AIR QUALITY EFFECTS ANALYSIS
FOR
PERMIT TO CONSTRUCT
ACP-18304 v1.0

Applicant:

Continental Resources, Inc.
P.O. Box 268870
Oklahoma City, OK 73126

Facility Location:

Helen 2-4 Arley 5-7 Christiana 7-8 Kenneth 2-3 CTB
GPS Coordinates: (48.167696, -103.063994)
Williams County, ND

Introduction and Background:

Continental Resources, Inc. (Continental) submitted a permit to construct application to the North Dakota Department of Environmental Quality – Division of Air Quality (Department) on November 1, 2024, which was supplemented on September 11, 2025. The application was for the construction of six natural gas-fired generator engines at the Helen 2-4 Arley 5-7 Christiana 7-8 Kenneth 2-3 Central Tank Battery (facility) located in Williams County, North Dakota.

The facility currently operates under Oil & Gas Registration No. OGR-228374 v1.0 as an upstream oil and gas production facility. The six engines will be constructed at the same facility and use produced gas from the wells to operate the engines for power generation. Upon project completion, the facility will be a synthetic minor source under the prevention of significant deterioration (PSD) program and future major source under the Title V permit to operate program. The facility will operate under primary SIC code 1311 for crude petroleum and natural gas and secondary SIC code 4911 for electrical services.

ACP-18304 v1.0 Table 1-1 lists the emissions units associated with the Project.

ACP-18304 v1.0 Table 1-2 lists all the emissions units upon Project Completion.

Facility Wide Emissions Profile
Potential to Emit (PTE)

Table 1 - PTE (tons per year) [A]

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	CO	NO_X	SO_2	VOCs	Total PM	Total HAPs	Methanol (Largest HAP)
Six Waukesha VHPP9394GSI S5 natural gas-fired generator engines rated at 2,386 bhp	RICE1-RICE6	RICE1-RICE6	69.12	41.47	3.12	13.82	10.28	7.69	1.62
High pressure flare (HPFL)	HPFL	HPFL	114.97	25.22	1.40	106.12	0.00	2.49	--
Low pressure flare (LPFL)	LPFL	LPFL [C]	18.97	4.16	0.00	42.12	0.00	0.78	--
Vapor Recovery Unit (VRU) [B]	VRU								
Four hydrocarbon liquid storage vessels	HCTK1-HCTK4								
Four produced water storage vessels	PWTK1-PWTK4								
Gas fired heater (HTR)	HTR	HTR	0.27	0.32	0.01	0.02	0.02	0.00	--
Hydrocarbon liquid loadout	HCL	HCL	--	--	--	20.37	--	0.64	--
Produced water loadout	PWL	PWL	--	--	--	0.72	--	0.02	--
Four electric driven reciprocating compressors	CMPR1-CMPR4	CMPR1-CMPR4	--	--	--	19.74	--	0.45	--
Fugitive components	FUG-LDAR	FUG-LDAR	--	--	--	26.36	--	0.85	--
Fugitive dust	FUG-A	FUG-A	--	--	--	--	0.97	--	--
Maintenance - other (Misc)	FUG-Misc	FUG-Misc	--	--	--	2.6	--	0.1	--
Total (without Fugitives):			**203.3**	**71.2**	**4.5**	**202.9**	**10.3**	**12.1**	**1.6**
Total (with Fugitives):			**203.3**	**71.2**	**4.5**	**231.8**	**11.3**	**13.0**	**1.6**

[A] Abbreviations:
Total PM: condensable and filterable particulate matter including $PM_{2.5}$ (≤2.5 μm) and PM_{10} (≤10 μm)
SO_2: sulfur dioxide
NO_X: oxides of nitrogen
CO: carbon monoxide
VOCs: volatile organic compounds
HAPs: hazardous air pollutants as defined in Section 112(b) of the Clean Air Act

[B] Gas produced from the HTR is routed to the VRU for control.

[C] Assumes a 98% control efficiency for vapors sent to the LPFL for combustion. Well workover vapors are also routed to the LPFL when feasible.

As shown in Table 1, the facility wide PTE is below 250 tons per year (tpy) for all criteria air pollutants, below 10 tpy for any single hazardous air pollutant (HAP), and below 25 tpy for the combined HAP emissions. Detailed calculations have been provided in the permit applications received on November 1, 2024, and on September 11, 2025. The Department has reviewed these calculations and believes they accurately represent the proposed facility operations.

The facility wide PTE is based on enforceable emissions restrictions put in place on the six engines, limiting the allowable amount of NO_X, CO, VOC, and Formaldehyde. These restrictions mean the facility will be a synthetic minor PSD source of air pollution, as the emissions are limited to below PSD thresholds. Additionally, the facility will be a future major source under the Title V permit to operate program, as potential emissions exceed the Title V thresholds.

Rules Analysis
Potentially Applicable Rules and Expected Compliance Status

A. NDAC 33.1-15-01 – General Provisions:

Multiple topics are included in the General Provisions chapter: entry onto premises - authority, variances, circumvention, severability, land use plans and zoning regulations (only to provide air quality information), measurement of air contaminants, shutdown and malfunction of an installation - requirements for notification, time schedule for compliance, prohibition of air pollution, confidentiality of records, enforcement, and compliance certifications.

Applicability and Expected Compliance

Based on the review of the information provided, the facility will comply with all applicable sections of this rule.

B. NDAC 33.1-15-02 – Ambient Air Quality Standards:

The facility must comply with the North Dakota and Federal Ambient Air Quality Standards (AAQS) and the "Criteria Pollutant Modeling Requirements for a Permit to Construct" guidelines[1].

Applicability and Expected Compliance

The facility is not subject to PSD nor does the facility's PTE trigger the modeling thresholds listed in the "Criteria Pollutant Modeling Requirements for a Permit to Construct", therefore, preconstruction modeling for this facility was not required. Based on the facility PTE and proposed stack heights, compliance with the ambient air quality standards is expected to be maintained.

C. NDAC 33.1-15-03 – Restriction of Emission of Visible Air Contaminants:

This chapter requires all non-flare sources from new facilities to comply with an opacity limit of 20% except for one six-minute period per hour when 40% opacity is permissible. This chapter also requires facility flares to comply with an opacity limit of 20% except for one six-minute period per hour when 60% opacity is permissible. Lastly, this chapter restricts the opacity of fugitive emissions transported off property to 40% except for one six-minute period per hour when 60% opacity is permissible. This chapter also contains exceptions under certain circumstances and provides the method of measurement to determine compliance with the referenced limits.

[1] See October 6, 2014, Criteria Pollutant Modeling Requirements for a Permit to Construct. Available at: https://www.deq.nd.gov/publications/AQ/policy/Modeling/Criteria_Modeling_Memo.pdf

Applicability and Expected Compliance

Based on Department experience with similar flares (EUs HPFL & LPFL), gas-fired heater treaters (EU HTR), and engines (EUs RICE1-RICE6), the facility is expected to comply with the applicable opacity limits outlined in Table 3-1 of ACP-18304 v1.0. Additionally, Condition 2.D.3 of ACP-18304 v1.0 requires the flares to be operated with no visible emissions, except for periods not to exceed a total of 1-minute during any 15-minute period.

D. NDAC 33.1-15-04 – Open Burning:

No person may dispose of refuse and other combustible material by open burning, or cause, allow, or permit open burning of refuse and other combustible material, except as provided for in Section 33.1-15-04-02 or 33.1-15-10-02, and no person may conduct, cause, or permit the conduct of a salvage operation by open burning.

Applicability and Expected Compliance

No open burning operations at the facility are permitted unless consulted and approved by the Department.

E. NDAC 33.1-15-05 – Emissions of Particulates Matter Restricted:

This chapter establishes particulate matter emission limits and restrictions for industrial process equipment and fuel burning equipment used for indirect heating.

Applicability and Expected Compliance

The heater treater (EU HTR) is used for indirect heating and is fired on gaseous fuels, therefore, the particulate matter limits in this chapter do not apply. The engines (EUs RICE1-RICE6) are not used for direct or indirect heating and are subject to the particulate matter limits in this chapter. It should be noted that combustion of gaseous fuels in the units is expected to result in extremely low particulate matter emissions that are well below the allowable levels established by this chapter.

F. NDAC 33.1-15-06 – Emissions of Sulfur Compounds Restricted:

This chapter applies to any installation in which fuel is burned and the SO_2 emissions are substantially due to the sulfur content of the fuel; and in which the fuel is burned primarily to produce heat. This chapter is not applicable to installations which are subject to an SO_2 emission limit under Chapter 33.1-15-12, Standards for Performance for New Stationary Sources, or installations which burn pipeline quality natural gas.

Applicability and Expected Compliance

The engines (EUs RICE1-RICE6), gas fired heater treater (EU HTR), and control device pilots (EUs HPFL & LPFL pilots) are restricted to combusting only gaseous fuel containing no more than 32 ppmv of H_2S (~2 grains per 100 standard cubic feet).

G. NDAC 33.1-15-07 – Control of Organic Compounds Emissions:

This chapter establishes requirements for the construction of organic compound facilities and the disposal of organic compounds gas and vapor generated as waste resulting from storage, refining, or processing operations at the facility.

Applicability and Expected Compliance

The hydrocarbon liquid storage vessels (EUs HCTK1-HCTK4) and the produced water vessels (EUs PWTK1-PWTK4) will comply with this chapter by equipping and operating the vessels with a submerged fill pipe and routing the vapors to the low pressure flare (EU LPFL).

The hydrocarbon liquid truck loadout (EU HCL) has the potential to handle over 20,000 gallons per day of volatile organic liquids and will comply with this chapter by equipping and operating the loadout facility with a submerged filling arm or other vapor emissions control system.

All rotating pumps and compressors handling VOCs must be equipped and operated with properly maintained seals designed for their specific product service and operating conditions, in accordance with NDAC 33.1-15-07-01.5.

The flares (EUs HPFL & LPFL) must comply with the requirements listed in Condition 2.D of ACP-18304 v1.0.

For leak detection and repair of equipment in VOC and greenhouse gas (GHG) service (EU FUG-LDAR), the facility will comply with the applicable requirements under New Source Performance Standard (NSPS) Subpart OOOOb – Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022.

H. NDAC 33.1-15-08 – Control of Air Pollution from Vehicles and Other Internal Combustion Engines:

This chapter restricts the operation of internal combustion engines which emit from any source unreasonable and excessive smoke, obnoxious or noxious gas, fumes or vapor. This chapter also prohibits the removal or disabling of motor vehicle pollution control devices.

Applicability and Expected Compliance

The engines (EUs RICE1-RICE6) are also subject to opacity requirements under NDAC 33.1-15-03-02 and subject to the requirements of NSPS Subpart JJJJ. As a result of expected compliance with these provisions, the engines are not expected to emit any unreasonable and excessive smoke, obnoxious or noxious gases, fumes, or vapors.

I. NDAC 33.1-15-09 – [repealed]

J. NDAC 33.1-15-10 – Control of Pesticides:

This chapter provides restrictions on pesticide use and restrictions on the disposal of surplus pesticides and empty pesticide containers.

Applicability and Expected Compliance

The facility is subject to this chapter and is expected to comply with all applicable requirements should pesticides be used.

K. NDAC 33.1-15-11 – Prevention of Air Pollution Emergency Episodes:

When an air pollution emergency episode is declared by the Department, the facility shall comply with the requirements in this Chapter.

L. NDAC 33.1-15-12 – Standards of Performance for New Stationary Sources [40 Code of Federal Regulations Part 60 (40 CFR Part 60)]:

This chapter adopts most of the Standards of Performance for New Stationary Sources (NSPS) under 40 CFR Part 60. The facility is subject to the following subparts under 40 CFR Part 60 which have been adopted by North Dakota as of July 1, 2019:

Subpart A – General Provisions

Subpart A contains general requirements for plan reviews, notification, recordkeeping, performance tests, reporting, monitoring and general control device requirements.

Applicability and Expected Compliance

The facility will comply with the general provisions of Subpart A through submission of timely notifications, performance testing, reporting, and following the general control device and work practice requirements under Subpart A. In addition, any changes to the facility after it is built will be evaluated with respect to this subpart as well as others.

Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines

Subpart JJJJ establishes emissions standards (NO_X, CO, VOC) and compliance schedules for all new, modified and reconstructed stationary spark ignition (SI) internal combustion engines (ICE) and equipment manufactured on or after July 1, 2007, regardless of size. The subpart applies to manufactures, owners, and operators of such engines and equipment. SI ICE are categorized in this subpart by usage, size and fuel type.

Applicability and Expected Compliance

The engines (EUs RICE1-RICE6) are subject to the requirements of NSPS Subpart JJJJ. The engines are each rated at 2,386 brake horsepower (bhp) and will be equipped with a non-selective catalytic reduction (NSCR) control.

Subpart JJJJ requires each engine to comply with the following emissions standards:

- NOx of 1.0 g/hp-hr or 82 ppmvd @ 15% O_2
- CO of 2.0 g/hp-hr or 270 ppmvd @ 15% O_2
- VOC of 0.7 g/hp-hr or 60 ppmvd @ 15% O_2

Beyond the Subpart JJJJ limits, the facility is restricted to lower engine emissions limits to avoid major source thresholds under PSD. Table 3-1 of ACP-18304 v1.0 establishes the following limits:

- NOx of 0.3 g/hp-hr
- CO of 0.5 g/hp-hr
- VOC of 0.1 g/hp-hr

To demonstrate compliance with the above limits, the facility must conduct emissions testing every 8,760 hours of operations or every three years, whichever comes first.

The facility is also expected to comply with Subpart JJJJ requirements by properly maintaining and operating an air-to-fuel ratio controller and keeping a maintenance plan and records of conducted maintenance and, to the extent practicable, will maintain and operate the engines in a manner consistent with good air pollution control for minimizing emissions.

Subpart OOOOb – Standards of Performance for Crude Oil and Natural Gas Facilities for Which Construction, Modification or Reconstruction Commenced After December 6, 2022

Subpart OOOOb establishes emission standards and compliance schedules for the control of the pollutant greenhouse gases (GHG). The greenhouse gas standard in this subpart is in the form of a limitation on emissions of methane from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after December 6, 2022. This subpart also establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO_2) emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after December 6, 2022.

Applicability and Expected Compliance

The hydraulically fractured wells (EUs WELL1-WELL10), storage vessels (EUs HCTK1-HCTK4 & PWTK1-PWTK4), fugitive emissions components (EU FUG-LDAR), reciprocating compressors (EUs CMPR1-CMPR4), and associated gas from the oil wells, located within the crude oil and natural gas source category (40 CFR 60.5430b), are affected facilities under this subpart (40 CFR 60.5365b). The affected emission units are expected to comply with this subpart by following subsequent measures:

Hydraulically Fractured Wells (EUs WELL1-WELL10)

Well Completion Operations with Hydraulic Fracturing and Refracturing:

- **Standards**:
  - For each well completion operation with hydraulic fracturing or refracturing at a well affected facility, except as provided in §60.5375b(f), (g) and (h), follow requirements specified in §60.5375b(a)(1) through (3).
  - Well affected facilities must meet the initial and continuous compliance standards as required by §§60.5410b(a) and 60.5415b(a).
- **Monitoring**:
  - No monitoring requirements apply to well affected facilities under Subpart OOOOb.
- **Recordkeeping and Reporting**:
  - Maintain daily logs of completion operations, containing the records specified in §60.5420b(c)(1)(iii).
  - Perform the required notification, reporting and recordkeeping required by §60.5420b(a)(2), (b)(1) and (2), and (c)(1).

Storage Vessels (EUs HCTK1-HCTK4 & PWTK1-PWTK4)

The storage tank battery's potential to emit for VOCs is greater than 6 tpy and therefore subject to Subpart OOOOb.

- **Standards**:
  - The potential for VOC and methane emissions must be calculated for storage vessel affected facilities using a generally accepted model or calculation method, as required by §60.5365b(e)(2).
  - VOC and methane emissions from storage vessel affected facilities must be reduced by 95.0 percent, as required by §60.5395b(a)(2).
  - VOC and methane emissions controls may be removed after 12 consecutive months of compliance with §60.5395b(a)(2), if uncontrolled actual VOC and methane emissions are maintained at less than 4 tpy and 14 tpy, respectively.
  - Storage vessel affected facilities using a control device to reduce VOC and methane emissions must be equipped with a cover, closed vent system, and control device that meet the requirements of §§60.5411b(b), 60.5411b(a) and (c), and 60.5412b.
  - Under this subpart, the use of a floating roof to reduce emissions from storage vessel affected facilities does not apply to well sites or centralized production facilities. Therefore, §60.5395b(b)(2) is not applicable.
  - Storage vessel affected facilities that are removed from service or returned to service must meet the requirements of §60.5395b(c). A storage vessel is not an affected facility under this subpart for the period it is removed from service.

  - Storage vessel affected facilities must meet the initial and continuous compliance standards as required by §§60.5410b(j) and 60.5415b(i).
  - This subpart does not apply to storage vessels subject to and controlled in accordance with the requirements for storage vessels in 40 CFR 60, Subpart Kb and 40 CFR 63, Subparts G, CC, HH, or WW.
- **Monitoring**:
  - Storage vessel affected facilities equipped with a cover, closed vent system, and control device must meet the monitoring and inspection requirements of §§60.5411b and 60.5412b.
- **Recordkeeping and Reporting**:
  - Storage vessel affected facilities must comply with the notification, recordkeeping, and reporting requirements specified in §60.5420b.

Fugitive Emissions Components (EU FUG-LDAR)

- **Monitoring and Repairs**:
  - A fugitive emissions components affected facility is the collection of fugitive emissions components, as defined in §60.5430b, located at a well site, centralized production facility, or a compressor station.
  - As required by §60.5397b(a), all fugitive emissions components affected facilities must be monitored in accordance with §60.5397b(b) through (g).
  - A fugitive emissions monitoring plan, that meets the requirements of §60.5397b(c) and (d) and covers all fugitive emissions components affected facilities within each company-defined area, must be developed. [§60.5397b(b)]
  - Each identified source of fugitive emissions shall be repaired in accordance with §60.5397b(h)(1) and (2).
  - Delay of repair of a fugitive emissions components affected facility is allowed if the conditions in §60.5397b(h)(3)(i) or (ii) are met.
  - To complete a repair, the identified source of fugitive emissions must be resurveyed in accordance with §60.5397b(h)(4)(i) through (v) to ensure that there are no fugitive emissions.
- **Recordkeeping and Reporting**:
  - Fugitive emissions components affected facilities must meet the recordkeeping and reporting requirements of §§60.5420b(c)(14) and 60.5420b(b)(1) and (9).
- **Miscellaneous**:
  - The initial and continuous compliance standards for fugitive emissions components affected facilities (§§60.5410b(k) and 60.5415b(l)) cover the same requirements as previously outlined in this section of the AQEA.
  - Fugitive emissions components affected facilities are required to complete the well closure requirements specified in §60.5397b(l)(1) through (4).

Compressors (EUs CMPR1-CMPR4)

- **Reciprocating Compressors at Centralized Production Facilities**:
  - **Volumetric Flow Rate**: The volumetric flow rate of each cylinder of a reciprocating compressor affected facility will not exceed 2 standard cubic feet per minute (scfm). If the individual cylinders are manifolded to a single open-ended vent line, the volumetric flow rate will not exceed the sum of the individual cylinders multiplied by 2 scfm.
  - **Volumetric Flow Rate Measurement Requirements**: All reciprocating compressor affected facilities will measure the volumetric flow rate of each compressor cylinder using one of the two methods described as in §60.5385b(b) or §60.5385b(c). Alternatively, the owner/operator may choose to comply with this requirement by following the measurement method described in §60.5385b(d).
  - **Additional Volumetric Flow Rate Measurement Requirements**: For reciprocating compressor affected facilities with individual cylinders manifolded to a single open-ended vent line the following additional volumetric flow rate measurements will be conducted:
    - The first volumetric flow rate measurements will be completed on or before 8,760 hours of operation after last rod packing replacement, or on or before 8,760 hours of operation after startup, whichever date is later.
    - Subsequent volumetric flow rate measurements will be conducted on or before 8,760 hours of operation after the previous measurement demonstrating compliance.
  - **Rod Packing Repair / Replacement**: If the volumetric flow rate for a cylinder or manifolded cylinders exceeds 2 scfm, the rod packing will be repaired or replaced within 90 calendar days of the volumetric emissions measurement. Follow up measurements will be conducted to verify the repair / replacement within 15 days of completion. Delay of repair will be allowed if the conditions in §60.5385b(a)(3)(i) or §60.5385b(a)(3)(ii) are met.
  - **Compliance Standards**: Ensure compliance with initial and continuous standards under §§60.5410b(e) and 60.5415b(g).
  - **Recordkeeping and Reporting**: All reciprocating compressor affected facilities will maintain records as specified in §60.5420b(c)(5) and (8) through (13), as applicable and perform the reporting specified in §60.5420b(b)(1), (6), and (11) through (13), as applicable.

Associated Gas from Oil Wells

You must comply with either paragraph (a)(1), (2), (3), or (4) of §60.5377b for each associated gas well upon startup and at all times, except as provided in paragraphs (b) through (f) of §60.5377b.

- **Compliance Standards**: Demonstrate initial and continuous compliance with the GHG and VOC standards for each associated gas well as required by §§60.5410b(c) and 60.5415b(c).
- **Recordkeeping and reporting**: Perform the required notification, recordkeeping and reporting requirements as specified in § 60.5420b(a)(2). Submit the information specified in § 60.5420b(b)(1) in the initial annual report. You must maintain a log of records as specified in § 60.5420b, as applicable, for each well completion operation conducted.

M. NDAC 33.1-15-13 – Emission Standards for Hazardous Air Pollutants [40 Code of Federal Regulations Part 61 (40 CFR Part 61)]:

This chapter discusses emission standards for hazardous air pollutants. It specifically incorporates a majority of the subparts and appendices of the National Emission Standards for Hazardous Air Pollutants (NESHAP) under 40 CFR Part 61 as of July 2, 2010.

Applicability and Expected Compliance

The facility does not appear to have any applicable requirements under this chapter.

N. NDAC 33.1-15-14 – Designated Air Contaminant Sources, Permit to Construct, Minor Source Permit to Operate, Title V Permit to Operate:

This chapter designates that federally regulated sources are required to obtain a Permit to Construct and a Permit to Operate and comply with specific emission control and air quality standards.

Applicability and Expected Compliance

The facility has submitted an application for a permit to construct and has met all requirements necessary to obtain a permit to construct. The facility will be considered a future major source per NDAC 33.1-15-14-06.1.q.

The permit must undergo public comment per NDAC 33.1-15-14-02.6.b.

Once the facility completes construction and meets the permit to construct requirements, a facility inspection will be performed by the Department. Pending a satisfactory facility inspection the facility will be issued a Title V permit to operate by the Department.

O. NDAC 33.1-15-15 – Prevention of Significant Deterioration of Air Quality [40 CFR 52.21]:

This chapter adopts the federal provisions of the Prevention of Significant Deterioration of air quality (PSD) program (40 CFR 52.21). A facility is subject to PSD review if it is classified as a "major stationary source" under Chapter 33.1-15-15.

Applicability and Expected Compliance

This facility is not classified as a "major stationary source" under 40 CFR 52.21(b)(1)(i)(a) and is therefore only subject to PSD review if potential emissions of any regulated new source review (NSR) pollutant[2] exceeds 250 tpy (excluding fugitive emissions). The PTE for this facility, as shown in Table 1, is below the 250 tpy threshold and therefore not subject to PSD review. The facility will be a synthetic minor source under PSD due to the restrictions listed in Table 3-1 of ACP-18304 v1.0.

P. NDAC 33.1-15-16 – Restriction of Odorous Air Contaminants:

This chapter restricts the discharge of objectionable odorous air contaminants which measures seven odor concentration units or greater outside the property boundary. The emission of hydrogen sulfide is also addressed with strict concentration limitations. The chapter also establishes the method of measurement using certified inspectors, scentometers, and other approved instruments.

Applicability and Expected Compliance

The facility must not discharge hydrogen sulfide (H_2S) into the ambient air at concentrations that would violate NDAC Subsection 33.1-15-16-02.1. Based on the Department's experience with upstream oil and gas facilities in North Dakota , compliance with this chapter is expected. Any odor-related complaints received by the Department will be investigated and resolved in accordance with the directives outlined in the chapter.

Q. NDAC 33.1-15-17 – Restriction of Fugitive Emissions:

This Chapter restricts fugitive emissions from particulate matter or other visible air contaminants and gaseous emissions that would violate Chapter 2 (ambient air quality standards), Chapter 15 (PSD), Chapter 16 (odor), or Chapter 19 (visibility).

Applicability and Expected Compliance

The facility will be required to take reasonable precautions to prevent fugitive emissions in violation of the above referenced NDAC chapters.

R. NDAC 33.1-15-18 – Stack Heights:

This chapter restricts the use of stack heights above good engineering practices (GEP). The chapter primarily adopts federal regulations listed under 40 CFR 51.100(ii). This chapter also restricts the use of dispersion techniques to affect the concentration of a pollutant in the ambient air. Demonstrations of good engineering practice stack heights must be made available for review.

[2] See 40 CFR 52.21(b)(50). Available at: https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-52/subpart-A/section-52.21#p-52.21(b)(50)

Applicability and Expected Compliance

The proposed stacks at the facility do not exceed GEP and will not use dispersion techniques to affect the pollutant concentration in the ambient air.

The stack heights at the facility are listed in the following table:

Emission Unit (EU)	Emission Point (EP)	Minimum Stack Height (Feet)
RICE1-RICE6	RICE1-RICE6	20
HPFL	HPFL	40
LPFL	LPFL	40

S. NDAC 33.1-15-19 – Visibility Protection:

This chapter outlines regulations regarding visibility protection and applies to new major stationary sources as defined in Section 33.1-15-15-01. It contains provisions regarding visibility impact analysis, visibility models, notification requirements for permit applications, review by federal land managers, permit issuance criteria, and visibility monitoring.

Applicability and Expected Compliance

The facility is not a new PSD major stationary source and therefore is not subject to the requirements of this chapter. Given the minor source levels of the visibility impairing air pollutants, such as NO_x, SO_2, and $PM_{2.5}$, it is expected that the facility will not adversely contribute to visibility impairment within the three units of the Theodore Roosevelt National Park (nearest federal Class I areas) or at the Lostwood National Wildlife Refuge.

T. NDAC 33.1-15-20 – Control of Emissions from Oil and Gas Well Production Facilities:

This chapter regulates emissions from oil and gas well production facilities, requiring operators to register new wells and report gas composition changes. It establishes PSD applicability for major sources and mandates compliance with air quality standards for pollutants like sulfur dioxide and hydrogen sulfide.

Applicability and Expected Compliance

The facility has submitted oil and gas well registrations, including the required gas analyses, and has reported changes to the information contained in the registrations meeting the applicable requirements of this chapter.

The facility is not a major stationary source, nor a major modification as defined in chapter 33.1-15-15 and therefore not subject to the permitting requirements of chapter 33.1-15-15.

For the flares (EUs HPFL & LPFL), the facility will comply with this chapter by equipping and operating an automatic igniter or a continuous burning pilot and maintain and operate

the flares in good working order. Additionally, the flares will comply with the requirements of chapter 33.1-15-18.

The facility is expected to conduct routine inspections and maintenance of tanks, hatches, compressors, vent lines, pressure relief valves, packing elements, and couplings to minimize emissions from equipment. Tank hatches must hold a positive working pressure or must be repaired or replaced.

The appropriate emission control devices have been installed to ensure that emissions comply with the ambient air quality standards of chapter 33.1-15-02, including hydrogen sulfide and sulfur dioxide and the odor concentration limits of chapter 33.1-15-16.

When a malfunction, the correction of a malfunction, or maintenance occurs that can be expected to cause the emission of air contaminants in violation of this chapter for longer than twenty-four hours, the facility is expected to comply with NDAC 33.1-15-01-13.

U. NDAC 33.1-15-21 – Acid Rain Program:

This chapter adopts the acid rain provisions of the Clean Air Act specified under 40 CFR Parts 72-78. The facility is not subject to the acid rain provision.

V. NDAC 33.1-15-22 – Emissions Standards for Hazardous Air Pollutants for Source Categories [40 Code of Federal Regulations Part 63 (40 CFR Part 63)]:

This chapter adopts most of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories under 40 CFR Part 63. These standards typically apply to major sources of air pollution that are in a regulated source category. In addition to the major source requirements, some of the regulations have "area source" standards (for non-major sources). Some of the area source standards have not been adopted by the Department and compliance will be determined by the United States Environmental Protection Agency (USEPA) (i.e. 40 CFR 63, Subpart ZZZZ area source provisions have not been adopted by the Department).

Applicability

The facility's actual and potential HAP emissions are limited to less than 10 tpy of any single HAP and are less than 25 tpy of any combination of HAPs, so the facility is an area (minor) source of HAPs. As shown in the Table 1, total potential HAPs from the facility are approximately 11.5 tpy. The greatest single potential HAP is Methanol at 1.6 tpy.

Table 3-1 of ACP-18304 v1.0 establishes a formaldehyde limit of 0.01 g/hp-hr to keep the individual HAP (formaldehyde) potential emissions below 10 tpy.

Subpart A – General Provisions

Subpart A contains general requirements for prohibited activities and circumvention, preconstruction review and notification, standards and maintenance requirements,

performance tests, monitoring, recordkeeping, reporting, and control device work practice requirements.

Applicability and Expected Compliance

The facility will comply with the general provisions of Subpart A through submission of timely notifications, performance testing, monitoring, recordkeeping, reporting, and following the control device work practice requirements under Subpart A.

Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emissions from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

Applicability and Expected Compliance

The facility engines (EUs RICE1-RICE6) are subject to the area source requirements under this subpart. The requirements of Subpart ZZZZ for the engines are met by complying with the requirements of NDAC 33.1-15-12 [40 CFR 60], Subpart JJJJ.

The Department has not adopted Subpart ZZZZ at area sources such as this facility. EPA Region 8, not the North Dakota Department of Environmental Quality, is the implementing and enforcement authority. All required documentation must be submitted to EPA Region 8.

W. NDAC 33.1-15-23 – Fees:

This chapter requires a filing fee of $325 for permit to construct applications, plus any additional fees based on actual processing costs. The additional fees based on processing costs will be assessed upon issuance of the draft permit to construct. The annual operating permit fee is also applicable.

The applicant has paid the $150 per well registration fee and is not required to submit the $325 application fee. The applicant may be required to pay the additional fees associated with the permit processing.

X. NDAC 33.1-15-24 – Standards for Lead-Based Paint Activities:

The facility will not perform any lead-based painting and is therefore not subject to this chapter.

Y. NDAC 33.1-15-25 – Regional Haze Requirements:

This chapter is specific to existing stationary sources or groups of sources which have the potential to "contribute to visibility impairment" as defined in Section 33.1-15-25-01.2. Existing stationary sources or groups of sources determined to contribute to visibility impairment may be required to implement emissions reduction measures to help the Department make reasonable progress toward North Dakota's reasonable progress goals established in accordance with 40 CFR 51.308.

Applicability and Expected Compliance

Based on the PTE of visibility impairment pollutants, the facility is not expected to contribute to visibility impairment. Therefore, the facility is not subject to the requirements of this chapter.

Summary:

A complete review of the proposed project indicates that the facility is expected to comply with the applicable federal and state air pollution rules and regulations. The Department will make a final recommendation on the issuance of a Permit to Construct for the Helen 2-4 Arley 5-7 Christiana 7-8 Kenneth 2-3 Central Tank Battery following completion of a 30-day public comment period. The public comment period will run from December 19, 2025, through January 18, 2026.

Update post comment period:
[Reserved]

Date of Draft Analysis: December 16, 2025
Date of Final Analysis: [Reserved]

Analysis By:

Brittany Hansey
Environmental Scientist
Division of Air Quality

BRH: