

# **Statement of Basis**

**Tier I Operating Permit No. T1-2016.0021**

**Project ID 62115**

**TransCanada GTN System, Samuels Station 4**

**Samuels, Idaho**

**Facility ID 017-00037**

**Final**

**October 4, 2018**

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The purpose of this Statement of Basis is to set forth the legal and factual basis for the Tier I operating permit terms and conditions, including references to the applicable statutory or regulatory provisions for the terms and conditions, as required by IDAPA 58.01.01.362

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## 1. ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
gr	grain (1 lb = 7,000 grains)
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HAP	hazardous air pollutants
hp	horsepower
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pounds per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
MMBtu	million British thermal units
MRRR	Monitoring, Recordkeeping and Reporting Requirements
NAICS	North American Industry Classification System
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>2</sub>	nitrogen dioxide
NO <sub>x</sub>	nitrogen oxides
NSPS	New Source Performance Standards
PC	permit condition
PM	particulate matter
PM <sub>10</sub>	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
ppmvd	parts per million by volume, dry
PSD	Prevention of Significant Deterioration
PTC	permit to construct
PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO <sub>2</sub>	sulfur dioxide

SO <sub>x</sub>	sulfur oxides
TAP	toxic air pollutant
Tier I	Tier I operating permit
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

## 2. INTRODUCTION AND APPLICABILITY

TransCanada GTN System, Samuels Station 4 is a facility consisting of three turbines used to maintain flow of natural gas through the GTN pipeline system, and is located at 237 Samuels Road, Samuels, Idaho 83864. The facility is classified as a major facility, as defined by IDAPA 58.01.01.008.10.c, because it emits or has the potential to emit oxides of nitrogen (NO<sub>x</sub>) and carbon monoxide (CO) above the major source threshold of 100 tons-per-year. At the time of this permitting action, the facility is not a major source of HAP emissions. As a major facility, TransCanada GTN System Compressor Station No. 4 is required to apply for a Tier I operating permit pursuant to IDAPA 58.01.01.301. The application for a Tier I operating permit must contain a certification from TransCanada GTN System Compressor Station No. 4 as to its compliance status with all applicable requirements (IDAPA 58.01.01.314.09).

IDAPA 58.01.01.362 requires that as part of its review of the Tier I application, DEQ shall prepare a technical memorandum (i.e. statement of basis) that sets forth the legal and factual basis for the draft Tier I operating permit terms and conditions including reference to the applicable statutory provisions or the draft denial. This document provides the basis for the draft Tier I operating permit for TransCanada GTN System Compressor Station No. 4.

TransCanada GTN System Compressor Station No. 4 Tier I operating permit is organized into sections. They are as follows:

### **Section 1 – Acronyms, Units, and Chemical Nomenclature**

The acronyms, units, and chemical nomenclature used in the permit are defined in this section.

### **Section 2 - Tier I Operating Permit Scope**

The scope describes this permitting action.

### **Section 3 - Facility-Wide Conditions**

The Facility-wide Conditions section contains the applicable requirements (permit conditions) that apply facility-wide. Where required, monitoring, recordkeeping and reporting requirements (MRRR) sufficient to assure compliance with each permit condition follows the permit condition.

### **Sections 4 through 6 - Three Natural Gas-Fired Turbines**

The emissions unit-specific sections of the permit contain the applicable requirements that specially apply to each regulated emissions unit. Some requirements that apply to an emissions unit (e.g. opacity limits) may be contained in the facility-wide conditions. As with the facility-wide conditions, monitoring, recordkeeping and reporting requirements sufficient to assure compliance with each applicable requirement immediately follows the applicable requirement.

### **Section 7 – Emergency Generator Engine– 40 CFR 63 Subpart ZZZZ Requirements**

NESHAP requirements for spark ignition reciprocating ignition combustion engine (RICE) applicable to the emergency generator.

### **Section 8 - Insignificant Activities**

If requested by the applicant, this section also lists emissions units and activities determined to be insignificant activities based on size or production as allowed by IDAPA 58.01.01.317.01.b.

### **Section 9 - General Provisions**

The final section of the permit contains standard terms and conditions that apply to all major facilities subject to IDAPA 58.01.01.300. This section is the same for all Tier I sources. These conditions have been reviewed by EPA and contain all terms required by IDAPA 58.01.01 et al as well as requirements

from other air quality laws and regulations. Each general provision has been paraphrased so it is more easily understood by the general public; however, there is no intent to alter the effect of the requirement. Should there be a discrepancy between a paraphrased general provision in this statement of basis and the rule or permit, the rule or permit shall govern.

### 3. FACILITY INFORMATION

#### 3.1 Facility Description

TransCanada GTN System (TransCanada) operates a network of compressor stations that transmit natural gas from Canada to California along an underground pipeline. The pipeline enters the United States in northern Idaho, continues through southeastern Washington and central Oregon and enters California at its northern border. The network consists of 12 compressor stations located along the pipeline, all of which are designed for remote unattended operation from TransCanada's Gas Dispatch Center in Portland, Oregon. Each compressor station consists of one or more turbine-driven compressors that move natural gas through the pipeline. The turbines use the natural gas in the pipeline as fuel and provide energy for the compressors.

Compressor Station #4 in Samuels, Idaho uses three turbines to power the compressors. The turbines are referenced as Units 4A, 4B and 4C. Unit 4A is a Solar Titan 130S SoLoNO<sub>x</sub> turbine with a rated output capacity of 19,500 hp. Unit 4B is a Solar Mars 100S Low NO<sub>x</sub> turbine with a maximum rated output capacity of 15,000 hp. Finally, Unit 4C is a Solar Mars T14000 standard turbine with a maximum rated output capacity of 14,100 hp. All three turbines have their own stack.

#### 3.2 Facility Permitting History

##### Tier I Operating Permit History – Previous 5-year permit term March 7, 2011 to March 7, 2016

The following information is the permitting history of this Tier I facility during the previous five-year permit term which was from March 7, 2011 to March 7, 2016 and up to the current permit period. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

June 19, 2017	T1-2016.0021, Tier 1 Renewal, Permit status (A, until T1-2016.0021 is administrative ammendment is issued, then superseded).
March 7, 2011	T1-2010.0100 , Tier 1 Renewal, Permit status (S)

##### Underlying Permit History - Includes every underlying permit issued to this facility

The following information is the comprehensive permitting history of all underlying applicable permits issued to this Tier I facility. This information was derived from a review of the permit files available to DEQ. Permit status is noted as active and in effect (A) or superseded (S).

October 1, 1986	PTC # 0280-0007, Then known as Pacific Gas Transmission Company, was issued an initial PTC, Permit status (S)
December 22, 1989	PTC # 0280-0007, Permit modification, Permit status (S)
February 20, 1990	PTC # 0280-0007, Permit modification, Permit Status (S)
May 29, 1990	PTC # 0280-0007, Permit amended, Permit Status (S)
March 22, 1996	PTC # 017-00037, Permit modification to replace GE Frame 3 turbine and number changed, Permit Status (S)
November 21, 1996	PTC # 017-00037, Permit modification to increase emission rates to account for winter temperatures effects, Permit Status (S)
March 20, 1998	PTC # 017-00037, Permit modification to replace two gas-fired turbines with Unit 4B and 4C. There was an increase of 72 T/yr NO <sub>x</sub> . However, the increase

was offset and PSD was not triggered. They also banked 73 T/yr NO<sub>x</sub> ERCs. The facility name was also changed to PG&E Gas Transmission Northwest, Permit Status (S).

October 22, 1999	PTC # 017-00037, Permit modification to increase facility-wide by 65 T/yr NO <sub>x</sub> . Because of the banked credits for the 1998 action PSD was not triggered. Permit Status (A).
August 1, 2001	Tier I operating Permit # 017-00037, Initial Title V permit for facility, Permit Status (S).
April 4, 2002	PTC # 017-00037, Initial permit for Unit 4A. PSD was triggered and a review occurred, Permit Status (S).
March 24, 2003	PTC # P-030100, Modification to Unit 4A. The emissions guarantee for NO <sub>x</sub> changed from a percent of rated load to an air inlet temperature range while operating in SoLoNO <sub>x</sub> mode, Permit Status (S)
March 10, 2005	PTC # P-040117, Permit Revision to Unit 4A. Incorporate 40 CFR 60, Subpart GG and to update the responsible official. The facility name was changed to Gas Transmission Northwest Corp., Permit Status (S).
July 13, 2007	PTC # P-2007.0051, Permit modification to Unit 4A. Removal of visible emissions requirement to be present during a performance test for the SoLoNO <sub>x</sub> turbine, Permit Status (A).

#### **4. APPLICATION SCOPE AND APPLICATION CHRONOLOGY**

##### **4.1 Application Scope**

This permit is an administrative amendment of the facility's currently effective Tier I operating permit. The permittee has requested that DEQ align permit conditions 4.8 and 5.7 with other permits issued to the company. These are MRRR for permit conditions 4.3 and 5.3, respectively. DEQ is administratively amending T1-2016.0021 in accordance with IDAPA 58.01.01.381.

##### **4.2 Application Chronology**

September 18, 2018	DEQ received an application.
September 19, 2018	DEQ determined that the application was complete.
September 25, 2018	DEQ made available the draft permit and statement of basis for peer and regional office review.
October 1, 2018	DEQ made available the draft permit and statement of basis for applicant review.
October 4, 2018	DEQ issued the final permit and statement of basis.

#### **5. EMISSIONS UNITS, PROCESS DESCRIPTION(S), AND EMISSIONS INVENTORY**

Emissions units, process description(s), and emissions inventory can be seen in the June 19, 2017 statement of basis. They are not repeated in this statement of basis.

## 6. EMISSIONS LIMITS AND MRRR

This section contains the applicable requirements for this T1 facility.

This section is divided into the following subsections.

- Facility-Wide Conditions;
- Solar Mars 100S Low NO<sub>x</sub> Turbine Emissions Limits;
- Solar Mars T1400 Standard Turbine Emissions Limits;
- Solar Titan 130S SoLoNox Turbine Emissions Limits;
- Emergency Spark Ignition Engine Emissions Limits and
- Tier I Operating Permit General Provisions.

### ***MRRR***

Monitoring, recordkeeping and reporting requirements (MRRR) are the means with which compliance with an applicable requirement is demonstrated. In this section, the applicable requirement (permit condition) is provided first followed by the MRRR. Should an applicable requirement not include sufficient MRRR to satisfy IDAPA 58.01.01.322.06, 07, and 08, then the permit must establish adequate monitoring, recordkeeping and reporting sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit (i.e. gap filling). In addition to the specific MRRR provided for each applicable requirement, generally applicable facility-wide conditions and general provisions may also be provided, such as performance testing, reporting, and certification requirements.

The legal and factual basis for each permit condition is provided for in this document. If a permit condition was changed due to facility draft comments or public comments, an explanation of the changes is provided.

Only the affected permit conditions and the revised MRRR are included for each section.

### ***State Enforceability***

An applicable requirement that is not required by the federal CAA and has not been approved by EPA as a SIP-approved requirement is identified as a "State-only" requirement and is enforceable only under state law. State-only requirements are not enforceable by the EPA or citizens under the CAA. State-only requirements are identified in the permit within the citation of the legal authority for the permit condition.

### ***Federal Enforceability***

Unless identified as "State-only," all applicable requirements, including MRRR, are state and federally enforceable. It should be noted that while a violation of a MRRR is a violation of the permit, it is not necessarily a violation of the underlying applicable requirement (e.g. emissions limit).

To minimize the length of this document, the following permit conditions and MRRR have been paraphrased. Refer to the permit for the complete requirements.

### 6.1 Facility-Wide Conditions

In Permit Condition 3.27, EPA address is updated with the new address. No changes are made to the other existing permit conditions in this permit section.



## 6.2 Emissions Unit-Specific Emissions Limits and MRRR

### Emission Unit No. 4 - Unit 4B Solar Mars 100S Low NO<sub>x</sub> Turbine

“H<sub>a</sub>” was added to the equation. The prior permit required the source to presume that the source operated every hour of the year in calculating annual emissions; the updated permit condition allows using the actual hours of operation during the previous consecutive 12-month period provided the source monitors and records the actual hours of operation. This change removes the artificial inflation of emissions by forcing the facility to multiply hourly emissions by every hour (8760) of the year even if the facility didn't operate every hour of the year.

#### Permit Condition 4.3

NO<sub>x</sub> emissions from Unit 4B shall not exceed 73 tons per any consecutive 12-month period (T/yr). NO<sub>x</sub> emissions shall be calculated in accordance with Condition 4.8.

[PTC. No. 017-00037, 10/22/1999]

#### MRRR (Permit Condition 4.8)

*The permittee shall record the average NO<sub>x</sub> pound-per-hour (lb/hr) emissions rate at full-load operating conditions measured during the most recent source test unless more than one test has been conducted during the permit term in which case the average of the source test results at full-load operating conditions shall be recorded. Compliance with the annual NO<sub>x</sub> emissions rate limit shall be demonstrated each calendar month as shown below.*

$$(X_a \text{ lb/hr})(H_a \text{ hr/yr})(1 \text{ T}/2000 \text{ lb}) = X \text{ T/yr}$$

*Where: X<sub>a</sub> = average pound-per-hour NO<sub>x</sub> emissions rate at full-load operating conditions measured during the most recent test unless more than one test has been conducted during the permit term in which case the average of the source test results at full-load operating conditions shall be used.*

*H<sub>a</sub> = actual hours of operation during the previous consecutive 12-month period, or 8760 hours if actual hours of operation is not monitored and recorded.*

[IDAPA 58.01.01.322.06, 5/1/94]

### Emission Unit No. 2 - Unit 4C Solar Mars T14000 Standard Turbine

“H<sub>a</sub>” was added to the equation. The prior permit required the source to presume that the source operated every hour of the year in calculating annual emissions; the updated permit condition allows using the actual hours of operation during the previous consecutive 12-month period provided the source monitors and records the actual hours of operation. This change removes the artificial inflation of emissions by forcing the facility to multiply hourly emissions by every hour (8760) of the year even if the facility didn't operate every hour of the year.

#### Permit Condition 5.3

NO<sub>x</sub> emissions from Unit 4C shall not exceed 352 tons per any consecutive 12-month period (T/yr). NO<sub>x</sub> emissions shall be calculated in accordance with Permit Condition 5.7.

[40 CFR 60.332(a) (2&3); PTC No. 017-00037, 10/22/1999]

#### MRRR (Permit Condition 5.7)

*The permittee shall record the average NO<sub>x</sub> pound-per-hour (lb/hr) emissions rate at full-load operating conditions measured during the most recent source test unless more than one test has been conducted during the permit term in which case the average of the source test results at full-load operating conditions shall be recorded. Compliance with the annual NO<sub>x</sub> emissions rate limit shall be demonstrated each calendar month as shown below.*

$$(Xa \text{ lb/hr})(Ha \text{ hr/yr})(1 \text{ T}/2000 \text{ lb}) = X \text{ T/yr}$$

*Where: Xa = average pound-per-hour NOx emissions rate at full-load operating conditions measured during the most recent test unless more than one test has been conducted during the permit term in which case the average of the source test results at full-load operating conditions shall be used.*

*Ha = actual hours of operation during the previous consecutive 12-month period, or 8760 hours if actual hours of operation is not monitored and recorded.*

[IDAPA 58.01.01.322.06, 5/1/94]

There are no changes to Permit Conditions and MRRR for:

- **Solar Titan 130S SoLoNox Turbine Emissions Limits;**
- **Emergency Spark Ignition Engine Emissions Limits or**
- **Tier I Operating Permit General Provisions.**

## **7. REGULATORY REVIEW**

Regulatory review can be seen in the June 19, 2017 statement of basis. They are not repeated in this statement of basis.

## **8. PUBLIC COMMENT**

In accordance with IDAPA 58.01.01.381.02(c), a public comment period was not required.

## **9. EPA COPY OF REVISED PERMIT**

As required by IDAPA 58.01.01.381.02(c), DEQ shall submit a copy of the revised permit, or an addendum, to the EPA and send the original to the permittee.