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AIR POLLUTION CONTROL PERMIT TO CONSTRUCT

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Permittee Name: Steel Reef Burke LLC **Permittee Address**: 1600, 333 – 7th Avenue SW Calgary, Alberta T2P 2Z1	**Permit Number**: ACP-18362 v1.0 **Source Description**: Synthetic Minor Source Area HAP Source
Source Name & Location: Lignite Compressor Station 10050 – 84th Avenue NW Lignite, ND 58752 Lat/Long: 48.87392, -102.54462 SW¼, NW¼, Sec. 7, T162N, R91W Burke County	**Source Type**: Compressor Station
Date of Application:	April 9, 2025 (Application)

Pursuant to Chapter 23.1-06 of the North Dakota Century Code, the North Dakota Air Pollution Control Rules (North Dakota Administrative Code [NDAC] 33.1-15), and in reliance on statements and representations heretofore made by the permittee (i.e., owner) designated above, a Permit to Construct (PTC, also referred to as 'permit') is hereby issued authorizing such permittee to construct and initially operate the source unit(s) listed in Condition 1 at the location designated above. The source may be operated under this PTC until a Permit to Operate (PTO) is issued. This PTC is subject to all applicable rules and orders now or hereafter in effect of the North Dakota Department of Environmental Quality (Department), state and federal regulations, and to any conditions specified below:

Date: _____

James L. Semerad
Director
Division of Air Quality

1. Project and Facility Emission Units:

ACP-18362 v1.0_AQEA MEMO provides a project description, the project and facility wide emission profile, and regulatory analysis associated with this permit.

Table 1-1 lists the new/modified/incorporated emission units associated with the Project.

Table 1-2 lists the emission units that are being removed from the facility.

Table 1-3 lists all emission units associated with the facility upon Project completion.

Table 1-1: Project Emission Units (new/modified/incorporated)

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
6.5 MMscfd Triethylene glycol (TEG) dehydration unit still vent (MACT HH)	Dehy [A]	FL-9000	Flare
TEG vapor combustion device (MACT HH)	FL-9000 [A]		N/A
0.375 MMBtu/hr natural gas fired TEG reboiler	H-3060 [A]	H-3060	None
TEG flash tank	V-3030 [A]	FL-901 [B]	Flare
400 bbl produced water tank	WTK [C]	FS-170 [D]	Combustor
Produced water truck loading	TL-2 [C]	TL-2	None
Two electric-driven compressors	CM-3 & CM-4 [C]	FUG1	None
Heater treater pressure safety valves (PSV) emergency flare	FL-902 [E]	FL-902	N/A
Fugitive emissions subject to NSPS KKK	FUG2 [F]	FUG2	Leak Detection & Repair (LDAR)
Fugitive emissions subject to NSPS KKK, but exempt from control	FUG3 [F]	FUG3	None

[A] New unit.
[B] Historically referred to as EU Flare.
[C] Existing unit incorporated with this permit action.
[D] Historically referred to as EU COMBUST.
[E] Historically referred to as EU BTEX flare. Repurposed to take emergency gas from the heater treater PSV.
[F] No longer subject to NSPS KKK. Fugitive components are incorporated with EU FUG1.

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Table 1-2: Emission Units Removed from Facility

Emission Unit Description	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Amine gas sweetening unit	ST-1	0/Flare	None
Yuba hot oil heater rated at 26 x 10^6 Btu/hr; natural gas-fired (pre-1979)	RH-900	H1	None
TEG dehydration unit still vent (MACT HH)	D-1	BFlare	BTEX Flare
Two 400-bbl condensate tanks	CTK	COMBUST	Combustor

Table 1-3: Facility Emission Units upon Project Completion

Emission Unit Description [A]	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
6.5 MMscfd TEG dehvdration unit still vent (MACT HH)	Dehy	FL-9000	Flare
TEG vapor combustion device (MACT HH)	FL-9000		N/A
0.375 MMBtu/hr natural gas fired TEG reboiler	H-3060	H-3060	None
TEG flash tank	V-3030	FL-901	Flare
Process/emergency flare	FL-901		N/A
Heater treater rated at 0.5 x 10^6 Btu/hr; natural gas-fired	HT-100	HT-100	None
Heater treater PSV emergency flare	FL-902	FL-902	N/A
Emergency generator engine rated at 350 bhp; distillate oil-fired (pre-2006, ZZZZ)	G-100	G-100	None
Three 400 bbl condensate tanks	CTK1 through CTK3	FS-170	Combustor
400 bbl produced water tank	WTK		
Storage tank vapor combustion device	FS-170		N/A
Condensate truck loading	TL-1	TL-1	None
Produced water truck loading	TL-2	TL-2	None
200-bbl methanol tank	TK-M1	TK-M1	None
12-bbl methanol tank	TK-M2	TK-M2	None
Two electric-driven compressors	CM-3 & CM-4 [B]	FUG1	None

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Emission Unit Description [A]	Emission Unit (EU)	Emission Point (EP)	Air Pollution Control Equipment
Blowdowns	BD [B]	BD	None
Fugitive emissions not subject to NSPS OOOO	FUG1 [B]	FUG1	None
Fugitive emissions subject to NSPS OOOO	FUG [B]	FUG	LDAR

[A] All emission unit ratings are considered nominal ratings.
[B] Insignificant or fugitive emission source.

1. Applicable Standards, Restrictions and Miscellaneous Conditions:

Upon issuance of this permit, the applicable standards, restrictions and miscellaneous conditions established in all previous Air Permits to Construct Nos., including but not limited to: PTC02008, PTC08036, ACP-17191 v1.0 are rescinded and replaced with the following:

A. New Source Performance Standards (NSPS):

The permittee must comply with all applicable requirements of the following NSPS subparts, in addition to Subpart A, as referenced in NDAC 33.1-15-12 and Title 40 of the Code of Federal Regulations (CFR) Part 60.

1) NSPS OOOO – Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification, or Reconstruction Commenced After August 23, 2011, and on or Before September 18, 2015 (EU FUG).

B. National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Source Categories/Maximum Achievable Control Technology (MACT):

The permittee must comply with all applicable requirements of the following MACT subparts, in addition to Subpart A, as referenced in NDAC 33.1-15-22 and 40 CFR 63.

1) MACT HH – National Emission Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities (EUs Dehy and FL-9000). The North Dakota Department of Environmental Quality has not adopted the area source provisions of this subpart. Please send all documentation to EPA Region 8.

2) MACT ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (EU G-100). The North Dakota Department of Environmental Quality has not adopted the area source provisions of this subpart. Please send all documentation to EPA Region 8.

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C. Fuel Restrictions:

1) EUs H-3060 and HT-100 are restricted to combusting only natural gas containing no more than 2 grains of sulfur per 100 standard cubic feet.

2) EU G-100 is restricted to combusting only distillate oil containing no more than 0.0015 percent sulfur by weight.

D. Closed Vent System (CVS) Requirements:

1) Must be designed to collect and route all vapors from the storage vessels (EUs CTK1 through CTK3 and WTK) to the control device (100% collection efficiency is assumed during normal operation).

2) Must be operated with no detectable emissions during normal operations, as determined using auditory, visual, and olfactory inspections or optical gas imaging.

3) Must be monitored at the same intervals required by the facility Leak Detection and Repair (LDAR) program.

4) If the CVS contains a bypass, the permittee must track hours the bypass is open on a rolling 12-month period and either:

a) Secure the bypass in the non-diverting position using a car-seal or a lock-and-key configuration; or,

b) Install a flow indicator at the bypass inlet and maintain and operate it with an alarm system that notifies the nearest field office when the bypass opens and vapors are diverted away from the control device. Records of each time the alarm is activated must be maintained for a period of five (5) years.

E. Vapor Combustion Device (VCD)[1] Requirements (EUs FL-9000, FL-901, FL-902, and FS-170):

1) TEG vapor combustion device (EU FL-9000), Process/emergency flare (EU FL-901), and Heater treater PSV emergency flare (FL-902):

a) EU FL-9000 must be operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any two consecutive hours.

[1] i.e., flare, combustor, or other functionally equivalent combustion control device.

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b) The vapor combustion devices must be equipped and operated with an automatic ignitor or a continuous burning pilot which must be maintained in good working order as outlined in NDAC 33.1-15-07-02.

c) The presence of a flame must be monitored using a thermocouple or any other equivalent device approved by the Department.

d) When it is necessary to operate the emergency vapor combustion devices (EUs FL-901 and FL-902) during emergency, malfunction or maintenance, all precautions shall be taken to minimize emissions and maintain compliance with the applicable ambient air quality standards as outlined in NDAC 33.1-15-02 and the opacity standard of 20% not to exceed 60% for more than one six-minute period per hour.

2) Storage tank vapor combustion device (EU FS-170):

a) Must be operated at all times when vapors are vented from the storage vessels (EUs CTK1 through CTK3 and WTK) through the CVS to the VCD.

b) Must be operated with no visible emissions during normal operations, except for periods not to exceed a total of 1 minute during any 15-minute period.

c) Must be equipped and operated with an automatic ignitor or a continuous burning pilot which must be maintained in good working order per NDAC 33.1-15-07-02.

1] Pilot flame presence must be monitored using a thermocouple or other equivalent device, and records of pilot flame outages and/or control device downtime must be maintained. If an automatic ignitor is used in lieu of a pilot, the ignitor must be monitored weekly by listening for the actuator to ensure that the ignitor is in operation.

d) Records of downtime must be kept on at least an hourly basis and averaged across a rolling 12-month period. Only hours in which potentially recoverable vapors are generated from any controlled storage vessel are considered in this period.

1] Sub-hourly downtime records must be converted to hourly, where any recorded downtime within the hour makes the whole hour to be considered down.

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e) Must be operated according to the manufacturer's specifications.

f) Must take all precautions during emergency operation[2] to minimize emissions and maintain compliance with the applicable ambient air quality standards as outlined in NDAC 33.1-15-02 and the opacity standard of 20% not to exceed 60% for more than one six-minute period per hour.

2. Emission Unit Limits:

Emission limits from the operation of the source unit(s) identified in Table 1-3 of this PTC are as follows in Upon issuance of this permit, the emission unit limits established in all previous Air Permits to Construct Nos., including but not limited to: PTC02008, PTC08036, ACP-17191 v1.0 are rescinded and replaced with the following:

Table 2-1. Source units not listed are subject to the applicable emission limits specified in NDAC 33.1-15.

Upon issuance of this permit, the emission unit limits established in all previous Air Permits to Construct Nos., including but not limited to: PTC02008, PTC08036, ACP-17191 v1.0 are rescinded and replaced with the following:

Table 2-1: Summary of Permit Emission Limits

EU Description	EU	EP	Pollutant / Parameter	Limit
TEG vapor combustion device	FL-9000	FL-9000	Opacity	0% [A]
TEG reboiler	H-3060	H-3060	Opacity	20% [B]
Process/emergency flare	FL-901	FL-901	Opacity	20% [C]
Heater treater	HT-100	HT-100	Opacity	20% [B]
Heater treater PSV emergency flare	FL-902	FL-902	Opacity	20% [C]
Emergency generator engine	G-100	G-100	Opacity Operating Hours	20% [B] Condition 2.B.2 [D]
Three 400 bbl condensate tanks	CTK1 through CTK3	FS-170	VOC Opacity	Condition 3.A 0% [E]
400 bbl produced water tank	WTK			
Storage tank vapor combustion device	FS-170			

[2] Emissions from an emergency vapor blowdown system or emergency relief system are permitted under NDAC 33.1-15-07-02.

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Fugitive emissions subject to NSPS OOOO	FUG	FUG	LDAR	Condition 2.A.1

[A] Except for periods not to exceed a total of 5-minutes during any 2 consecutive hours.

[B] 40% opacity is permissible for not more than one six-minute period per hour.

[C] 60% opacity is permissible for not more than one six-minute period per hour.

[D] The potential to emit for an emergency stationary reciprocating internal combustion engine (RICE) is based on operating no more hours per year than is allowed by the subpart (40 CFR 63, Subpart ZZZZ) for other than emergency situations. For engines to be considered emergency stationary RICE under the RICE rules, engine operations must comply with the operating hour limits as specified in the applicable subpart. There is no time limit on the use of emergency stationary RICE in emergency situations.

[E] Except for periods not to exceed a total of 1-minute during any 15-minute period.

A. Emission restrictions for storage vessel groupings (EUs CTK1 through CTK3) and individual storage vessels (EU WTK) *(to remain non-affected facilities under NSPS OOOOb)*:

1) Emissions are restricted to less than 6 tpy VOC and less than 20 tpy methane for each above storage vessel grouping (**cumulative**) and for each individual storage vessel on a 12-month rolling basis.

2) Emissions must be calculated using records of monthly throughput and any model or calculation methodology for working, breathing, and flashing emissions that are generally accepted under NSPS OOOOb.

3) Records of monthly throughput, emission calculations used to demonstrate compliance, and all periods of uncontrolled releases must be kept for a period of five (5) years.

4) Must calculate storage vessel emissions using the following equation:

$$VOC_{post} = VOC_{pre}(1 - DRE \cdot Uptime)$$

Where:

VOC_{post} = VOC emissions in tpy, 12-month rolling average (post-control)
VOC_{pre} = VOC emissions in tpy routed through the CVS (pre-control)
DRE = destruction efficiency during uptime (98%)
$Uptime$ = hours that the VCD was operating normally with CVS bypass closed divided by the number of hours that vapors were generated, for the 12-month rolling period (ratio between 0 to 1)

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3. General Conditions (Action Required):

A. Modification:

Any alteration, repair, expansion, or change in the method or physical operation of the source which results in the emission of an additional type or greater amount of air contaminants, or which results in an increase in the ambient concentration of any air contaminant is considered a modification and must be reviewed and approved by the Department before implementation. The Department must be notified 10 days in advance of any significant deviations from the application. The issuance of this PTC may be suspended or revoked if the Department determines that a significant deviation has been or is to be made without the proper review or approval.

Applicable requirement: NDAC 33.1-15-14-02.9.d

B. Like-Kind Emission Unit Replacement:

This permit allows the permittee to replace an existing emission unit with a like-kind unit. Replacement is subject to the following conditions:

1) The replacement unit is subject to the same emission limits and performance testing requirements—both state and federal—as the existing unit. The facility must comply with any additional federal standards (e.g. NSPS, MACT) triggered by the replacement.

2) The Department must be notified within 10 days of replacement. The date of manufacture of the replacement unit and any additional federal applicability must be included in the notification.

3) The replacement unit must operate in the same manner without increasing throughput and have equal or less emissions than the unit it is replacing.

4) Testing must be conducted to confirm compliance with emission limits within 180 days after start-up of the replacement unit. Emergency units must not be required to test if replaced by a like-kind unit.

Applicable requirement: NDAC 33.1-15-14-02.9.d

C. Annual Emission Inventory/Annual Production Reports:

The permittee must submit an annual emission inventory report and/or an annual production report upon Department request on forms approved by the Department.

Applicable requirement: NDAC 33.1-15-14-02.9.d

D. Malfunction Notification:

The permittee must notify the Department of any malfunction which can be expected to last longer than 24 hours and can cause the emission of air contaminants in violation of applicable rules and

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regulations. Using empirical estimates of emission rates, the permittee must conservatively estimate if the malfunction can cause noncompliance.

Applicable requirement: NDAC 33.1-15-01-13.2.a

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E. Transfer of Permit to Construct:

The holder of a PTC may not transfer such permit without prior approval from the Department.

Applicable requirement: NDAC 33.1-15-14-02.11

4. General Conditions (Obligations):

A. Operation:

Construction and operation of the facility must be in accordance with the permit application—which includes technical supplements, revisions, and supporting data. Any operations not listed in this permit are subject to all applicable NDAC 33.1-15 requirements. At all times, including periods of startup, shutdown, and malfunction, the permittee must, to the extent practicable, maintain and operate any affected facility—including associated air pollution control equipment—in a manner consistent with good practice for minimizing emissions.

Applicable requirements: NDAC 33.1-15-12, NDAC 33.1-15-22

B. Recordkeeping:

The permittee must maintain any compliance monitoring records required by this permit or applicable requirements for a period of at least five years (unless otherwise stated) from the date of the monitoring sample, measurement, report or application. Support information may include all calibration and maintenance records, all original strip-chart recordings and computer printouts for continuous monitoring instrumentation, and copies of all reports required by the permit.

Applicable requirements: NDAC 33.1-15-14-02.9.d

C. Control of Organic Compound Emissions:

The permittee must comply with all applicable requirements of NDAC 33.1-15-07, which establishes requirements for the construction of organic compound facilities related to closed-vent systems, control devices, and seals and for the control of VOC vapors using a continuously burning pilot flare or other equally effective control device.

D. Internal Combustion Engine Emissions Restricted:

The permittee must comply with all applicable requirements of NDAC 33.1-15-08-01, which restricts the operation of internal combustion engines which emit, from any source, unreasonable and excessive smoke, obnoxious or noxious gas, fumes or vapor.

E. Restriction of Fugitive Emissions:

The release of fugitive emissions must comply with the applicable requirements in NDAC 33.1-15-17, which restricts particulate matter and gaseous fugitive emissions that would violate other regulations.

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F. Permit Invalidation:

This permit must be effective from the date of its issuance unless suspended, revoked or surrendered. The violation of any condition of this permit may result in revocation or suspension of the permit or other appropriate enforcement action. If any provision or application of a provision of this permit is held invalid in any circumstance, the remainder of this permit must remain valid.

Applicable requirement: NDAC 33.1-15-14-02.9

G. Nuisance or Danger:

This permit must in no way authorize the maintenance of a nuisance or a danger to public health or safety.

Applicable requirements: NDAC 33.1-15-02-03, NDAC 33.1-15-14-02.9.c

H. Right of Entry:

Any duly authorized officer, employee, or agent of the Department may enter and inspect any property, premise, or place at which the source is located at any time for the purpose of ascertaining compliance with NDAC 33.1-15. The Department may inspect monitoring equipment, conduct tests, and take samples of air contaminants, fuel, processing material, and other materials, which affect or may affect the emission of air contaminants from any source. The Department must have the right to access and copy any records required by the Department.

Applicable requirement: NDAC 33.1-15-01-06, NDCC 23.1-06-11

5. State Enforceable Conditions (Not Federally Enforceable):

A. Emissions of Odorous Substances Restricted:

The permittee must not discharge into the ambient air any objectionable odorous air contaminant which measures seven odor concentration units or greater.

Applicable requirement: NDAC 33.1-15-16

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