# FACILITY REGULATORY APPLICABILITY

## Continental Resources, Inc.
## Buddy Domindgo Power Generation Facility

**Prepared By:**

**TRINITY CONSULTANTS**
1999 Broadway
Suite 820
Denver, CO 80202
720.638.7647

May 2025

Project No. 250601.0107

# 1. PROJECT DESCRIPTION

On April 4th, 2025, Continental Resources, Inc. (CLR) submitted a Minor Source Air Quality Construction application to authorize the the addition of six new engines (the Buddy Domingo Power Generation Facility) to the existing Buddy Domindgo Production Facility. Based on preliminary discussions with NDDEQ Staff, CLR is hereby submitting additional details in support of our application.

The Buddy Domindgo Power Generation Facility is located approximately 15 miles southwest of Williston, ND in Williams County, Section 27, T156N, R99W. The Buddy Domindgo Power Generation Facility will be constructed on the same pad as the Buddy 1 Domindgo 1 Production Facility and will operate as an independent facility under SIC 4911 for power generation. Purchased sales line gas will operate six (6) Waukesha VHP-P9394GSI S5 natural gas fired 2,386 horsepower (hp) generators to provide power generation back into the grid.

In the April 4, 2025 submittal, CORprovided the potential-to-emit (PTE) calculations (emissions from both facilities were aggregated) and necessary information for a Minor Source Air Quality Construction application submittal through CERIS. The following sections outline the complete regulatory applicability for the Power Generation Facility and the Production Facility separately, as requested by the North Dakota Department of Environmental Quality (NDDEQ). For the purposes of the associated application and regulatory applicability analysis, the potential to emit calculation from both the Buddy 1 Domindgo 1 Production Facility and Buddy Domindgo Power Generation Facility are combined to demonstrate site wide emissions will remain below major source thresholds.

CLR is also requesting federally enforceable limits that ensure PSD permitting thresholds are not exceeded. Specifically, CLR is requesting federally enforceable limits be placed on each engine as represented in the table below. Please see the initial application package for more details.

**Table 1-1. Federally Enforceable Limits Per Engine**

| Pollutant | Emission Factors | | Emissions | |
|---|---|---|---|---|
| | | | (lb/hr) | (T/yr) |
| $NO_x$ | 0.300 | g/bHp-hr | 1.58 | 6.91 |
| CO | 0.500 | g/bHp-hr | 2.63 | 11.52 |
| VOC | 0.100 | g/bHp-hr | 0.526 | 2.30 |
| Formaldehyde | 1.00E-02 | g/bHp-hr | 0.053 | 0.23 |

The Buddy 1 Domindgo 1 Production Facility consists of two (2) wells. The emission sources for each facility are shown in the table below.

**Table 1-2. Emission Units and Emission Points**

| Facility | Emission Unit (EU) ID | Emission Unit Description | Emission Point (EP) ID | Control Equipment |
|---|---|---|---|---|
| Buddy 1 Domindgo 1 Production Facility | OT1-OT6 | Six (6) 400 bbl crude oil tanks | FL-1L | Submerged Fill Pipes; Combustor |
| | WT1-WT3 | Three (3) 400 bbl produced water tanks | | |
| | FL-1H – FL-2H | High pressure flares | FL-1H – FL-2H | N/A |
| | FL-1L | Low pressure combustor | FL-1L | N/A |
| | HT1-HT2 | Two (2) heaters with a total heat input of 1.12 MMBtu/hr | FL-1H - FL-2H | None |
| | FUG | Facility fugitives | FUG | None |
| | LOAD1 | Oil loadout | LOAD1 | Submerged Fill Pipes |
| | LOAD2 | Produced water loadout | LOAD2 | |
| | HAUL | Haul roads for oil and produced water loadout | HAUL | None |
| | MSS | General maintenance and startups/shutdowns | MSS | None |
| | WELL BD | Well Workovers/Blowdowns | FL-1L | Blowdowns to Atmosphere; Combustor |
| | PC1-PC6 | Six (6) Pneumatic Controllers | PC1-PC6 | None |
| Buddy Domindgo Power Generation Facility | ENG1 – ENG6 | Six (6) 2,386 HP SI engines | ENG1-ENG6 | AFR & Catalyst |

# 2. BUDDY DOMINDGO POWER GENERATION FACILITY REGULATORY APPLICABILITY

The Buddy Domindgo Power Generation Facility will be subject or potentially subject to certain federal and state air quality regulations. This section of the permit application summarizes the key air quality regulations that could apply to operations at each facility.

## 2.1 Federal Regulations

### 2.1.1 40 CFR Part 52: Prevention of Significant Deterioration (PSD)

In this application CLR is requesting limits for each NSR-regulated pollutant to ensure 12-month rolling emissions remain below major source thresholds.

### 2.1.2 40 CFR Part 60: New Source Performance Standards (NSPS)

#### *2.1.2.1 Subpart A: General Provisions*

The General Provisions apply to any facility where another subpart applies, except where specifically excluded by the other applicable subpart. The facility is subject to at least one subpart. Therefore, Subpart A applies.

#### *2.1.2.2 Subpart Da: Standards of Performance for Electric Utility Steam Generating Units*

The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after September 18, 1978 and that is capable of combusting more than 73 MW (250 MMBtu/hr) heat input of fossil fuel (either alone or in combination with any other fuel). There are no steam generating units at the facility; therefore, the requirements of this subpart do not apply.

#### *2.1.2.3 Subpart Dc: Small Industrial-Commercial-Institutional Steam Generating Units*

The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. There are no steam generating units at the facility; therefore, the requirements of this subpart do not apply.

#### *2.1.2.4 Subpart GG: Standards of Performance for Stationary Gas Turbines*

The affected facility to which this subpart applies is each stationary gas turbine for which construction, modification, or reconstruction is commenced after October 3, 1977 with a maximum design heat input capacity equal to or greater than 10 MMBtu/hr. There are no turbines at the facility; therefore, the requirements of this subpart do not apply.

#### *2.1.2.5 Subpart JJJJ: Spark Ignition Reciprocating Internal Combustion Engines*

This subpart establishes standards for spark ignition engines for which construction commenced after June 12, 2006 and were manufactured after July 1, 2007 (for LB Engines)/ manufactured after July 1, 2008 (for RB Engines). ENG1-ENG6 are rich burn engines manufactured after July 1, 2008. Thus, the engines are subject to the requirements of this subpart.

#### *2.1.2.6 Subpart KKKK: Standards of Performance for Stationary Combustion Turbines*

The affected facility to which this subpart applies is each stationary combustion turbine for which construction, modification, or reconstruction is commenced after February 18, 2005 with a maximum design heat input capacity equal to or greater than 10 MMBtu/hr. There are no turbines at the facility; therefore, the requirements of this subpart do not apply.

### 2.1.3 40 CFR Part 61: National Emission Standards for Hazardous Air Pollutants (NESHAP)

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides or vinyl chloride except for trace amounts of benzene.

### 2.1.4 40 CFR Part 63: National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

#### *2.1.4.1 Subpart HH: Oil and Natural Gas Production Facilities.*

This subpart applies to affected emission points that are located at facilities which are sources of HAP that either process, upgrade, or store hydrocarbons prior to custody transfer or process, upgrade or store natural gas prior to the point which the natural gas enters the natural gas transmission and storage source category. Although the Power Generating Facility is adjacent to a Production Facility, they are separate sources and this subpart does not apply.

#### *2.1.4.2 Subpart ZZZZ: SI RICE.*

This subpart applies to new stationary spark-ignited RICE located at an area source of HAPs (i.e. engines were constructed after June 12, 2006). The engines (ENG1-ENG6) at this facility qualify as new stationary spark-ignited RICE and will comply with MACT Subpart ZZZZ by complying with NSPS Subpart JJJJ, per 40 CFR 63.6590(c)(1).

## 2.2 North Dakota State Air Regulations

### 2.2.1 Chapter 33.1-15-02: Ambient Air Quality Standards

NDDEQ policy requires facilities to demonstrate compliance with the Ambient Air Quality Standards (AAQS) in NDAC Chapter 33.1-15-02-04.1 Table 1 and Table 2. NDAC Chapter 33.1-15-02-04.3 authorizes the Department to establish on a case-by-case basis, specific limits of concentrations for other air containments (e.g., HAPs), however there are currently no other air contaminant ambient air quality standards.[1]

According to a North Dakota Department of Health (NDDOH) Memorandum, Criteria Pollutant Modeling Requirements for a Permit to Construct, dated October 6, 2014, modeling is not required for projects that are not subject to PSD unless the project's PTE for the pollutants shown in the table below exceed the applicable threshold.

[1] The Policy for the Control of Hazardous Air Pollutant (HAP) Emissions in North Dakota (Air Toxics Policy) was formally rescinded by NDDEQ on December 18, 2023 due to EPA's promulgation of formal National Emission Standards for Hazardous Air Pollutants (NESHAP) regulations under 40 CFR Part 61.

**Table 2-1. Modeling Thresholds**

| Pollutant | All emissions vent from stacks with height ≥1.5 times nearby building height | All emissions vent from stacks with height <1.5 times nearby building height |
|---|---|---|
| Nitrogen Oxides | 100 tons/yr | 40 tons/yr |
| Sulfur Dioxide | 100 tons/yr | 40 tons/yr |
| $PM_{10}$ | 40 tons/yr | 15 tons/yr |
| $PM_{2.5}$ | 25 tons/yr | 10 tons/yr |

As shown below, the facility's PTE combined for both facilities are below the thresholds for pollutants potentially subject to dispersion modeling. Dispersion modeling to demonstrate compliance with the AAQS is not required.

**Table 2-2. Project Emissions**

| Net Project Potential Emissions | $NO_X$ | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|
| Aggregated Facility PTE (tpy) | 42.39 | 9.90 | 12.89 | 12.89 |
| Threshold for stacks with height ≥1.5 times nearby building height | 100 | 100 | 40 | 25 |
| Exceeds modeling Thresholds? | NO | NO | NO | NO |

### 2.2.2 Chapter 33.1-15-03: Restriction of Emission of Visible Air Contaminants

The facility must comply with an opacity limit of 20%, except for one six-minute period per hour when 40% opacity is permissible (NDAC Chapter 33.1-15-03-02).

### 2.2.3 Chapter 33.1-15-06: Emissions of Sulfur Compounds Restricted

CLR has conservatively completed the PTE using a hydrogen sulfide ($H_2S$) content of 4 ppm. Fuel combustion is not expected to cause significant emissions of sulfur dioxide.

### 2.2.4 Chapter 33.1-15-12: Standards of Performance for New Stationary Sources

The facility is subject to at least one New Source Performance Standard (NSPS). These requirements are discussed in the federal rule applicability of this application.

### 2.2.5 Chapter 33.1-15-13: National Emission Standards for Hazardous Air Pollutants

The facility does not have any processes or units subject to these rules.

### 2.2.6 Chapter 33.1-15-14: Designated Air Contaminant Sources, Permit to Construct, Minor Source Permit to Operate, Title V Permit to Operate

Compliance is demonstrated based on the submittal of the application and this facility regulatory applicability.

The facility's PTE calculated for this application is below Title V major source thresholds pursuant to the definition of "major source" at NDAC Chapter 33.1-15-14-06.1(q)(2).

### 2.2.7 Chapter 33.1-15-15: Prevention of Significant Deterioration of Air Quality

With this application CLR is requesting limits for each regulated pollutant to ensure 12-month rolling emissions remain below NSR major source thresholds.

### 2.2.8 Chapter 33.1-15-16: Restriction of Odorous Air Contaminants

The facility is subject to the odor restrictions established in this chapter, including that the facility may not discharge into the ambient air any objectionable odorous air contaminant that causes odors that measure seven odor concentration units or higher at specific locations. Further, the facility may not discharge into the ambient air $H_2S$ in concentrations that would be objectionable on land owned or leased by a complainant or in areas normally accessed by the public. Compliance with these requirements is demonstrated based on proper equipment operation.

### 2.2.9 Chapter 33.1-15-18: Stack Heights

The facility's stack heights comply with all applicable requirements under this chapter.

### 2.2.10 Chapter 33.1-15-22: Emissions Standards for Hazardous Air Pollutants for Source Categories

These requirements are discussed in the federal rule applicability section.

# 3. REGULATORY APPLICABILITY AT THE BUDDY 1 DOMINDGO 1 PRODUCTION FACILITY

The Buddy 1 Domindgo 1 Production Facility will be subject or potentially subject to certain federal and state air quality regulations. This section of the permit application summarizes the key air quality regulations that could apply to operations at each facility.

## 3.1 Federal Regulations

### 3.1.1 40 CFR Part 52: Prevention of Significant Deterioration (PSD)

In this application CLR is requesting limits for each NSR-regulated pollutant to ensure 12-month rolling emissions remain below major source thresholds.

### 3.1.2 40 CFR Part 60: New Source Performance Standards (NSPS)

#### *3.1.2.1 Subpart A: General Provisions*

The General Provisions apply to any facility where another subpart applies, except where specifically excluded by the other applicable subpart. The facility is subject to at least one subpart. Therefore, Subpart A applies.

#### *3.1.2.2 Subpart Dc: Small Industrial-Commercial-Institutional Steam Generating Units*

The affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. There are no steam generating units at the facility; therefore, the requirements of this subpart do not apply.

#### *3.1.2.3 Subpart Kb: VOL Storage Vessels*

This subpart regulates hydrocarbon storage tanks larger than 75 $m^3$ (471.7 bbl) capacity and built after July 23, 1984. Additionally, this rule only applies to tanks prior to custody transfer larger than 1,589.874 $m^3$ (10,000 bbl). The storage tank capacities at this facility are smaller than 1,589.874 $m^3$ and the tanks store petroleum prior to custody transfer. Therefore, the tanks at this facility are not subject to this regulation.

#### *3.1.2.4 Subpart JJJJ: Spark Ignition Reciprocating Internal Combustion Engines*

This subpart establishes standards for spark ignition engines for which construction commenced after June 12, 2006 and were manufactured after July 1, 2007 (for LB Engines)/ manufactured after July 1, 2008 (for RB Engines). There are no engines at the Production Facility, so this subpart does not apply to any of the sources at the Production Facility.

#### *3.1.2.5 Subpart OOOO: Crude Oil and Natural Gas Facilities*

This subpart establishes standards for multiple process units in the crude oil and natural gas production, transmission, and distribution sectors constructed after August 23, 2011 and on or before September 18, 2015. It is estimated that the initial facility construction was completed within the applicability date window and would therefore be subject to the requirements of this subpart.

#### *3.1.2.6 Subpart OOOOa: Crude Oil and Natural Gas Facilities*

This subpart applies to hydraulically fractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, diaphragm pneumatic pumps, storage vessels, equipment leaks, and natural gas sweetening units that commence construction, modification, or reconstruction after September 18, 2015 and before December 6, 2022. The facility is a well site that was constructed/modified within the applicability window. CLR will comply with all applicable requirements for the affected facilities within the required timelines.

#### *3.1.2.7 Subpart OOOOb: Crude Oil and Natural Gas Facilities*

This subpart applies to hydraulically fractured wells, centrifugal compressors, reciprocating compressors, pneumatic controllers, diaphragm pneumatic pumps, storage vessels, equipment leaks, and natural gas sweetening units that commence construction, modification, or reconstruction after December 6, 2022. The facility was not constructed or modified within the applicability window and is therefore not subject to this subpart.

### 3.1.3 40 CFR Part 61: National Emission Standards for Hazardous Air Pollutants (NESHAP)

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides or vinyl chloride except for trace amounts of benzene.

#### *3.1.3.1 Subpart V: Fugitive Equipment Leaks*

This subpart only affects process streams which contain more than 10% volatile HAP (VHAP) by weight. All process streams at this facility are below this threshold.

### 3.1.4 40 CFR Part 63: National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories

#### *3.1.4.1 Subpart HH: Oil and Natural Gas Production Facilities.*

This subpart applies to affected emission points that are located at facilities which are sources of HAP that either process, upgrade, or store hydrocarbons prior to custody transfer or process, upgrade or store natural gas prior to the point which the natural gas enters the natural gas transmission and storage source category. As a production facility, tanks storing hydrocarbons and TEG dehydrators are potentially affected emission points under this subpart. This facility does not have dehydrators.

The definition of major source under this subpart supersedes the definition of a major source for HAP under Subpart A. The definition in 63.761 states that for "…*facilities that are production field facilities, only HAP emissions from…storage vessels shall be aggregated for major source determination."* Therefore, for purposes of Subpart HH, this facility is an area source of HAP. Storage tanks are not affected emission sources at an area source of HAP under Subpart HH, therefore there are no requirements.

#### *3.1.4.2 Subpart ZZZZ: SI RICE.*

This subpart applies to new stationary spark-ignited RICE located at an area source of HAPs (i.e. engines were constructed after June 12, 2006). There are no engines at the Production Facility, so this subpart does not apply to any of the sources at the Production Facility.

#### *3.1.4.3 Subpart JJJJJ: Industrial, Commercial, and Institutional Boilers Area Sources.*

Owners and operators of industrial, commercial, or institutional boilers located at an area source of HAP are subject to this subpart. A boiler is defined as an enclosed device using controlled flame combustion in which water is heated to recover thermal energy in the form of steam or hot water. None of the combustion units at the facility are considered a boiler and are therefore not subject to this subpart.

## 3.2 North Dakota State Air Regulations

### 3.2.1 Chapter 33.1-15-02: Ambient Air Quality Standards

See Section 2.2.1. for the combined AAQS analysis for both facilities.

### 3.2.2 Chapter 33.1-15-03: Restriction of Emission of Visible Air Contaminants

The facility must comply with an opacity limit of 20%, except for one six-minute period per hour when 40% opacity is permissible (NDAC Chapter 33.1-15-03-02). Facility fugitive emissions that are visibly transported offsite may not exceed an opacity limit of 40% for more than one six-minute period per hour (NDAC Chapter 33.1-15-03-03).

Facility flares must comply with an opacity limit of 20%, except for one six-minute period per hour when 60% opacity is permissible (NDAC Chapter 33.1-15-03-03.1). Compliance with visible emission standards in Chapter 33.1-15-03 shall be determined by conducting observations in accordance with Reference Method 22 of Appendix A to Chapter 33.1-15-12. The facility demonstrates compliance with the above opacity requirements via proper equipment operation and monitoring of the flare, which includes daily checks of thermocouple temperature; daily verification that the flare is lit; and daily audible check of the flare ignitors.

### 3.2.3 Chapter 33.1-15-04: Open Burning Restrictions

No open burning is conducted at the facility. To the extent that any open burning may take place at the facility in the future, it will be conducted in accordance with NDAC Chapter 33.1-15-04.

### 3.2.4 Chapter 33.1-15-05: Emissions of Particulate Matter Restricted

Emissions of particulate matter at the facility result from the burning of fuel in the heater treaters. As the fuel burned is exclusively gaseous, and the combined heat input of the facility is <10 MMBtu/hr, the facility is exempt from the allowable emission rate set forth in subdivision in Table 4 of this regulation.

### 3.2.5 Chapter 33.1-15-06: Emissions of Sulfur Compounds Restricted

CLR has conservatively completed the PTE using a hydrogen sulfide ($H_2S$) content of 200 ppm. Fuel combustion is not expected to cause significant emissions of sulfur dioxide.

### 3.2.6 Chapter 33.1-15-07: Control of Organic Compounds Emissions

The facility's crude oil and produced water tanks are subject to NDAC Chapter 33.1-15-07-01.3 and are equipped with submerged fill pipes. The Facility is subject to NDAC Chapter 33.1-15-07-01.4 as it does have tank truck loading activities that could handle more than 20,000 gallons per day and complies with the requirements by performing submerged loading.

CLR will comply with all applicable requirements for any rotating pumps, as required by NDAC Chapter 33.1-15-07-01.5.

The facility flare is subject to NDAC Chapter 33.1-15-07-02 and is equipped and operated with a continuous burning pilot.

### 3.2.7 Chapter 33.1-15-12: Standards of Performance for New Stationary Sources

The facility is subject to at least one New Source Performance Standard (NSPS). These requirements are discussed in the federal rule applicability of this application.

### 3.2.8 Chapter 33.1-15-13: National Emission Standards for Hazardous Air Pollutants

The facility does not have any processes or units subject to these rules.

### 3.2.9 Chapter 33.1-15-14: Designated Air Contaminant Sources, Permit to Construct, Minor Source Permit to Operate, Title V Permit to Operate

Compliance is demonstrated based on the submittal of the application and this facility regulatory applicability.

The facility's PTE calculated for this application is below Title V major source thresholds pursuant to the definition of "major source" at NDAC Chapter 33.1-15-14-06.1(q)(2).

### 3.2.10 Chapter 33.1-15-15: Prevention of Significant Deterioration of Air Quality

With this application CLR is requesting limits for each regulated pollutant to ensure 12-month rolling emissions remain below NSR major source thresholds.

### 3.2.11 Chapter 33.1-15-16: Restriction of Odorous Air Contaminants

The facility is subject to the odor restrictions established in this chapter, including that the facility may not discharge into the ambient air any objectionable odorous air contaminant that causes odors that measure seven odor concentration units or higher at specific locations. Further, the facility may not discharge into the ambient air $H_2S$ in concentrations that would be objectionable on land owned or leased by a complainant or in areas normally accessed by the public. Compliance with these requirements is demonstrated based on proper equipment operation.

### 3.2.12 Chapter 33.1-15-17: Restriction of Fugitive Emissions

NDAC Chapter 33.1-15-17 requires reasonable precautions be taken to prevent fugitive emissions, including abatement of fugitive particulate emissions. Fugitive emissions associated with the facility comply with all applicable requirements based on good operating procedures.

### 3.2.13 Chapter 33.1-15-18: Stack Heights

The facility's stack heights comply with all applicable requirements under this chapter.

### 3.2.14 Chapter 33.1-15-20: Control of Emissions from Well Production Facilities

CLR has conservatively completed the PTE using an $H_2S$ content of 200 ppm. Significant sulfur and sulfur compound emissions are not anticipated. Well registrations required under NDAC Chapter 33.1-15-20-02.1 were submitted for each wellhead.

### 3.2.15 Chapter 33.1-15-22: Emissions Standards for Hazardous Air Pollutants for Source Categories

These requirements are discussed in the federal rule applicability section.