

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Permit Issue Date:** Date 2005

**Region:** Mooresville Regional Office  
**County:** Iredell  
**NC Facility ID:** 4900225  
**Inspector's Name:** Tammie Watkins  
**Date of Last Inspection:** 03/01/2005  
**Compliance Code:** 3/In Compliance - Inspection

|   |   |  |   |
|---|---|--|---|
| <b>Facility Data</b>  |   |  | <b>Permit Applicability (this application only)</b>   |
| <b>Applicant (Facility's Name):</b> Transcontinental Gas Pipeline Corporation<br><br><b>Facility Address:</b><br>Transcontinental Gas Pipeline Corporation<br>236 Transco Road<br>Mooresville, NC 28115<br><br><b>SIC:</b> 4922 / Natural Gas Transmission<br><b>NAICS:</b> 48621 / Pipeline Transportation of Natural Gas<br><br><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V<br><b>Fee Classification: Before:</b> Title V <b>After:</b> Title V |   |  | <b>SIP:</b> 15A NCAC 2D .1111<br><b>NSPS:</b> NA<br><b>NESHAP:</b> 40 CFR 63, Subparts ZZZZ and DDDDD<br><b>PSD:</b> NA<br><b>PSD Avoidance:</b> NA<br><b>NC Toxics:</b> NA<br><b>112(r):</b> NA<br><b>Other:</b> NA  |
| <b>Contact Data</b>   |   |  | <b>Application Data</b>   |
| <b>Facility Contact</b>   | <b>Authorized Contact</b>   | <b>Technical Contact</b>   | <b>Application Number:</b> 4900225.05A<br><b>Date Received:</b> 12/12/2004<br><b>Application Type:</b> Modification<br><b>Application Schedule:</b> TV-Sign-501(c)(2)<br><b>Existing Permit Data</b><br><b>Existing Permit Number:</b> 08044/T07<br><b>Existing Permit Issue Date:</b> 12/22/2003<br><b>Existing Permit Expiration Date:</b> 08/31/2007 |
| Mark Doss<br>District Manager<br>(704) 892-7631<br>236 Transco Road<br>Mooresville NC, 28123-0497   | Randy Barnard<br>Vice President of Operations<br>(713) 215-2000<br>P O Box 1396<br>Houston TX, 77251-1396 | Amanda Wickman<br>Environmental Specialist<br>(713) 215-2680<br>P O Box 1396<br>Houston TX, 77251-1396   |   |
| <b>Review Engineer:</b> Mark Cuilla<br><br><b>Review Engineer's Signature:</b><br><b>Date:</b>  |   | <b>Comments / Recommendations:</b><br>Issue 08044T08<br><b>Permit Issue Date:</b> Date, 2005<br><b>Permit Expiration Date:</b> August 31, 2007 |   |

**I. Purpose of Application**

Per permit 08044T07, Specific Condition 2.2 B.1.e, the Permittee is required to submit a Title V application within 12 months after commencing operation of the new monitoring procedures. This application completes this requirement.

In addition to this action, the Permittee has requested that the applicable MACT Subparts be placed in its permit (see Section VI of this document for a discussion).

**II. Facility Description**

This facility operates as a natural gas compressor station. Permitted equipment includes sixteen mainline and three auxiliary compressor units, two internal combustion engines for air supply, and two natural gas-fired boilers for building heat.

### III. History/Background/Application Chronology

**November 18, 2003** – Permit application **4900255.03B** was received to incorporate an alternative monitoring plan to satisfy the requirements of 15A NCAC 2D .1409. That rule specifies that continuous monitoring (CEMs) shall be used unless an alternative is proposed and approved by the Director. The Permittee proposed such an alternative monitoring plan based on Trapped Fuel/Air Equivalence Ratio Control. The plan approved by DAQ and incorporated into the permit as a 501(c)(2) modification requires that the Permittee establish an hourly NO<sub>x</sub> limit for the ozone season based upon the season cap and the operating hours for each unit. Compliance with 15A NCAC 2D .1409(b) shall be when the three hour average of actual air manifold pressure is less than the calculated air manifold pressure established based on the correlation between engine operating parameters and actual NO<sub>x</sub> emissions during the initial performance tests. In addition, the modification included the following language:

*“The addition of this monitoring is permitted pursuant to 501(c)(2). The permit shield described in General Condition R does not apply. The Permittee shall file a Title V Air Quality Permit Application within 12 months after commencing operation of the new monitoring procedures.”*

**December 22, 2003** – Permit **08044T07** issued.

**December 29, 2004** – Permit application **4900255.05A** was received as required to complete the second part of the two-step significant modification. Permit application was deemed incomplete for processing; the required permit application fee of \$834 was not received.

**August 17, 2005** – DRAFT permit sent to Permittee, Title V Coordinator, and regional office for review prior to being sent to public notice.

**Date, 2005** – DRAFT permit sent to public notice.

### IV. Permit Modifications/Changes

The following table lists all modifications associated with this permit action:

| Page(s)    | Section  | Description of Change(s)   |
|------------|--|--|
| Attachment | Insignificant activities                             | -amended equipment descriptions per Permittee comments   |
| Cover      | -  | -amended all dates and permit revision numbers   |
| TOC        | -  | -updated shell titles  |
| All        | Header   | -amended permit revision number  |
| 3          | -  | -updated Section titles  |
| 3-4        | Equipment table                                      | -clarified equipment descriptions<br>-added MACT Subpart notations   |
| 4          | 2.1 A (table)<br>2.1 A.1.a<br>2.1 A.1.c              | -added MACT Subpart reference<br>-added equipment identification numbers<br>-added equipment identification numbers  |
| 5          | 2.1 A.2.c<br>2.1 A.3.c<br>2.1 B (table)<br>2.1 B.1.a | -added equipment identification numbers<br>-added equipment identification numbers<br>-added MACT Subpart reference<br>-added equipment identification numbers           |
| 6-7        | 2.1 B.1.c<br>2.1 B.2.c<br>2.1 B.3.c<br>2.1 C (table) | -added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-added MACT Subpart reference           |
| 7          | 2.1 C.1.a<br>2.1 C.1.c<br>2.1.C.2.c<br>2.1 C.3.c     | -added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers |

| Page(s) | Section   | Description of Change(s)  |
|---------|---|---|
| 8       | 2.1 D (table)<br>2.1 D.1.a<br>2.1 D.1.c<br>2.1 D.2.c                        | -added MACT Subpart reference<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers  |
| 9       | 2.1 D.3.c<br>2.1 E (table)<br>2.1 E.1.a<br>2.1 E.1.c                        | -added equipment identification numbers<br>-added MACT Subpart reference<br>-added equipment identification numbers<br>-added equipment identification numbers  |
| 10      | 2.1 E.2.c<br>2.1 E.3.c<br>2.1 F (table)<br>2.1 F.1.c                        | -added equipment identification numbers<br>-added equipment identification numbers<br>-added MACT Subpart reference<br>-added equipment identification numbers  |
| 11      | 2.1 F.2.d<br>2.1 F.3.c  | -added equipment identification numbers<br>-added equipment identification numbers  |
| 12      | 2.1 G (table)<br>2.1 G.1.a<br>2.1 G.1.c<br>2.1 G.2.c                        | -clarified permit condition references<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers   |
| 13      | 2.1 G.3.c<br>2.1 H (table)<br>2.1 H.1.a<br>2.1 H.1.c<br>2.1 H.2.c           | -added equipment identification numbers<br>-corrected permit condition cross references<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers                                    |
| 14      | 2.1 H.3.c<br>2.1 H.4<br>2.1 H.4.a<br>2.1 H.4.c<br>2.1 H.4.e.ii<br>2.1 I.1.a | -added equipment identification numbers<br>-corrected permit condition citation<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-changed language per Permittee request<br>-added equipment identification numbers |
| 15      | 2.1 I.1.c<br>2.1 I.2.c<br>2.1 I.3.c<br>2.1 J (table)<br>2.1 J.1.a           | -added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-added MACT Subpart reference<br>-added equipment identification numbers   |
| 16      | 2.1 J.1.c<br>2.1 J.2.c<br>2.1 J.3.c<br>2.2 A (table)                        | -added equipment identification numbers<br>-added equipment identification numbers<br>-added equipment identification numbers<br>-corrected cross references and clarified emission limitations   |
| 17      | 2.2 A.1<br>2.2 A.1.e.ii   | -clarified permit condition reference<br>-changed language per Permittee request  |
| 18      | 2.2 B.1.c<br>2.2 B.1.d  | -changed language per Permittee request<br>-changed language per Permittee request  |
| 19      | 2.2 B.1.e<br>2.2 C  | -clarified table headers to add proper units<br>-added permit conditions for MACT compliance  |
| 19-27   | General Conditions  | -updated shell language where needed  |

The following modifications to ESM have been made as a result of this permit modification:

| Current Permit Listing   | Modified Listing  |
|--|---|
| One hydraulic oil surge tank (42 gallons capacity; No. 0037)<br>(ID No. I-1) | One hydraulic oil surge tank #12 (79 gallons capacity; No. 0037) (ID No. I-1) |
| One hydraulic oil surge tank (42 gallons capacity; No. 0038)<br>(ID No. I-2) | One hydraulic oil surge tank #13 (79 gallons capacity; No. 0038) (ID No. I-2) |

| <b>Current Permit Listing</b>   | <b>Modified Listing</b>   |
|---|---|
| One LOCW surge tank #1 (186 gallons capacity; No. 0007) (ID No. I-3)                  | One LOCW surge tank #1-8 (2160 gallons capacity total; No. 0007) (ID No. I-3)                           |
| One lube oil day tank (275 gallons capacity; No. 0026) (ID No. I-4)                   | One lube oil day tank in B-Building (275 gallons capacity; No. 0026) (ID No. I-4)                       |
| One portable odorant tank (275 gallons capacity; No. 0064) (ID No. I-5)               | End-dated   |
| One microwave relay #152 propane tank (350 gallons capacity, No. 150-00) (ID No. I-8) | End-dated   |
| One lube oil settling tank (478 gallons capacity; No. 0034) (ID No. I-11)             | One lube oil settling tank in A-Building at #8 (478 gallons capacity; No. 0034) (ID No. I-11)           |
| One LOCW surge tank (504 gallons capacity; No. 0008) (ID No. I-12)                    | One LOCW surge tank (2255 gallons capacity; No. 0008) (ID No. I-12)                                     |
| One LOCW surge tank #12 (504 gallons capacity; No. 0009) (ID No. I-13)                | One LOCW surge tank #12 (514 gallons capacity; No. 0009) (ID No. I-13)                                  |
| One LOCW surge tank #13 (581 gallons capacity; No. 0010) (ID No. I-17)                | One LOCW surge tank #13 (514 gallons capacity; No. 0010) (ID No. I-17)                                  |
| One ethylene glycol tank (13,514 gallons capacity; No. T-0001) (ID No. I-21)          | One JW surge tank #1-8 (13,514 gallons capacity; No. 0001) (ID No. I-21)                                |
| One ethylene glycol tank (20,736 gallons capacity; No. T-0002) (ID No. I-22)          | One JW surge tank #9-11 (5073 gallons capacity; No. 0002) (ID No. I-22)                                 |
| One ethylene glycol tank (2,500 gallons capacity; No. T-0030) (ID No. I-23)           | One ethylene glycol storage tank (2,500 gallons capacity; No. 0030) (ID No. I-23)                       |
| One lubricating oil tank (11,500 gallons capacity; No. T-0025) (ID No. I-24)          | One lubricating oil storage tank (11,500 gallons capacity; No. 0025) (ID No. I-24)                      |
| One lubricating oil tank (1,175 gallons capacity; No. T-0032) (ID No. I-25)           | One lubricating oil settling tank in A-Building at #13 (1,583 gallons capacity; No. 0032) (ID No. I-25) |
| One lubricating oil tank (1,198 gallons capacity; No. T-0033) (ID No. I-26)           | One lubricating oil settling tank in B-Building (1,646 gallons capacity; No. 0033) (ID No. I-26)        |
| One lubricating oil tank (2,016 gallons capacity; No. T-0066) (ID No. I-28)           | One turbine lubricating oil tank (2,016 gallons capacity; No. 0066) (ID No. I-28)                       |
| One hydraulic oil tank (1,130 gallons capacity; No. T-0041) (ID No. I-29)             | One hydraulic oil storage tank (1,130 gallons capacity; No. 0041) (ID No. I-29)                         |
| One oil tank (4,200 gallons capacity; No. T-0064) (ID No. I-30)                       | One condensate tank (4,200 gallons capacity; No. 0064) (ID No. I-30)                                    |

## V. Regulatory Review

The Permittee is 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 .0524, New Source Performance Standards  
15A NCAC 2D .1409, Stationary Internal Combustion Engines  
15A NCAC 2Q .0317, Avoidance Conditions

No regulatory review is needed as part of this permit action. The Permittee has requested that MACT Subpart placeholders be included in this permit; therefore, the facility will now be subject to 15A NCAC 2D .1111 (40 CFR 63, Subparts ZZZZ, YYYY, and DDDDD). See Section VI of this Document for a discussion.

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

### NSPS

The facility is currently subject to the New Source Performance Standards for Stationary Gas Turbines (40 CFR 60, Subpart GG). This permit action does not affect this status.

**NESHAPS/MACTS**

The current permit does not subject the facility to any National Emission Standards for Hazardous Air Pollutants/Maximum Achievable Control Technology Standards. However, the Permittee has requested that placeholder language for compliance with all future MACTs be included at this time. As a result of this request the following language has been added to the permit in Section 2.2 requiring compliance by the deadline contained in each of the respective Subparts.

***C. Facility-wide affected sources***

*The following table provides a summary of limits and standards for the emission source(s) described above:*

| <b><i>Regulated Pollutant</i></b> | <b><i>Limits/Standards</i></b>                                   | <b><i>Applicable Regulation</i></b>                |
|-----------------------------------|--|--|
| <i>Hazardous air pollutants</i>   | <i>Stationary Reciprocating Internal Combustion Engines MACT</i> | <i>15A NCAC 2D .1111 (40 CFR 63, Subpart ZZZZ)</i> |

***1. 15A NCAC 2D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY***

*The Permittee shall comply with all applicable provisions contained in Environmental Management Commission Standard 15A NCAC 2D .1111, “Maximum Achievable Control Technology” (MACT) as promulgated in 40 CFR Part 63, Subpart ZZZZ, “National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines”, by June 15, 2007, for all existing engines. [40 CFR 63.6595]*

The applicability of Subpart ZZZZ 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 15 internal combustion engines that meet that size cut-off. The remaining five engines (**ID Nos. ES-AUX1, AUX2, AUX3, A/C1 and A/C2**) do not meet the criteria.

The applicability of Subpart YYYY applies to all existing, new or reconstructed stationary combustion turbines [40 CFR 63.6085]. The facility currently operates on natural gas-fired dry low NOx combustion turbine (rated at 14,060 hp output and 107.9 million Btu per hour heat input; **ID No. ES-M/L16**). However, per 63.6090(b)(4), all existing stationary combustion turbines in all subcategories do not have to meet the requirements of this subpart and of subpart A. This notation has been made in the permit signifying that the equipment is subject to the Subpart but has no requirements.

The applicability of Subpart DDDDD applies to all existing and new industrial, commercial, and institutional boilers and process heaters. The requirements of the Subpart are based on a combination of boiler attributes (e.g., size, type, and fuel type). The facility has two subject boilers (**ID Nos. ES-BLR1 and BLR2**). These existing, natural gas-fired, small boilers fall into Population I category of sources with no requirements. The permit notes that these boilers are subject to the Subpart but has no applicable requirements per 63.7506(c).

**PSD**

The facility currently operates under two PSD avoidance conditions. The first limits nitrogen oxide emissions from one four-cycle natural gas rich-fired internal combustion engine (**ID No. ES-A/C1**) to less than 38.2 tons per consecutive 12-month period. The second, limits nitrogen oxide, carbon monoxide, and volatile organic compound emissions from three four-cycle natural gas rich-fired internal combustion engines (**ID Nos. WS-AUX1 through ES-AUX3**) to less than 7.8, 0.6, and 1.5 tons per consecutive 12-month period, respectively. This permit activity does not affect this status.

**112(r)**

Section 112(r) does not apply to the facility because the plant does not store any chemicals greater than the thresholds in the rule. This permit activity does not affect this status.

**CAM**

Per the applicability of Part 64, Compliance Assurance Monitoring, the Permittee is not subject to any CAM requirements because it currently does not “use a control device to achieve compliance with any emission limitation or standard.”

**VII. Facility Wide Air Toxics**

The facility is not currently subject to an air toxics demonstration. This permit activity does not affect this status. It should be noted that the requirements for the submittal of a toxics demonstration at the time of compliance with the facility’s last MACT (15A NCAC 2Q .0705) do not apply at this time because of the exemption of combustion source MACTs under this rule.

**VIII. Facility Emissions Review**

The following table lists the reported emission summary for the most recent year’s inventory:

| <b>Pollutant</b> | <b>2003 Actual Emissions (tons/year)</b> |
|------------------|--|
| CO               | 793.16                                   |
| NO <sub>x</sub>  | 3021.90                                  |
| PM <sub>10</sub> | 50.50                                    |
| SO <sub>2</sub>  | 0.98                                     |
| VOC              | 307.15                                   |
| Total HAPs/TAPs  | 178.32                                   |

**IX. Stipulation Review**

Specific permit condition 2.2 B.1 is being modified to remove the asterisked language requiring that a permit application shall be submitted and that also indicates that the permit shield does not apply to the newly created monitoring and recordkeeping requirements.

The Mooresville Regional Office had the following additional permit stipulation modifications:

1. misspellings and typos were pointed out throughout the permit and cover letter. *Agree, all have been corrected where needed,*
2. the table headings on page 18 of the permit should be changed from tons per season to pounds per hour and a percentage downtown should be allowed for the parametric NO<sub>x</sub> emissions monitoring. *Agree, correction has been made.*
3. the 2D .0524 stipulation needs to list the requirements of the custom fuel monitoring plan instead of just referring to it. MRO suggests the following language, “The custom fuel monitoring plan dated May 30, 1996 states that semiannual reporting to the DAQ of the pipeline system monitoring results is considered an acceptable alternative to semiannual fuel sulfur monitoring at the Mooresville Station.” In addition, the standard semiannual reporting language should be added for this condition.
4. the 2D .0501 stipulations need to be updated to show the most recent year emission limit requirement for ES-M/L9 through M/L15.
5. the description of ES-M/L1 should be modified to reflect that it is only one engine. *Agree, change has been made;*
6. the 2D .0524 permit condition should be checked to see if it needs to be modified as a result of recent federal modifications to the Subpart.

7. condition 2.2 B.1.c should be revised to indicate whether a test protocol is required and when it should be submitted to DAQ for the annual portable analyzer NOx emissions tests. In addition, language should also be added that requires recordkeeping of these test results.
8. General Condition I.A. should be revised to require prompt reporting of excess emissions lasting less than four hours to cover the full reporting requirements of 2Q .0508(f)(2). *Agree, the General Conditions have all been updated to most recent shell conditions.*

**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 of 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 pursuant 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. Mecklenburg County Local Program, Forsyth County Local Program, and South Carolina are all effected states.

**XI. Conclusions, Comments, and Recommendations**

MRO recommends issuance of the modified permit and was presented a DRAFT permit prior to issuance. RCO concurs with this recommendation.