; NO_2 = nitrogen dioxide; O_3 = ozone. Green shading indicates valid data orange shading indicates invalid data.

[a] Design value for ozone is calculated as the three-year average of the 4th highest daily maximum measured concentration for each calendar year. Design value for NO_2 is the 3-year average of the 98th percentile daily maximum.

The ambient air concentrations measured at these stations show that concentrations for ozone in the project area have violated both the 2008 and 2015 ozone NAAQS (75 ppb and 70 ppb, respectively). The highest valid ozone design value from the Uinta Basin is from the Ouray monitor at 89 ppb. The highest NO_2 design value in the Uinta Basin for 2017-2019 is from the Myton monitor at 20 ppb.

Bonanza 20-15H Compressor Station Characteristics and Emissions

The facility is located at an elevation of approximately 5,050 feet. It is located in the southern section of the Uinta Basin, with no substantially higher hills in its immediate vicinity. It is located in a rural area with no residential areas within a minimum of two-mile radius from the facility. The ambient air measurements show existing air quality in the project area is violating both the 2008 and 2015 ozone NAAQS, and NO_X and VOC are precursors to ozone formation. The permit would result in a decrease of facility-wide allowable emissions of VOC by less than 1 tpy and NO_X by approximately 36 tpy as indicated in Table 3. Therefore, we do not expect adverse impacts to local air quality from the proposed project and have determined that an AQIA modeling analysis is not required for this permit action.

V. Tribal Consultations and Communications

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-permitting-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 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 authorizes the construction of new air emission sources, and other physical modifications to the associated facility or its operations. However, the applicant is committed to more stringent facility requirements as described in this technical support document and associated permit to maintain emissions significantly below major source PSD permitting thresholds, as well as below the PSD significance thresholds for all criteria pollutants. The air emissions at the existing facility will not increase due to the associated action.

Furthermore, the permit will 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-permitpublic-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-permittingregion-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 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.

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 20-15H 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 40.017364, Longitude -109.123242, 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@utetribe.com

and

U.S. Environmental Protection Agency
Air and Radiation Division, Region 8
Contact: Colin Schwartz, Environmental Scientist, (303) 312-6043 or schwartz.colin@epa.gov

The proposed permit and related documents can be accessed on our website at: https://www.epa.gov/caa-permitting/caa-permit-publiccomment-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, sent via an email to r8airpermitting@epa.gov, with the topic "Comments on SMNSR Permit for Bonanza State 20-15," or submitted directly through https://www.regulations.gov, from Docket ID #EPA-R08-OAR-2020-0192.

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 electronic 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-permitsissued-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.