COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Northern Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Transcontinental Gas Pipe Line Company, LLC
Manassas, Prince William County, Virginia
Permit No. NRO-71958

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Transcontinental Gas Pipe Line Company, LLC has applied for a Title V Operating Permit for its Manassas, Prince William County, facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact: _____ Date: May 24, 2017
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Facility Information

Permittee
Transcontinental Gas Pipe Line Company, LLC
2800 Post Oak Boulevard, Suite 900
Houston, TX 77056-6147

Facility
TRANSCO Compressor Station 185
10201 Balls Ford Road
Manassas, Prince William County, Virginia 20109

County-Plant Identification Number: 51-153-00086

Facility Description

NAICS Code: 486210 – Natural Gas Transmission

Transco is an interstate natural gas transmission company. Transco's 1,900-mile pipeline system transports natural gas from areas in the Gulf Coast region to customers in the northeast. Transco's compressor stations are used to compress and move the gas along the system. Gas compression at this facility (Compressor Station 185) is made possible through the operation of ten Ingersoll-Rand natural gas-fired (spark ignition) stationary reciprocating internal combustion engines (4-stroke, lean burn, 4SLB) and their associated compressors. In addition to the main compressor engines, the facility has auxiliary equipment, including three (3) natural gas fired emergency engine generator sets, a cold parts washer, a natural gas fired industrial boiler and natural gas fired space heaters.

The facility (a.k.a. Station 185) is a Title V major source of NO_x, VOC, and CO. The source is located in an ozone nonattainment area as well as the ozone transport region (OTR). Station 185 is a major source of hazardous air pollutants (HAPs) based on its potential to emit an individual HAP (formaldehyde) and aggregated HAP emissions. Station 185 has PTE for Greenhouse Gas emissions of 92,775 tons per year (CO_2e), below the major source threshold of 100,000 tons per year.

The facility is currently permitted under a minor NSR permit effective April 10, 2001 (Attachment A), as well as a Title V Federal Operating Permit issued June 1, 2011. Although the Title V Permit expired on May 31, 2016, Transco submitted a timely and complete application for permit renewal and is operating under application shield per 9 VAC 5-80-80 as incorporated in Condition VI.B of the 2011 Title V Permit. A Title V Permit Renewal Application Amendment was submitted in January 2017, primarily to include a new natural gas-fired emergency generator (referenced as ‘IA3’ in this document and proposed Title V Permit Renewal).

The facility was also subject to Reasonably Available Control Technology (RACT) requirements

as part of Virginia's State Implementation Plan (SIP) to address the 1979 National Ambient Air Quality Standards (NAAQS) for ground-level ozone. The RACT requirements (NOx only) for Transco's Compressor Station 185 were included in a Consent Agreement (effective September 25, 1996) and approved by EPA on January 2, 2001 [66 FR 8] as a revision to Virginia's SIP (40 CFR §52.2420(d)(3)).

Specifically, the RACT Consent Agreement required Transco to control NOx emissions from the ten (10) mainline compressor engines by Low Emission Combustion (LEC) technology (essentially engine rebuild) and engine parametric adjustments (computer controlled ignition/combustion control). The facility was also required to conduct stack testing for NOx after the LEC and emission control upgrades. All the required RACT requirements were met and the results showed an approximate 86 percent reduction in potential NOx emissions.

An unanticipated consequence of the implementation of the NOx RACT was an increase in potential emissions of carbon monoxide and volatile organic compounds which required pre-construction permitting review (PSD for CO; non-attainment NSR for VOCs) prior to the modifications made. An enforcement action ensued, including the issuance of a Consent Order, which required a corrective action plan/injunctive relief (with compliance schedule), civil penalty and implementation of a Supplemental Environmental Project (implementation of emission controls at Transco's Compressor Station 180 in Orange County, Virginia).

The compliance schedule referenced above included obtaining a mNSR Permit for the installation of High Pressure Fuel Injectors (HPFI), considered an upgrade to the engine parametric adjustments required by the RACT Consent Agreement. Additional stack testing was required including a provision to install catalytic oxidizers for the control of CO and VOC emissions on each of the 10 mainline compressor engines. These requirements were memorialized in the aforementioned mNSR Permit (April 10, 2001), which effectively superseded and replaced the 1996 RACT Requirements.

Compliance Status

A full compliance evaluation (FCE) of this facility, including a site visit, was most recently conducted on November 28, 2016. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on the November 28, 2016, the facility was issued a Warning Letter on December 20, 2016, alleging noncompliance with failure to conduct periodic stack testing as required by the facility's Title V Permit issued June 1, 2011 (Condition III.B.1 a-b). Transco asserts that it was unable to conduct the testing in CY2015 & CY2016, since the mainline compressor engines have operated on a very limited basis during this timeframe. The draft Title V Permit Renewal contains periodic testing of the mainline compressor engines that offer a bit more flexibility in terms of scheduling of the testing while still providing a reasonable assurance of compliance with the prescribed emission limits.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION:

Emission Unit	Stack ID	Emission Unit Description (Date of Installation)	Size/Rated Capacity[a]	Combustion Technology	Pollution Control Device	Pollutant Controlled	Applicable Permit Date
M/L 1	01	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1957)	2000 bhp 18 MMBtu/hr (heat input)	High Pressure Fuel Injection (HPFi) for NOx & VOC Reduction	Catalytic Oxidation	Nitrogen Oxides (NOx) and Volatile Organic Compounds (VOC) controlled by HPFi, VOCs & Carbon Monoxide (CO) Controlled by Catalytic Oxidation	April 10, 2001 NSR Permit
M/L 2	02	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1957)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
M/L 3	03	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1957)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
M/L 4	04	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1957)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit

Emission Unit	Stack ID	Emission Unit Description (Date of Installation)	Size/Rated Capacity[a]	Combustion Technology	Pollution Control Device	Pollutant Controlled	Applicable Permit Date
M/L 5	05	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1957)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
M/L 6	06	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1962)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
M/L 7	07	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1962)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
M/L 8	08	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1963)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
M/L 9	09	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1963)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit

Emission Unit	Stack ID	Emission Unit Description (Date of Installation)	Size/Rated Capacity[a]	Combustion Technology	Pollution Control Device	Pollutant Controlled	Applicable Permit Date
M/L 10	10	Ingersoll-Rand 412-KVS DT Series Reciprocating Internal Combustion Engine[b] (1968)	2000 bhp 18 MMBtu/hr (heat input)	HPFi	Catalytic Oxidation	NOx, CO & VOC	April 10, 2001 NSR Permit
IA1	12	Caterpillar G-3508 emergency electric generator[c] (1997)	534 hp	-	-	-	April 10, 2001 NSR Permit
IA2	13	Caterpillar G-3508 emergency electric generator[c] (1997)	534 hp	-	-	-	April 10, 2001 NSR Permit
IA3	15	General Electric Waukesha Gas Engine[c], VGF, P48GL (2016)	1,065 bhp 800 KW	-	-	-	-
IA5	14	Burnham 3L-125-G-GP Industrial Boiler, natural gas fired (2001)	5.23 MMBtu/hr (Heat Input)	-	-	-	-

Emission Unit	Stack ID	Emission Unit Description (Date of Installation)	Size/Rated Capacity[a]	Combustion Technology	Pollution Control Device	Pollutant Controlled	Applicable Permit Date
IA20	-	Cold Parts Washer (Remote Reservoir)	(30 gallons – reservoir capacity; 15 gallons of solvent used at a time)	n/a	n/a	n/a	n/a

[a]The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement but may serve to determine the applicability of state or federal requirements.

[b]The 10 Ingersoll Rand Mainline Compressor Engines (M/L 1 through M/L 10) are spark ignition 4-stroke lean-burn (4SLB) reciprocating internal combustion engines, each with a site rating of more than 500 brake HP.

[c]IA1 and IA2 are each spark ignition 4 stroke rich burn (4SRB) reciprocating internal combustion engines (RICE), each with a site rating of more than 500 brake HP, IA3 is a spark ignition 4 stroke lean burn (4SLB) RICE with a site rating of more than 500 brake HP.

EMISSIONS INVENTORY

A copy of the 2015 annual emission update is attached as Attachment B. Emissions are summarized in the following tables.

2015 Actual Criteria and GHG Emissions

Emissions Unit	2015 Criteria Pollutant and Greenhouse Gas Emissions (tons/yr)						
	VOC	CO	SO_2	PM_{10}	$PM_{2.5}$	NOx	CO_2e
M/L1	0.1	0.1	0.01	0.1	0.1	2.1	604.08
M/L2	0.2	0.1	0.01	0.1	0.1	2.7	826.03
M/L3	0.1	0.1	0.02	0.1	0.1	3.2	839.73
M/L4	0	0	0	0	0	0	1.05
M/L5	0.01	0.02	0	0.01	0.01	0.6	166.62
M/L6	0.04	0.1	0.02	0.1	0.1	3.0	845.21
M/L7	0.1	0.01	0.01	0.1	0.1	2.0	529.47
M/L8	0.1	0.01	0.02	0.1	0.1	2.8	824.14
M/L9	0.04	0.01	0.01	0.02	0.02	1.3	259.15
M/L10	0.01	0.03	0.01	0.04	0.04	3.2	417.97
IA1	0.01	0.01	0	0	0	0.2	3.68
IA2	0.01	0.01	0	0	0	0.2	3.79
IA5	0.06	1.0	0.01	0.1	0.1	1.1	1223.62
Fugitives[a]	1.4	0	0	0	0	0	35[b]
Total	2.2	1.5	0.12	0.8	0.8	22.4	5320.93

[a]Fugitive VOC emissions result from equipment leaks (e.g., valves, housing/piping connections) and blowdowns.
[b]Assumes that all the fugitive VOCs are methane (GWP of 25)

2015 Actual Facility Hazardous Air Pollutant Emissions

Pollutant	2015 Hazardous Air Pollutant Emissions (tons/yr)
Formaldehyde	0.28

FUEL BURNING EQUIPMENT REQUIREMENTS – Mainline Compressor Natural Gas Fired Reciprocating Internal Combustion Engines – 10 Units (M/L 1 through M/L 10)

Each mainline compressor engine is considered a "combustion unit" as defined in 9 VAC 5-40-250.C. Each unit has a maximum rated heat input of 18 million Btu per hour and each unit has been in operation at Transco's Compressor Station 185 prior to October 5, 1979. Consequently, all ten mainline compressor engines constitute a "Combustion Installation" under 9 VAC 5 Chapter 40, Part II, Article 4 – Emission Standards for General Process Operations (Rule 4-4).

9 VAC 5-40-280.B of Rule 4-4 provides the emission standard for sulfur dioxide for "combustion installations". Specifically, since Prince William County is part of Air Quality Control Region (AQCR 7) – as designated in 9 VAC 5-20-200, the standard for SO2 for combustion installations (liquid or gaseous fuels) is:

$$S = 1.06K$$

where:

S = allowable emission of sulfur dioxide expressed in lbs/hr
K = actual heat input at total capacity expressed in Btu x 10^6 per hour.

Compliance with this standard at any actual heat input of the combustion installation is met if the SO2 emission rate is less than or equal to 1.06 pounds per million Btu.

Since only natural gas is combusted in the mainline compressor engines, and if the natural gas meets the heat content specification (between 950 and 1100 Btu per standard cubic foot) and the sulfur content specification (≤ 20 grains of total sulfur per 100 standard cubic feet) of 40 CFR §72.2, the maximum potential SO2 emission rate of natural gas is determined as follows:

$$SO_2 \text{ emission rate } (lb/10^6 \text{ Btu}) = \frac{(20 \text{ grains S}/100 \text{ scf})(1 \text{ lb}/7000 \text{ grains})(2 \text{ lb SO2}/\text{lb S})}{(950 \text{ Btu/scf})(10^6 \text{ Btu}/10^6 \text{ Btu})}$$

$$= 0.06015 \text{ lb}/10^6 \text{ Btu}$$

Consequently, as long as the units are limited to using natural gas as defined in 40 CFR §72.2, compliance with the SO_2 emission standard of 9 VAC 5-40-280.B of Rule 4-4 is met at any capacity (including any combination of the 10 mainline compressor engines operating) of the combustion installation.

The following requirements are from Rule 4-4 (i.e., 9 VAC 5-40-280.B) and the facility's minor New Source Review Permit (Conditions 4, 5, 11 and 12) issued April 10, 2001 ('mNSR Permit'). A copy of the mNSR Permit is attached as Attachment A. The monitoring and recordkeeping

requirements in Rule 4-4 and the NSR permit have been modified and/or supplemented to meet Part 70 requirements. The Condition numbers in each of the subsections below correspond to the condition numbering in the draft Title V Operating Permit Renewal.

Limitations

Condition 1: NOx and VOC emissions controlled by high-pressure fuel injection system (HPFI), which at the time of installation was proprietary state of the art electronic fuel injection system. CO and VOC emissions are controlled with a catalytic oxidation system.

Condition 2: Limits the fuel type for each SI RICE to natural gas as defined in 40 CFR §72.2.

Condition 3: Provides the short term (pounds per hour) and annual (tons per year) emissions of NOx, CO and VOCs for each engine and annual emissions (tons per year) for same pollutants for all 10 mainline compressor engines (combined).

Condition 4: Includes the SO_2 emission limit from Rule 4-4 for the combustion installation.

Condition 5: Visible emissions from each engine exhaust is limited to 20 percent opacity, except one 6-minute period in any one hour of no more than 30 percent opacity.

Monitoring and Record Keeping

Condition 6: Each mainline compressor engine shall be equipped with a device to measure the operating hours. This requirement is needed to determine appropriate interval for testing as described later in this document.

Condition 7: Requires sampling of the natural gas supply on an annual basis to verify that the heat content and the sulfur content of the fuel meets the specifications of 40 CFR §72.2 for natural gas. This frequency is deemed adequate as the margin of compliance is at least a factor of 1750% for the purposes of the applicable SO_2 emission standard in Rule 4-4. Consistent with 40 CFR Part 72, sampling is not required if a valid contract or tariff sheet is used to qualify. Transco currently has a tariff sheet (Federal Energy Regulatory Commission) that specifies for the natural gas supply, a daily average Heating Value of not less 980 Btu per cubic foot and not more than 1100 Btu per cubic foot and total sulfur content to not exceed 20 grains per hundred cubic feet of gas volume.

Condition 8: Requires visible emission observations (VEO) on each unit at least each calendar week that the engine is operating. Normally, the units operate without any visible emissions. If visible emissions are observed, the permittee must either take corrective action such that the engine resumes operations w/o visible emissions and/or conduct a visible emissions evaluation in accordance with EPA Reference Method 9 to ensure that the engine is operating in compliance with its visible emission limit. The condition requires a log be maintained of all observations and any corrective actions taken.

Condition 10: Requires recordkeeping of operating parameters (e.g., operating hours, fuel consumption, fuel sulfur content and heat content (e.g., valid tariff sheet), emission calculations, equipment maintenance schedules and maintenance performed, and VEOs & stack testing results.

Testing

The Title V Permit Renewal (effective June 1, 2011) required testing of each mainline compressor engine to determine compliance with the NOx and CO emission limits (lb/hr) such that two units had to be tested every year, ensuring that all such engines were tested and demonstrated compliance during each effective 5-year term of the Title V Operating Permit. Due to low (or no) operating hours for the units, particularly in CY2015 and CY2016, this testing has been difficult to accomplish. The proposed draft Title V Permit (Condition 9) continues to include testing of the mainline compressor engines in a manner deemed appropriate in providing reasonable assurance of compliance with the prescribed emission limits (NOx, CO and VOCs). Specifically, these provisions include:

- EPA Reference Method 'initial' testing for each engine during the term of the Title V Permit Renewal (to be completed by date specified in the permit);
- Subsequent testing to be performed every 8760 hours of engine operation or every 5 years, whichever comes first; and
- A contingency that requires the testing to be completed as soon as practical if an engine is not being operated at the time that the required testing is to be completed.

The prescribed periodic testing is similar to the requirements of 40 CFR Part 63, Subpart ZZZZ, Table 6, for certain existing stationary reciprocating internal combustion engines which use an oxidation catalyst for control of carbon monoxide (CO). As noted later in this document (Inapplicable Requirements), although none of the mainline compressor engines are subject to 40 CFR Part 63, Subpart ZZZZ, the proposed periodic testing frequency proposed in the Title V Permit Renewal coupled with historical CO emission test results (see table below for most recent test results) is deemed adequate and appropriate for not only reasonable assurance of compliance with the emission limits, but also a periodic check on the adequacy/efficiency of the oxidation catalysts for each mainline compressor engine.

At the time of this Statement of Basis was being developed, Transco had plans on completing testing of four mainline compressor engines by the end of February 2017, which may be used to satisfy the initial testing (for the units being tested) required by Condition 9 of the draft proposed Title V Permit Renewal.

The table below provides the results of the most recent EPA Reference Method emissions test for NOx, CO and VOCs for each mainline compressor engine.

Transco Compressor Station 185 – NOx, CO & VOC Emission Test Results (Most Recent)[a]

Engine	Date of Emissions Test	Pollutant[b]	Average Emission Rate (lb/hr)	Permit Limit[c] (lb/hr)
M/L1	3/9/2011	NOx	7.25	17.6
	3/9/2011	CO	0.19	18.4
	3/9/2011	VOCs	0.34	1.7
M/L2	12/18/2014	NOx	12.28	17.6
	12/18/2014	CO	0.42	18.4
	3/9/2011	VOCs	0.44	1.7
M/L3	12/3/2012	NOx	8.01	17.6
	12/3/2012	CO	0.27	18.4
	12/3/2012	VOCs	0.12	1.7
M/L4	11/15/2011	NOx	8.10	17.6
	11/15/2011	CO	0.20	18.4
	3/9/2011	VOCs	0.29	1.7
M/L5	10/30/2013	NOx	4.10	17.6
	10/30/2013	CO	0.40	18.4
	3/8/2011	VOCs	0.11	1.7
M/L6	12/3/2012	NOx	7.51	17.6
	12/3/2012	CO	0.15	18.4
	12/3/2012	VOCs	0.14	1.7
M/L7	11/15/2011	NOx	9.90	17.6
	11/15/2011	CO	0.50	18.4
	3/8/2011	VOCs	0.34	1.7
M/L8	10/30/2013	NOx	9.00	17.6
	10/30/2013	CO	0.20	18.4
	3/8/2011	VOCs	0.31	1.7
M/L9	12/18/2014	NOx	15.36	17.6
	12/18/2014	CO	0.17	18.4
	3/8/2011	VOCs	0.31	1.7
M/L10	3/8/2011	NOx	16.14	17.6
	3/8/2011	CO	0.14	18.4
	3/8/2011	VOCs	0.05	1.7

[a] Most recent test results as of March 3, 2017
[b] NOx emission rate calculated using molecular weight of NO_2
[c] mNSR Permit dated April 10, 2001 (cover letter dated April 16, 2001)

FUEL BURNING EQUIPMENT REQUIREMENTS – Emergency Electric Generators – 3 Units (IA1, IA2 & IA3)

The three electric generators are each driven by a spark ignition reciprocating internal combustion engine (SI RICE), that use natural gas as the fuel. IA1 and IA2 (each engine rated at 534 brake horsepower) are 4 stroke rich burn (4SRB) engines and IA3 (engine rated at 1065 bhp) is a 4 stroke lean burn (4SLB) engine.

IA1 and IA2 are considered 'insignificant activities' under 9 VAC 5-80-720.C.4.d (natural gas-fueled reciprocating emergency generators of 840 horsepower or less) and IA3, a unit to be installed at the facility in late CY2017, is an 'insignificant activity' under 9 VAC 5-80-720.B (insignificant emission levels). However, IA1, IA2 and IA3 are potentially subject to 40 CFR Part 63, MACT Subpart ZZZZ (*National Emissions Standards For Hazardous Air Pollutants For Stationary Reciprocating Internal Combustion Engines*) and IA3 is subject to 40 CFR Part 60, NSPS Subpart JJJJ (*Standards Of Performance For Stationary Spark Ignition Internal Combustion Engines)*.

MACT Subpart ZZZZ, at 40 CFR §63.6590 (b)(3)((iii) specifies that 'existing emergency stationary RICE' with a site rating of more than 500 brake HP located at a major source of HAP do not have to meet the requirements of this subpart and of subpart A of this part (i.e., 40 CFR Part 63), including the notification requirements. IA1 and IA2 are considered existing stationary RICE for purposes of MACT Subpart ZZZZ. 40 CFR §63.6590 (b)(1)(i) contains similar exemption language applicable to new/reconstructed emergency stationary RICE.

IA3 is considered a new stationary RICE (subject to NSPS Subpart JJJJ) for purposes of MACT Subpart ZZZZ. IA3 is a non-certified engine for purposes of NSPS Subpart JJJJ, for which compliance with the prescribed emission limits is demonstrated by performance testing – initial and subsequent performance testing every 8760 hours or 3 years, whichever comes first. §60.4243 (b)(ii) is silent on when the initial performance test must be conducted. Elsewhere in NSPS Subpart JJJJ (e.g., §60.4243(a)(2)(iii), although not directly applicable to IA3), it's stated that the initial performance test must be conducted within 1 year of engine startup. Conservatively, since Table 3 to Subpart JJJJ (General Provisions) lists §60.8 (Performance Tests) as applicable, initial testing under §60.8 must be conducted within 60 days after achieving the maximum production rate at which the affected facility (IA3) will be operated, but not later than 180 days after initial startup of such facility (IA3).

Note: With letter dated January 13, 2017, Transco provided initial notification to DEQ (copy to EPA Region 3) as required by 40 CFR Part 60, NSPS Subpart JJJJ, §60.4245 (c). Consequently, this requirement has been satisfied and not included in the draft Title V Permit Renewal.

The conditions listed below in the draft Title V Permit Renewal stem from the mNSR Permit, MACT Subpart ZZZZ, NSPS Subpart JJJJ and 9 VAC 5-80-110 to include the applicable state and federal requirements for these otherwise 'insignificant activities'.

Limitations

Condition 11: Limits the fuel type for SI RICE to natural gas.

Condition 12: Limits the annual hours of operation for each emergency electric generator to no more than 500 hours per year.

Condition 13: Limits the operation of emergency electric generator (IA3) to emergency operations as defined in 40 CFR §60.4243(d). Otherwise, the unit would be considered a non-emergency engine, and subject to different/more stringent requirements.

Condition 14: Limits the operation of all three units to emergency operations as defined in 40 CFR §63.6675, which effectively makes the units not subject to MACT Subpart ZZZZ or 40 CFR Part 63, Subpart A, including notification requirements.

Condition 15: Contains the emission standards applicable to IA3 per NSPS Subpart JJJJ.

Condition 16: Provides that compliance with the emission standards in NSPS Subpart JJJJ (Condition 15) for the non-certified engine is demonstrated as specified in 40 CFR §60.4244 (test methods and procedures) and 40 CFR §60.4243 (b)((2)(ii). In addition, the permittee must keep a maintenance plan and maintaining appropriate maintenance records.

Condition 17: Visible emissions from each emergency electric generator engine exhaust is limited to 20 percent opacity, except one 6-minute period in any one hour of no more than 30 percent opacity.

Condition 18: Requires that the emergency electric generator be operated and maintained according to the manufacturer's written instructions.

Monitoring, Recordkeeping, Notifications & Reporting

Condition 19: Each emergency electric generator shall be equipped with a device to measure the operating hours.

Condition 20: Record keeping of engine maintenance, hours of operation, reasons for operation and documentation that IA3 SI RICE meets the emission standards of NSPS Subpart JJJJ.

Condition 21: Requires submittal of a copy of each performance test on IA3, as conducted in Condition 16 within 60 days after the test has been completed.

FUEL BURNING EQUIPMENT REQUIREMENTS – Natural Gas Fired Boiler (IA5)

The Burnham natural gas fired industrial boiler (IA5) has a stated maximum rated heat input capacity of 5.23 MMBtu/hr. This unit is considered 'insignificant activity' under 9 VAC 5-80-720.C.2.a (fuel burning equipment or combustion units with heat input levels less than 10 million Btu per hour rated input, using natural gas). However, since the boiler is located at a major source of hazardous air pollutants, the unit is subject to certain requirements of 40 CFR Part 63, MACT Subpart DDDDD (*National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*).

IA5 is considered an 'existing boiler' for purposes of this subpart. The compliance date for an existing boiler is no later than January 31, 2016, per 40 CFR §63.7495 (b).

As an existing boiler, burning exclusively natural gas ('*gas 1 subcategory*' in the MACT) as its fuel and based on the unit's heat input capacity, it is subject to the applicable work practice standards (Table 3 to Subpart DDDDD of Part 63) to perform a one-time energy assessment and periodically (in this case every 2 years) conduct tune-ups of the boiler or process heater. The boiler is also subject to the general best management practices of 40 CFR §63.7500(a)(3), which is equivalent to the requirements of 'General Condition 61' of the proposed draft Title V Permit Renewal. There are also requisite notifications, recordkeeping and reporting under 40 CFR Part 63, Subpart DDDDD as well as 40 CFR Part 63, Subpart A (*General Provisions*). These requirements are reflected in the proposed draft Title V Permit Renewal with a summary of the conditions provided below:

Condition 22: Limits the fuel for the industrial boiler to solely natural gas.

Condition 23: Requires boiler tune-up biennially (every 2 years) as specified in 40 CFR §63.7540.

Conditions 24 & 25: Maintain records of notifications, report submittals and results of the boiler tune-ups.

Conditions 26-28: Contains the reporting requirements under 40 CFR Part 63, Subpart DDDDD, including the results of the most recent biennial tune-up of the boiler. With letter dated March 1, 2016, Transco reported that this boiler (IA5) had an initial tune-up performed on January 27, 2016.

Note: According to MACT Subpart DDDDD, an energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in MACT Subpart DDDDD, Table 3, satisfies the aforementioned energy assessment requirement. With letter dated October 14, 2015, Transco certified to DEQ (copy to EPA Region 3) that Station 185 had an energy assessment performed according to 40 CFR §63.7530(e) which was completed on August 18, 2015. The report showing compliance with the requirements is maintained at the facility.

COLDS PARTS WASHER REQUIREMENTS (IA20)

The colds parts washer used at the facility is considered a "Remote Reservoir Cleaning Machine", which pumps solvent through a sink-like work area. The solvent drains back into an enclosed container through a small drain while the parts are being cleaned. The parts washer uses a premium solvent provided by *Safety*-Kleen (vendor that services the parts washer), which is 100 percent VOCs, but contains no hazardous air pollutants. The unit is subject to the requirements of 9 VAC 5 Chapter 40, Part II, Article 47 (*Article 47. Emission Standards for Solvent Metal Cleaning Operations in the Northern Virginia Volatile Organic Compound Emissions Control Area (Rule 4-47)*), since it meets the definition of a "solvent cleaning machine" and is located in the Northern Virginia VOC Emissions Control Area (as designated in 9 VAC 5-20-206).

The requirements include proper covering, labeling, operating procedures, solvent VOC limits and requisite monitoring and recordkeeping. These requirements are reflected in the proposed draft Title V Permit Renewal with a summary of the conditions provided below:

Condition 29: Includes cover requirements. Under Rule 4-47, for a remote reservoir cold cleaning machine which drains directly into the solvent storage reservoir, a perforated drain with a diameter of not more than six inches shall constitute an acceptable 'cover'.

Condition 30: Label (permanent and conspicuous) with summary of operating requirements of Condition 31.

Condition 31: Contains the operating procedures for the cold solvent cleaning machine.

Condition 32: Limits any VOC solvent used to ones with a vapor pressure of less than 1.0 millimeters of mercury (mm Hg), measured at 20 °C (68 °F) and solvent with no halogenated HAP compounds - methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3). By containing no halogenated HAP compounds, the cold parts washer is not subject to 40 CFR Part 63, MACT Subpart T (*National Emission Standards For Halogenated Solvent Cleaning*).

Condition 31: Records of solvent supplier, type of solvent, and vapor pressure of the solvent.

COMPLIANCE ASSURANCE MONITORING

None of the mainline compressor engines (which are equipped with an add-on control device – the oxidation catalyst) has potential pre-control device emissions of CO or VOCs that are equal to or greater than 100 tons per year (i.e., doesn't satisfy applicability criteria #3 of 40 CFR §64.2(a). Consequently, 40 CFR Part 64 is not applicable to any emissions unit located at Compressor Station 185.

FACILITY WIDE CONDITIONS

In addition to the emission testing required for the mainline compressor engines (M/L 1 through M/L 10), the DEQ and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard. Conditions 34 and 35 contain generic requirements that the facility be constructed to allow for emissions testing using appropriate/approved methods. Condition 36 requires compliance with the applicable NSPS (Subparts JJJJ – emergency electric generator IA3) and MACTs (Subparts ZZZZ – emergency electric generators IA1, IA2 and IA3 and DDDDD – Industrial Boiler IA5).

STREAMLINED REQUIEREMENTS

The following conditions (or portions thereof, as applicable) in the April 10, 2001 mNSR Permit have not been included in the proposed draft Title V Permit Renewal for the reasons provided below:

Conditions 3, 9, 10, 14, 15, 16: All references to and requirements for the Caterpillar G3306 natural gas fired engine driven air compressor (Ref. No. A/C 1), since the facility retired this unit in January 2013. The unit was replaced with two (2) 100 hp electric units.

Condition 4: States that carbon monoxide (CO) and volatile organic compound (VOC) emissions from the Ingersoll-Rand compressor engines (i.e., M/L 1 through M/L 10) shall be controlled by installing a high-pressure fuel injection (HPFi™) system on the Ingersoll-Rand engines and test them to demonstrate that the reductions in CO and VOC are sufficient to achieve the emission limits. In the event HPFi™ does not reduce both CO and VOC emissions sufficiently a catalytic oxidation system shall be installed on the engines.

Since the HPFI systems have been installed and the required initial testing has been completed, these requirements are not included in the proposed draft Title V Permit Renewal.

Condition 8: States that initial compliance testing is required after the Ingersoll Rand compressor engines are modified. Since this initial compliance testing has been completed, this condition has been streamlined from the proposed Title V Operating Permit Renewal.

Condition 13: States that the permittee shall furnish written notification to the Air Compliance Manager, Northern Virginia Regional Office, of the actual date on which the modification of the compressor engines commenced, the actual start-up date of the modified engines, and the anticipated date of each compliance test. Since these initial notification requirements have been satisfied, they have been streamlined from the proposed Title V Operating Permit Renewal.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation[1]	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
IA6	Jacket Water Storage Tank	9 VAC 5-80-720 B	VOC	N/A
IA7	Lube Oil Cooling Water Surge tank	9 VAC 5-80-720 B	VOC	N/A
IA8	Oil Sump	9 VAC 5-80-720 C.	N/A	390 Gallons
IA9	Condensate Storage Tank #1	9 VAC 5-80-720 B	VOC, HAP	N/A
IA10	Ethylene Glycol/Water Storage Tank	9 VAC 5-80-720 B	VOC	N/A
IA11	Ethylene Glycol Storage Tank	9 VAC 5-80-720 B	VOC	N/A
IA12	Used Oil Storage Tank	9 VAC 5-80-720 B	VOC	N/A
IA13	Boiler Condensate Storage tank	9 VAC 5-80-720 B	VOC	N/A
IA16	Condensate Storage Tank #2	9 VAC 5-80-720 B	VOC, HAP	N/A
IA17	Wastewater Storage Tank	9 VAC 5-80-720 B	VOC, HAP	N/A
IA18	Storm Water Sump #1	9 VAC 5-80-720 B	VOC	N/A
IA19	Storm Water Sump #2	9 VAC 5-80-720 B	VOC	N/A
IA21	Lube Oil Storage Tank	9 VAC 5-80-720 B	VOC	N/A
IA22	500 gallon Diesel Tank	9 VAC 5-80-720 B	VOC	N/A

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

INAPPLICABLE REQUIREMENTS

The following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Applicability
40 CFR Part 60 Subpart OOOO	Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution for which Construction, Modification or Reconstruction Commenced after August 23, 2011, and on or before September 18, 2015	Compressor Station 185 does not have any storage vessel, which has the potential for VOC emissions equal to or greater than 6 tpy. 40 CFR 60.5365(e)
40 CFR Part 63 Subpart HH	National Emissions Standards for Hazardous Air Pollutants (NESHAP) From Oil and Natural Gas Production Facilities	Compressor Station 185 is not located at a natural gas production site, does not include glycol dehydration or include other affected units per 40 CFR 63.760(d).
40 CFR Part 63 Subpart HHH	National Emissions Standards for Hazardous Air Pollutants (NESHAP) From Natural Gas Transmission and Storage Facilities	Compressor Station 185 does not include dehydration facilities and is not subject to this subpart's requirements per 40 CFR 63.1270(c).
40 CFR Part 68	Chemical Accident Prevention Provisions	Compressor Station 185 is regulated under 49 CFR 192, not a stationary source per 40 CFR 68.3.
40 CFR 64	Compliance Assurance Monitoring	Applies to facilities equipped with pollution control devises with potential pre-control device emissions greater than 100 tpy. None of the ten mainline compressors have an uncontrolled Carbon Monoxide PTE greater than 100 tpy; therefore, 40 CFR 64 is not applicable to Station 185.
CAA, Section 112(r) –	Risk Management Plans	Station 185 does not qualify as a "Stationary Source" under the definitions section in 40 CFR 68.3. This section specifically excludes transportation related activities that are regulated under 49 CFR 192, 193, or 195.

Citation	Title of Citation	Description of Applicability
40 CFR 60, Subpart JJJJ	Standards of Performance for Stationary Spark Ignition Reciprocating Internal Combustion Engines	Applies to new/reconstructed/modified spark ignition (SI) internal combustion engines (ICE), regardless of hp rating. None of the ten (10) mainline compressor engines or the two emergency generator engines (IA-1 and IA-2) are affected facilities under this NSPS based on the 'commence construction' date. The emergency electric generator (IA3) though is subject to 40 CFR Part 60, Subpart JJJJ and this permit contains the applicable requirements for this unit.
40 CFR 63, Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines.	The mainline engines (Ref. No. M/L 1-M/L 10) are each spark ignition 4 stroke lean burn stationary RICE located at a major source of HAP emissions and per Section 63.6590 (b) (3) (ii) the units do not have to meet the requirements of this subpart (MACT ZZZZ) and of subpart A (General Provisions), including notification requirements. Similarly, per Section 63.6590 (b)(3)(iii), the emergency electrical generators (Ref. No. IA1 and IA2) for which each unit is a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that contains federally enforceable conditions to operate in accordance with Section 63.6640 (f)(2) do not have to meet the requirements of this subpart (MACT ZZZZ) and of subpart A (General Provisions), including notification requirements.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

Federal Enforceability

Article 1 (9 VAC 5-80-110 N) states that all terms and conditions in the Title V permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only stat-enforceable.

Permit Expiration

This condition refers to the Board taking action on a permit application. The "Board" refers to the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia,* and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cites the sections that follow:

9VAC5-80-80. Application
9VAC5-80-140. Permit Shield
9VAC5-80-150. Action on Permit Applications

Failure/Malfunction Reporting

Section 9VAC5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9VAC5-20-180 is from the general regulations. All affected facilities are subject to section 9VAC5-20-180 including Title V facilities. A facility may make a single report that meets the requirements of 9VAC5-20-180. The report must be made within four daytime business hours of discovery of the malfunction.

Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
9 VAC 5-80-190. Changes to Permits.
9 VAC 5-80-260. Enforcement.
9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9 VAC 5-80-1790. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows:
40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:
9VAC5-60-70. Designated Emissions Standards
9VAC5-80-110. Permit Content

FUTURE APPLICABLE REQUIREMENTS

The facility (i.e., stationary source), located in Prince William County (part of the Northern Virginia NOx and VOC Emissions Control Areas) has the theoretical potential to emit oxides of nitrogen (mass emissions in terms of nitrogen dioxide, NO_2) of equal to or greater than 100 tons per year and volatile organic compounds of equal to or greater than 50 tons per year. Consequently, the facility is subject to case-by-case reasonably available control technology ("RACT") for both NOx and VOCs per 9 VAC 5 Chapter 40, Part II, Article 51 (Rule 4-51) of the Virginia Air Regulations.

Rule 4-51 was most recently amended on December 2, 2015, to include RACT requirements, per EPA's Final Rule (March 6, 2015, FR Vol 80, No. 44, pp 12264-12319): Implementation of the 2008 National Ambient Air Quality Standards for Ozone: State Implementation Plan (SIP) Requirements.

Rule 4-51 requires the following for affected facilities (same requirements for facilities subject to RACT for NOx and/or VOCs):

(i) Notify DEQ of the facility's applicability status;

(ii) Commit to making a determination as to what constitutes RACT for the affected facilities; and

(iii) Provide a schedule acceptable to DEQ for making this determination and for achieving

compliance with the emission standard as expeditiously as possible but no later than January 1, 2017.

Transco provided notification of RACT applicability status for Compressor Station 185 with letter dated January 28, 2016. Subsequently, Transco provided its RACT assessment for this facility with correspondence dated November 26, 2016 (Attachment C). DEQ is currently evaluating this RACT assessment. If any additional requirements (e.g., additional NOx and/or VOC controls) are deemed RACT by DEQ, such requirements will be included in a State Operating Permit which would then be submitted by DEQ to EPA for consideration as a source specific SIP revision. In the interim, Transco would be subject to the requirements of the State Operating Permit. Upon EPA approval of the State Operating Permit (as part of the SIP incorporating RACT), DEQ would re-open the Title V Permit in accordance with 9 VAC 5-80-110 L to incorporate these new applicable federal requirements, if such new requirements become applicable with a remaining permit term of three or more years.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

In accordance with the public participation requirements of 9 VAC 5-80-270, the proposed Title V Permit Renewal will be placed on public notice in the *Washington Times* from March 31, 2017 to May 1, 2017. Additionally, persons on DEQ's Title V Permit mailing list will be sent a copy of the notice. A copy of the public notice, the Statement of Legal and Factual Basis (SLFB) and a copy of the draft proposed Title V Permit Renewal will be placed on DEQ's website (under 'Connect with DEQ' tab).

In accordance with 9 VAC 5-80-290, a copy of the proposed Title V Permit Renewal and the SLFB will be provided to EPA Region III (Office of Permits and Air Toxics). Maryland, West Virginia and the District of Columbia will be provided notice of the draft proposed Title V Permit Renewal.

No comments from the public or the affected states were received during the aforementioned public comment period. On April 27, 2017, EPA Region III provided comments on the draft permit for which DEQ provided responses on May 1, 2017.

Attachment A
mNSR Permit, Effective April 10, 2001
(cover letter dated April 16, 2001)

Attachment B
2015 Emissions Inventory

Attachment C
Reasonably Available Control Technology Assessment
Transco Compressor Station 185
November 29, 2016