

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

Permit Issue Date: **date, 2007**

**Region:** Winston-Salem Regional Office  
**County:** Davidson  
**NC Facility ID:** 2900300  
**Inspector's Name:** Steve Moser  
**Date of Last Inspection:** 05/02/2007  
**Compliance Code:** 3/In Compliance - Inspection

<b>Facility Data</b>	<b>Permit Applicability (this application only)</b>
<p><b>Applicant (Facility's Name):</b> Transcontinental Gas Pipeline Corp</p> <p><b>Facility Address:</b>          Transcontinental Gas Pipeline Corp          650 Becky Hill Road          Lexington, NC 27295</p> <p><b>SIC:</b> 4922 / Natural Gas Transmission  <b>NAICS:</b> 48621 / Pipeline Transportation of Natural Gas</p> <p><b>Facility Classification: Before:</b> Title V    <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V    <b>After:</b> Title V</p>	<p><b>SIP:</b>  <b>NSPS:</b>  <b>NESHAP:</b>  <b>PSD:</b>  <b>PSD Avoidance:</b>  <b>NC Toxics:</b>  <b>112(r):</b>  <b>Other:</b></p>

<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<p><b>Application Number:</b> 2900300.07A  <b>Date Received:</b> 05/24/2007  <b>Application Type:</b> Renewal  <b>Application Schedule:</b> TV-Renewal  <b>Existing Permit Data</b>  <b>Existing Permit Number:</b> 09088/T04  <b>Existing Permit Issue Date:</b> 11/30/2005  <b>Existing Permit Expiration Date:</b> 02/28/2008</p>
<p>Jim Raschke          District Manager          (336) 787-5582          650 Becky Hill Road          Lexington NC, 27295</p>	<p>Randy Barnard          Vice President of          Operations/Gas Control          (713) 215-2000          PO Box 1396          Houston TX,          77251+1396</p>	<p>Mary Whitfield          Senior Environmental          Scientist          (713) 215-4562          Post Office Box 1396          Houston TX,          77251+1396</p>	

<p><b>Review Engineer:</b> Mark Cuilla</p> <p><b>Review Engineer's Signature:</b>  <b>Date:</b> <b>date, 2007</b></p>	<p><b>Comments / Recommendations:</b>  <b>Issue</b> 09088/T05  <b>Permit Issue Date:</b> <b>date, 2007</b>  <b>Permit Expiration Date:</b> <b>date, 2012</b></p>
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**I. Purpose of Application**

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (**09088T04**) was issued on **November 30, 2005**, and is currently scheduled to expire on **February 28, 2008**. The renewal application was received on **May 24, 2007**, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

In addition to requesting renewal of the title V air permit, the Permittee notes in the application the need to add the following three additional insignificant activities:

1. One wastewater tank (8820 gallon capacity; **ID No. I-0037**);
  2. One used oil tank (8820 gallon capacity; **ID No. I-0038**); and
  3. One natural gas condensate tank (8820 gallon capacity; **ID No. I-0039**).
- No other equipment modifications have been noted.

## II. Facility Description

Transcontinental Gas Pipe Line – Station 155 is a natural gas compressor station that moves close to two billion cubic feet of natural gas per day. Current permitted equipment includes seven natural gas-fired lean burn internal combustion engines, one natural gas-fired rich burn internal combustion engine, and one natural gas-fired boiler.

## III. History/Background/Application Chronology

**November 1, 2005** – Permit **09088T03** was issued as a significant modification completing the two-step permitting process placing new monitoring procedures into place.

**November 30, 2005** – Permit **09088T04** was issued as an administrative amendment to correct the required date for the second semi-annual report from March 1 to January 30 for Section 2.1 Specific Conditions where necessary.

**May 24, 2007** – Permit application **2900300.07A** was received. Application was deemed complete for processing.

**June 13, 2007** – DRAFT permit sent to Permittee, Regional Office, and Title V Coordinator for comment prior to public notice and EPA review.

**June 14, 2007** – Received WSRO comments and recommendations on air permit application.

**date, 2007** – DRAFT permit sent to 30-day public notice and 45-day EPA review.

## IV. Permit Modifications/Changes and ESM Discussion

The following table describes the modifications to the current permit as part of this renewal:

Page(s)	Section	Description of Change(s)
Attachment	Insignificant Activities	-amended permit revision number -added sources per Permittee request -added source per ESM listing
Cover	-	-amended all dates and permit revision numbers
All	Header	-amended permit revision number
3	Equipment Table	-modified equipment description to correlate with MACT description -corrected Btu rating of ES-AUX1 per Regional Office request
4	2.1 A 2.1 A (table) 2.1 A.1.a	-combined former Sections 2.1 A through 2.1 C and renumbered remaining Sections accordingly -added NOx emission limits for newly combined Section -added MACT title -added source ID Nos.

Page(s)	Section	Description of Change(s)
5	2.1 A.1.c 2.1 A.2.a 2.1 A.2.c 2.1 A.3.b 2.1 A.3.c 2.1 A.3.d 2.1 A.3.e	-added source ID Nos. -added source ID Nos. -added source ID Nos. -added NOx emission limit for newly combined Section -added NOx emission limit for newly combined Section -renumbered paragraph -renumbered paragraph -added source ID Nos.
6	2.1 B 2.1 B (table) 2.1 B.1.b 2.1 B.2.b	-renumbered Section -added MACT title -corrected cross reference -corrected cross reference
7	2.1 C 2.1 C.1.b 2.1 C.2.b	-renumbered Section -corrected cross reference -corrected cross reference
8	2.1 C.3.b 2.1 D 2.1 D (table) 2.1 D.1.b	-corrected cross reference -renumbered Section -added MACT title -corrected cross reference
9	2.1 D.2.b 2.1 D.3.b 2.2 A  2.2 A.1.a	-corrected cross reference -corrected cross reference -corrected description of sources to correlate with MACT description -removed out-dated language for clarity
10	2.2 A.1.c 2.2 A.1.d	-updated shell language -updated shell language
11	2.2 A.1.e  2.2 B	-clarified language and removed out-dated language for clarity -removed Section
11-20	General Conditions	-updated shell language (V 2.20)

The following table describes the modifications to ESM as a result of this permit renewal:

Current Description	Change resulting from permit renewal
Three four-cycle natural gas lean-fired internal combustion engines (each rated at 3700 hp output and 23.5 million Btu per hour heat input; <b>ID Nos. ES-M/L1 through ES-M/L3</b> )	Three four- <i>stroke</i> natural gas-fired lean burn internal combustion engines (each rated at 3700 <i>maximum brake horsepower</i> output and 23.5 million Btu per hour heat input <i>capacity</i> ; <b>ID Nos. ES-M/L1 through ES-M/L3</b> )
One four-cycle natural gas lean-fired internal combustion engine (rated at 4400 hp output and 27.7 million Btu per hour heat input; <b>ID No. ES-M/L4</b> )	One four- <i>stroke</i> natural gas-fired lean burn internal combustion engine (rated at 4400 <i>maximum brake horsepower</i> output and 27.7 million Btu per hour heat input <i>capacity</i> ; <b>ID No. ES-M/L4</b> )
Two two-cycle natural gas lean-fired internal combustion engines (each rated at 4000 hp output and 27.4 million Btu per hour heat input; <b>ID Nos. ES-M/L5 and ES-M/L6</b> )	Two two- <i>stroke</i> natural gas-fired lean burn internal combustion engines (each rated at 4000 <i>maximum brake horsepower</i> output and 27.4 million Btu per hour heat input <i>capacity</i> ; <b>ID Nos. ES-M/L5 and ES-M/L6</b> )

Current Description	Change resulting from permit renewal
One four-cycle natural gas lean-fired internal combustion engine (rated at 808 hp output and 23.5 million Btu per hour heat input; <b>ID No. ES-AUX1</b> )	One four- <i>stroke</i> natural gas-fired lean burn internal combustion engine (rated at 808 <i>maximum brake horsepower</i> output and 6.1 million Btu per hour heat input <i>capacity</i> ; <b>ID No. ES-AUX1</b> )
NA	Wastewater Tank (8820 gallons capacity; <b>ID No. I-0037</b> )
NA	Used Oil Tank (8820 gallons capacity; <b>ID No. I-0038</b> )
NA	Natural Gas Condensate Tank (8820 gallons capacity; <b>ID No. I-0039</b> )
NA	Piping Component & Blowdown Fugitives ( <b>ID No. I-FUG</b> )

## V. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 2D .0501, Compliance with Emission Control Standards  
15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources  
15A NCAC 2D .0521, Control of Visible Emissions  
15A NCAC 2D .1111, Maximum Achievable Control Technology  
15A NCAC 2D .1409, Stationary Internal Combustion Engines

A regulatory review for these existing requirements will not be included in this document.

## VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

**NSPS** – The facility is not currently subject to any New Source Performance Standards. This permit action does not affect this status.

**NESHAPS** – For the significant modification to this permit (**November 1, 2005 – 09088T03**), the facility was evaluated for MACT applicability and respective conditions were placed in the permit as needed. At that time the facility was evaluated for applicability of Subparts ZZZZ and DDDDD. This permit renewal will add a discussion for Subpart HHH.

1. 40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (Subpart ZZZZ). This Subpart applies to all existing and new internal combustion engines with a site-rating of more than 500 brake horsepower located at a major source of HAP emissions [40 CFR 63.6590]. The facility currently has:  
- five four-stroke natural gas-fired lean burn internal combustion engines (**ID Nos. ES-M/L1 through ES-M/L4 and ES-AUX1**); and  
- two two-stroke natural gas-fired lean burn internal combustion engines (**ID Nos. ES-M/L5 and ES-M/L6**),  
meeting this criteria. The remaining engine (**ID No. ES-A/C1**) does not meet this criteria due to the size cutoff exemption.

Per 40 CFR 63.6590(b)(3), the following types of combustion engines do not have to meet the requirements of this Subpart and of Subpart A of this part. In addition, no initial notification is necessary. A stationary combustion engine that is:

- an existing spark ignition two-stroke lean burn stationary RICE,
- an existing spark ignition four-stroke lean burn stationary RICE,
- an existing compression ignition stationary RICE,
- an existing emergency stationary RICE,
- an existing limited use stationary RICE, or
- an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

All engines either meet this exemption or are not subject because they are less than the 500 brake horsepower rating. Those that are subject to the MACT but have no requirements, as provided above, have been identified in the renewed permit.

2. 40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (Subpart DDDDD). This Subpart applies to the owner or operator of an industrial, commercial, or institutional boiler or process heater that is located at a major source of hazardous air pollutants. Requirements for compliance with this Subpart are based on boiler attributes such as size, type, and fuel type. The facility has one boiler subject to this Subpart. This existing, small, natural gas-fired boiler falls into the Population I sources with no requirements. The permit includes this notation in Section 2.1 D. No modifications are needed as a result of this renewal.

3. 40 CFR 63, National Emission Standards for Hazardous Air Pollutants for Natural Gas Transmission and Storage (Subpart HHH). This Subpart applies to facilities that process, upgrade, transport or store natural gas prior to delivery to a local distribution company (LDC) or a final end user if no LDC is present. The final standards for natural gas transmission and storage facilities require that the owner or operator of a major source of HAP to reduce HAP emissions from glycol dehydration units through the application of air emission control equipment or pollution prevention measures, or a combination of both. 40 CFR 63.1270(b) states that the affected source is each glycol dehydration unit. 40 CFR 63.1270(c) states that the owner or operator of a facility that does not contain an affected source, as specified in paragraph (b) of this Section, is not subject to the requirements of this Subpart. Transco Station 155 does not contain any glycol dehydration units and therefore, the requirements of this Subpart are not applicable. No modifications are needed as a result of this renewal.

**PSD** – The facility is not currently subject to any Prevention of Significant Deterioration standards. This permit action does not affect this status.

**112(r)** – The facility is not currently subject to the to the 112(r) “Prevention of Accidental Releases” requirements because it does not store any chemicals in amounts greater than the applicability threshold. This permit action does not affect this status.

**CAM** – 40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, and use a control device to meet an applicable standard. Because the facility does not employ any control devices, CAM does not apply.

## **VII. Facility Wide Air Toxics**

The facility is not currently subject to any air toxics standards. This permit action does not affect this status. It should be noted that the requirements for the submittal of a last MACT/air toxics demonstration at the time of compliance with the facility’s last MACT per 15A NCAC 2Q .0705 do not apply at this time because of the exemption of combustion sources per 15A NCAC 2Q .0702.

### VIII. Facility Emissions Review

There is no change in emissions for this renewal.

The following table represents the latest years emission inventory from the facility:

Pollutant(s)	2005 Actual Emissions (tpy)
CO	80.32
NO <sub>x</sub>	113.35
PM <sub>10</sub>	4.00
SO <sub>2</sub>	0.06
VOC	33.50
Total HAP/TAP	18.91

### IX. Stipulation Review

Steve Moser of the WSRO last inspected the facility on May 2, 2007. During that inspection he noted the following:

1. The heat inputs for the permitted internal combustion engines were calculated from the initial permit application. There was an error in the original permit application for **ES-AUX1** and although the maximum fuel input is stated on the "B" form as 6554.36 SCF per hour at a heat value of 930.15 Btu per SCF, the heat value of 23.5 million Btu per hour is specified. This is the same heat input as a 3700 horsepower engine, and is therefore not reasonable. The heat input should be:

$$(6554.36 \text{ SCF/hour}) \times (930.15 \text{ Btu/SCF}) = 6.1 \text{ million Btu per hour}$$

This should be fixed the next time the permit is opened. *Agree, this change has been made.*

### X. Public Notice/EPA and Affected State(s) Review

Pursuant to 15A NCAC 2Q .0521, a notice of the DRAFT Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. Mecklenburg and Forsyth Counties are affected Local Programs within 50 miles of this facility.

### XI. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal.

A consistency determination was not required for this renewal.

WSRO recommends issuance of the permit and was presented with a DRAFT permit prior to notice and issuance.

RCO concurs with WSRO's recommendation to issue the renewed air permit.