

May 9, 2023

Kentucky Department of Environmental  
Protection  
Division for Air Quality  
300 Sower Boulevard, 2<sup>nd</sup> Floor  
Frankfort, Kentucky 40601

Re: Title V Permit V-18-021 Renewal Application  
Columbia Gulf Transmission, LLC  
Stanton Compressor Station (Source ID# 21-197-00006)

Dear Sir/Madam:

Attached is the Title V permit renewal application (being submitted via KY DEP's online portal at <https://sso.kog.ky.gov/>) for Columbia Gulf Transmission's Stanton Compressor Station, located in Powell County, Kentucky. The Station is currently covered by Title V Permit No. V-18-021, which was issued on November 18, 2018, and is scheduled to expire on November 18, 2023. This application is for the continued operation of this Station, which consists of four (4) 4,400-horsepower (hp) (nominal) natural gas-fired internal combustion engines (EP101 – EP104), one (1) 10,500-hp (nominal) natural gas-fired turbine (EP106), and one (1) 13,976-hp (nominal) natural gas-fired turbine (EP108) and auxiliary equipment/activities including storage tanks.

Columbia's Stanton station is requesting addition of in-line heater and fuel gas heater to the permit (permit change applications were submitted in February 2021 and January 2023 respectively). The insignificant activity list was updated as part of the renewal application. The station will continue to be classified as a major source under Title V regulations. This Title V renewal application package is being submitted with the following attachments:

- Appendix A - Business Certification
- Appendix B - Application Forms (7007AI, 7007A, 7007 DD, 7007N, 7007V)
- Appendix C - Facility Map, Plot Plan and Process Flow Diagram
- Appendix D - Process Description
- Appendix E - Emission Calculations
- Appendix F - List of Non-applicable Requirements

Should you have any questions or require additional information, you may contact Murali Ramamoorthy at (832) 320-5059 or [murali\\_ramamoorthy@tcenergy.com](mailto:murali_ramamoorthy@tcenergy.com).

Sincerely,



Shawn Netherly,  
Manager USGO South - Stanton Area  
[www.tcenergy.com](http://www.tcenergy.com)



**Title V Operating Permit  
Renewal Application**

May 2023

Prepared for:

Columbia Gulf Transmission Company  
Stanton Compressor Station  
Stanton, Powell County, Kentucky

Prepared by:

Stantec Consulting Services Inc.  
2080 Wooddale Drive  
Woodbury, MN 55125



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## **1.0 INTRODUCTION**

Columbia Gulf Transmission Company (Columbia) owns and operates the Stanton Compressor Station located in Stanton, Powell County, Kentucky. The Stanton Compressor Station is classified as a major source for Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>), and Hazardous Air Pollutants (HAPs). Consistent with Federal Part 70 requirements, Kentucky's Department of Environmental Protection (KDEP) Title V Operating Permit program is published under Chapter 401 of the Kentucky Administrative Regulations (KAR).

### **1.1 DOCUMENT PURPOSE**

Stanton Compressor Station currently operates under Kentucky Title V Operating Permit No. V-18-021. This permit became effective on November 18, 2018, and is scheduled to expire on November 18, 2023. The renewal application is due by May 22, 2023, six months prior to the permit expiration.

This submittal constitutes the renewal application required by the referenced Title V Permit.

### **1.2 PERMIT REQUEST**

Columbia is committed to demonstrating compliance with all federal and state air quality permitting requirements. This permit application demonstrates compliance with both federal and state requirements for permit renewal. The current Title V permit expires on November 18, 2023. This application is intended to satisfy all requirements of Title V of the 1990 Clean Air Act (CAA) as encoded in 40 CFR Part 70 and in 401 Kentucky Air Regulations (KAR) 52:020, Section 12, "Title V Permits."

Section 503(d) of the CAA provides that, once a timely and complete application for an operating permit has been filed, the applicant is shielded from enforcement action for operating without a permit until the permit has been issued or other action has been taken on the application. Therefore, by submitting this application, Columbia requests a permit shield to avoid enforcement action for operating without a permit during the period in which this permit application is under review if the current permit expires before a new permit is issued.

By signing the DEP7007AI application form provided by Kentucky Energy and Environmental Cabinet, the responsible official certifies that this submittal constitutes a complete application. The responsible official for the Stanton Compressor Station has provided the required certification, and Columbia requests that the Kentucky Energy and Environmental Cabinet provide the determination that this application is complete. Pursuant to 40 CFR 70.7, the application is deemed complete if a notice of incompleteness is not received within 60 days. There are no fees associated with a Title V Renewal application in Kentucky.



## **1.3 CONTACT INFORMATION**

If there are any questions or comments regarding this application, please contact Mr. Murali Ramamoorthy of TC Energy at (832) 320-5059 or via email at [murali\\_ramamoorthy@tcenergy.com](mailto:murali_ramamoorthy@tcenergy.com).

## **1.4 REPORT ORGANIZATION**

The remainder of this renewal application is divided into the following sections:

- Section 2.0: Facility Information
- Section 3.0: Summary of Permit Renewal Request; and
- Section 4.0 Regulatory Applicability Analysis.

The table of contents contains a detailed listing of figures, tables, and appendices. All the tables and figures have been included under the applicable section. The required forms for a Title V renewal (DEP7007AI, 7007A, 7007 DD, 7007N, 7007V) is in the Appendix B of the renewal application.



## **2.0 FACILITY INFORMATION**

### **2.1 SITE LOCATION**

Columbia's Stanton Station is located in Stanton, Powell County, Kentucky. Figure 1 of Appendix C is an aerial photograph that identifies the plant layout.

Powell County is designated as "attainment" or "unclassifiable" for all pollutants for which National Ambient Air Quality Standards (NAAQS) have been promulgated. Additionally, there are no Class I Areas within 100 miles of the station.

The operations at the station are categorized under Standard Industrial Classification code 4922, *Natural Gas Transmission*, and under the North American Industry Classification System code 486210, *Pipeline Transportation of Natural Gas*.

### **2.2 EMISSION SOURCE DESCRIPTION**

The facility transports natural gas along the pipeline by receiving inlet natural gas and compressing the gas to increase the pressure in the pipeline and maintain the downstream flow.

Significant emission units at the Station consist of four (4) 4,400-horsepower (hp) (nominal) natural gas-fired internal combustion engines, one (1) 10,500-hp (nominal) natural gas-fired turbine, and one (1) 13,976-hp (nominal) natural gas-fired turbine. These equipment are used to drive compressors for transmission natural gas along the pipelines.

None of these emission units use add-on emission control equipment to reduce emissions, and thus, the station is exempt from the compliance assurance monitoring (CAM) requirements in 40 CFR 64 (see Section 4.3 for further explanation).

Auxiliary equipment at the station includes one (1) 1,175-hp (nominal) natural gas-fired emergency generator, one (1) 38-hp (nominal) natural gas-fired emergency generator and one (1) 47-hp (nominal) natural gas-fired emergency fire pump. Additionally, the station operates one natural gas-fired heating system boiler, three natural gas-fired tank heaters, one natural gas-indirect fired in-line heater, one natural gas-fired fuel gas heater and numerous insignificant tanks used for the storage of various liquids. All are classified as insignificant emission units as defined in Title 401 KAR 52.020, Section 6 of the Kentucky air quality control regulations. Insignificant or trivial activities at the Stanton Compressor Station are identified in the Table 1-1 below. Please note that insignificant activities list has been updated to include a used oil tank (A04), two (2) pipeline liquids tank (A16, A17), four (4) water mixture tank (A20, A21, A22, A23) and to revise the glycol tank (A10) capacity to accurately reflect the on-site equipment.



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Facility information

**Table 1-1: Insignificant Activities Under 401 KAR 52.020, Section 6**

<b>Equipment ID</b>	<b>Description of Exempt Emission Unit*</b>
IA-A01	Lube Oil Tank (5,200 gallon capacity)
IA-A02	Lube Oil Tank (5,200 gallon capacity)
IA-A03	Lube Oil Tank (2,800 gallon capacity)
<b>IA-A04</b>	<b>Used Oil Tank (1,800 gallon capacity)</b>
IA-A05	Glycol Tank (2,500 gallon capacity)
IA-A06	Water Mixture Tank (1,000 gallon capacity)
IA-A07	Used Oil Tank (8,800 gallon capacity)
IA-A08	Water Mixture Tank (8,800 gallon capacity)
IA-A09	Water Mixture Tank (8,800 gallon capacity)
IA-A10	Glycol Tank (1,050 gallon capacity)
IA-A11	Kerosene Tank (275 gallon)
IA-A14	Pipeline Liquids Tank (2,100 gallon)
IA-A15	Pipeline Liquids Tank (285 gallon)
<b>IA-A16</b>	<b>Pipeline Liquids Tank (2,000 gallon)</b>
<b>IA-A17</b>	<b>Pipeline Liquids Tank (2,000 gallon)</b>
<b>IA-A20</b>	<b>Water Mixture Tank (2,000 gallon capacity)</b>
<b>IA-A21</b>	<b>Water Mixture Tank (2,000 gallon capacity)</b>
<b>IA-A22</b>	<b>Water Mixture Tank (2,000 gallon capacity)</b>
<b>IA-A23</b>	<b>Water Mixture Tank (2,000 gallon capacity)</b>
Equipment Leaks & Blowdowns	Fugitive emissions from components (equipment leaks & breakdowns)
	Graywater Evaporation System (injected into exhaust stack of EU08)

\* Equipment added or modified is identified in bold text.





## 3.0 SUMMARY OF PERMIT RENEWAL REQUEST

### 3.1 REQUESTED REVISIONS TO THE PERMIT

Columbia's Stanton Station is requesting the following revisions to the permit:

1. **Significant Emission Sources:** Columbia is requesting to include one (1) 0.331 MMBtu/hr indirect-fired line heater (H-4) and one (1) 0.14 MMBtu/hr LSV fuel gas heater (H-5). Columbia submitted off-permit change application for both the changes in February 2021 and January 2023 respectively.
2. **Insignificant Activities:** Columbia is requesting to include one (1) used oil tank (A04), two (2) pipeline liquids tanks (A16, A17), four (4) water mixture tanks (A20, A21, A22, A23) and to revise the glycol tank (A10) capacity to accurately reflect the on-site equipment.

The facility remains a major source under Title V regulations.



## **4.0 REGULATORY APPLICABILITY SUMMARY**

The Stanton Station is subject to a variety of federal and state air quality regulations which are discussed in this section.

### **4.1 NEW SOURCE PERFORMANCE STANDARDS (NSPS)**

NSPS contained in 40 CFR 60 require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the relevant regulations. These NSPS regulations were reviewed to determine their applicability to the Stanton Station equipment or to confirm non-applicability as appropriate. The results of this review are summarized below by regulatory citation.

#### **4.1.1 40 CFR 60 Subpart Dc - Standards of Performance for Small Industrial-Commercial- Institutional Steam Generating Units**

Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) applies to steam generating units with a maximum design heat input capacity of greater than or equal to 10 MMBtu/hr, but less than or equal to 100 MMBtu/hr, which are constructed, modified or reconstructed after June 9, 1989 (per 40 CFR §60.40c(a)). Steam generating units are defined in 40 CFR §60.41c as devices that combust fuel and heat water or any heat transfer medium. There are no steam generating units at this facility greater than 10 MMBtu/hr. Therefore, this regulation is not applicable.

#### **4.1.2 40 CFR 60 Subpart K - Standards of Performance for Storage Vessels for Petroleum Liquids**

Subpart K (Standards of Performance for Storage Vessels for Petroleum Liquids) applies to storage vessels for which construction, reconstruction, or modification commenced after June 11, 1973 and prior to May 19, 1978. There are no petroleum storage vessels with capacity greater than 40,000 gallons at this facility. Therefore, this regulation is not applicable.

#### **4.1.3 40 CFR 60 Subpart Ka - Standards of Performance for Storage Vessels for Petroleum Liquids**

Subpart Ka (Standards of Performance for Storage Vessels for Petroleum Liquids) applies to storage vessels for which construction, reconstruction, or modification commenced after May 18, 1978 and prior to July 23, 1984. There are no petroleum storage vessels with capacity greater than 40,000 gallons at this facility. Therefore, this regulation is not applicable.



#### **4.1.4 40 CFR 60 Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)**

Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels including Petroleum Liquid Storage Vessels) applies to storage vessels for which construction, reconstruction, or modification commenced after July 23, 1984. There are no petroleum storage vessels with capacity greater than 40,000 gallons at this facility. There are no volatile organic liquid storage vessels with capacity greater than 75 cubic meters at this facility. Therefore, this regulation is not applicable.

#### **4.1.5 40 CFR 60 Subpart GG - Standards of Performance for Stationary Gas Turbines**

Subpart GG (Standards of Performance for Stationary Gas Turbines) applies to stationary gas turbines for which construction, modification, or reconstruction commenced after October 3, 1977.

This regulation is applicable to the Stanton Station because the combustion turbine (Solar Mars 100-T15000S Turbine) has a peak heat input of greater than 10 MMBtu/hr and was constructed in August 2001. The turbine (Solar Mars 100-T15000S Turbine) is subject to the requirements of Subpart GG.

#### **4.1.6 40 CFR 60 Subpart KKK - Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants**

Subpart KKK (Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants) applies to onshore natural gas processing plants. This regulation is not applicable to the Stanton Station because the facility is not a natural gas processing plant as defined in the regulation.

#### **4.1.7 40 CFR 60 Subpart LLL - Standards of Performance for Onshore Natural Gas Processing: SO<sub>2</sub> Emissions**

Subpart LLL (Standards of Performance for Onshore Natural Gas Processing: SO<sub>2</sub> Emissions) applies to facilities that process natural gas: each sweetening unit, and each sweetening unit followed by a sulfur recovery unit. This regulation is not applicable to the Stanton Station because the facility does not operate a sweetening unit or a sulfur recovery unit.

#### **4.1.8 40 CFR 60 Subpart IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)**

Subpart IIII (Standards of Performance for Stationary CI ICE) applies to manufacturers, owners, and operators of stationary CI ICE. The Stanton Station does not operate any stationary CI ICE; therefore, this regulation does not apply.



#### **4.1.9 40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (SI ICE)**

Subpart JJJJ (Standards of Performance for Stationary SI ICE) applies to manufacturers, owners, and operators of stationary SI ICE constructed after January 1, 2009. The emergency generator (Waukesha VGF-P48GL) at the Stanton Station was constructed after January 1, 2009 and has a rating capacity of greater than 130 hp. Therefore, this engine will be subject to the requirements of Subpart JJJJ.

#### **4.1.10 40 CFR 60 Subpart KKKK - Standards of Performance for Stationary Combustion Turbines**

Subpart KKKK (Standards of Performance for Stationary Combustion Turbines) applies to stationary combustion turbines that commenced construction, modification, or reconstruction after February 18, 2005. This regulation is not applicable to the Stanton Station because the combustion turbine was constructed in August 2001.

#### **4.1.11 40 CFR 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**

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) establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO<sub>2</sub>) emissions from affected facilities in the crude oil and natural gas production source category that commence construction, modification, or reconstruction after August 23, 2011, and on or before September 18, 2015. The storage vessel requirements defined for transmission sources are not applicable to this site.

#### **4.1.12 40 CFR 60 Subpart OOOOa—Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015**

Subpart OOOOa (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015) establishes emission standards and compliance schedules for the control of VOC and SO<sub>2</sub> emissions from affected facilities in the crude oil and natural gas production source category that commence construction, modification, or reconstruction after September 18, 2015. The turbines EP 106 and 108 at Stanton were constructed before the applicability date and therefore this regulation does not apply.



## **4.2 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)**

Federal NESHAP regulations promulgated pursuant to Section 112 of the CAA are found in 40 CFR Parts 61 and 63. In general, NESHAP, or Maximum Achievable Control Technology (MACT) standards apply to major stationary sources of HAP emissions, defined as potential-to-emit of 10 tons or more per year of any single HAP or 25 tons or more per year of any combination of HAP and minor stationary sources of HAP emissions (thresholds less than a major source). The Stanton Station is considered a major source of HAPs. Potentially applicable NESHAPs are discussed below.

### **4.2.1 40 CFR 61 Subpart M - National Emission Standard for Asbestos**

The Stanton Station may at times engage in demolition and/or renovation activities involving asbestos-containing materials (ACM). Therefore, the facility could be potentially subject to Subpart M, Standards for Demolition and Renovation (40 CFR 61.145). Procedures are in place to ensure the facility complies with these standards.

### **4.2.2 40 CFR 61 Subpart V - National Emission Standard for Equipment Leaks (Fugitive Emission Sources)**

This regulation is not applicable to the Stanton Station because the provisions of this subpart apply to sources that are intended to operate in volatile hazardous air pollutant (VHAP) service. "In VHAP service means that a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight a volatile hazardous air pollutant (VHAP) as determined according to the provisions of 61.245(d)." The Stanton Station does not have any sources that operate in VHAP service.

### **4.2.3 40 CFR 63 Subpart A – General Provisions**

This regulation has general provisions that are referenced by other more specific NESHAP regulations.

### **4.2.4 40 CFR 63 Subpart HH - NESHAP from Oil and Natural Gas Production Facilities**

This regulation is not applicable to the Stanton Station because the facility is a transmission and storage facility and is not an oil and gas production facility as defined in this regulation.

### **4.2.5 40 CFR 63 Subpart HHH - NESHAP from Natural Gas Transmission and Storage Facilities**

Subpart HHH establishes national emission limitations and operating limitations for natural gas transmission and storage facilities that are major sources of HAP emissions. The rule affects facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final user. The Stanton Station does not operate an affected source (glycol dehydration unit). Therefore, the facility is not subject to this regulation.



#### **4.2.6 40 CFR 63 Subpart YYYY – NESHAP for Stationary Combustion Turbines**

NESHAP Subpart YYYY regulates stationary combustion turbines located at major sources of HAP emissions. This regulation is applicable to the Stanton Station because the facility is a major source of HAPs and operates two (2) stationary combustion turbines. This regulation is potentially applicable to Emission Points EP 106 and EP 108 Turbines at Stanton because the facility is a major source for HAPS. However, per §63.6090(b)(4) the turbines are exempt from any applicable requirements under 40 CFR 63 Subpart YYYY and 40 CFR 63 Subpart A.

#### **4.2.7 40 CFR 63 Subpart ZZZZ – NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)**

NESHAP Subpart ZZZZ regulates HAP emissions from existing, new, and reconstructed stationary compression ignition (CI) and spark ignition (SI), emergency and non-emergency, RICE located at major and area sources of HAP emissions. This regulation is applicable to the Stanton Station because the facility is a major source of HAPs.

#### **4.2.8 40 CFR 63 Subpart DDDDD – NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters**

The Industrial/Commercial/Institutional Boilers and Process Heaters MACT for major sources was promulgated on March 21, 2011, and regulates HAP emissions from new and existing industrial, commercial, or institutional boilers and process heaters located at major sources of HAP emissions. This regulation is applicable to the Stanton Compressor Station because the facility is a major source of HAPs. However, the units are exempt from any requirements because the units are fired with natural gas only.

#### **4.2.9 40 CFR 63 Subpart JJJJJJ - NESHAP for Industrial, Commercial and Institutional Boilers Area Sources**

The Industrial/Commercial/Institutional Boilers and Process Heaters for area sources was promulgated on March 21, 2011, and regulates HAP emissions from industrial, commercial, or institutional boilers located at area sources of HAP emissions. This regulation does not apply to Stanton Compressor Station because the facility is a major source of HAPs and not an area source. Additionally, the boiler and process heaters are natural gas-fired; therefore, this requirement does not apply.

### **4.3 COMPLIANCE ASSURANCE MONITORING (CAM)**

Enhanced monitoring requirements have been adopted into 40 CFR 64. The enhanced monitoring requirements are referred to as Compliance Assurance Monitoring (CAM). CAM is applicable to sources that have a potential to emit in excess of major source thresholds, not considering “tailpipe” emission controls, and use an “active” control device to achieve compliance with the emission limit. Combustion controls may be considered in evaluating the potential to emit.



**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION**  
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Regulatory Applicability Summary

An emission unit is subject to CAM if all of the following criteria are satisfied:

- the unit is located at a major source that is required to obtain a Part 70 or Part 71 permit;
- the unit is subject to an emission limitation or standard for a regulated air pollutant;
- the unit uses an active control device to achieve compliance with any such emission limit or standard, and
- the unit has potential pre-controlled emissions of the applicable air pollutant above the major source threshold.

There are no pollutant-specific emission units at Stanton Compressor Station to which CAM requirements apply.

#### **4.4 CHEMICAL ACCIDENT PREVENTION PROVISIONS AND RISK MANAGEMENT PLAN**

The Stanton Station is not subject to the Chemical Accident Prevention Provisions of 40 CFR Subpart 68. Applicability to this regulation is based on the type and quantity of certain regulated substances stored at a facility, and the Stanton Station does not exceed the applicability thresholds (40 CFR 68.10). The facility is not considered a stationary source under 40 CFR 68.3 (Chemical Accident Prevention) because it is regulated under 49 CFR 192, DOT.

#### **4.5 ACID RAIN REGULATIONS**

The Stanton Station is not subject to the federal acid rain regulations found in 40 CFR Parts 72 through 77 because the Station does not own or operate an affected unit as defined in 40 CFR part 72.6.

#### **4.6 MANDATORY GREENHOUSE GAS REPORTING 40 CFR 98 SUBPARTS C AND W**

The Stanton Station is subject to Subparts C (General Stationary Fuel Combustion Sources) and W (Petroleum and Natural Gas Systems) of the Mandatory Greenhouse Gas Reporting Rule. The annual report must be submitted no later than March 31 of each calendar year for GHG emissions in the previous calendar year. The Stanton Station is subject to these requirements; however, there are no requirements in the rule for inclusion into the Title V permit program. Additionally, the Stanton Station emits more than 25,000 metric tons of CO<sub>2e</sub> per year and is, therefore, required to submit an annual report pursuant to 40 CFR 98.2.



## **4.7 SIP AND STATE ONLY REGULATIONS 401 KAR CHAPTER 50 AND CHAPTER 52**

The applicable requirements under 401 KAR Chapter 50 (Air Quality General Administrative Procedures) and Chapter 52 (Air Quality Permits, Registrations, and Prohibitory Rules) are currently incorporated into the permit. There are no new requirements that need to be incorporated into the Title V permit renewal.





**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION  
TITLE V OPERATING PERMIT RENEWAL APPLICATION**

Appendix A

**Appendix A**

**BUSINESS CERTIFICATION**





# Kentucky Secretary of State

## Michael G. Adams

### COLUMBIA GULF TRANSMISSION, LLC

[File Annual Report](#)[File Certificate of Assumed Name \(DBA\)](#)[Change Address or Registered Agent](#)[File Withdrawal](#)[File Registered Agent Resignation](#)[File Amended Certificate of Authority](#)[Printable Forms](#)[Subscribe to changes made to this entity](#)[Certificate of Good Standing](#)

#### General Information

<b>Organization Number</b>	0326493
<b>Name</b>	COLUMBIA GULF TRANSMISSION, LLC
<b>Profit or Non-Profit</b>	P - Profit
<b>Company Type</b>	FLC - Foreign Limited Liability Company
<b>Status</b>	A - Active
<b>Standing</b>	G - Good
<b>State</b>	DE
<b>File Date</b>	2/15/1994
<b>Authority Date</b>	2/15/1994
<b>Last Annual Report</b>	6/27/2022
<b>Principal Office</b>	SUITE 1300 700 LOUISIANA STREET HOUSTON, TX 77002
<b>Registered Agent</b>	Corporation Service Company 421 WEST MAIN STREET FRANKFORT, KY 40601

#### Current Officers

<b>Member</b>	Stanley G. Chapman III
<b>Member</b>	Jon A. Dobson

#### Show Individuals / Entities listed at time Of formation

<b>Director</b>	DL BELL JR
-----------------	------------

**Director**  
**Director**  
**Director**  
**Director**

MP O'FLYNN  
JH CROOM  
JD DALY  
JP HOLLAND

Show Images

Show Assumed Names

Show Activities

[Contact](#) [Site Map](#)

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Kentucky Unbridled Spirit

**Commonwealth of Kentucky**  
**Alison Lundergan Grimes, Secretary of State**

Alison Lundergan Grimes  
Secretary of State  
P. O. Box 718  
Frankfort, KY 40602-0718  
(502) 564-3490  
<http://www.sos.ky.gov>

**Certificate of Authorization**

Authentication number: 155818  
Visit <https://app.sos.ky.gov/ftshow/certvalidate.aspx> to authenticate this certificate.

I, Alison Lundergan Grimes, Secretary of State of the Commonwealth of Kentucky, do hereby certify that according to the records in the Office of the Secretary of State,

**COLUMBIA GULF TRANSMISSION, LLC**

, a limited liability company authorized under the laws of the state of Delaware, is authorized to transact business in the Commonwealth of Kentucky, and received the authority to transact business in Kentucky on February 15, 1994.

I further certify that all fees and penalties owed to the Secretary of State have been paid; that an application for certificate of withdrawal has not been filed; and that the most recent annual report required by KRS 14A.6-010 has been delivered to the Secretary of State.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal at Frankfort, Kentucky, this 7<sup>th</sup> day of October, 2014, in the 223<sup>rd</sup> year of the Commonwealth.



*Alison Lundergan Grimes*  
Alison Lundergan Grimes  
Secretary of State  
Commonwealth of Kentucky  
155818/0326493

**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION  
TITLE V OPERATING PERMIT RENEWAL APPLICATION**

Appendix B

**Appendix B**

**APPLICATION FORMS**



Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007AI</b>  <b>Administrative Information</b> ___ Section AL1: Source Information ___ Section AL2: Applicant Information ___ Section AL3: Owner Information ___ Section AL4: Type of Application ___ Section AL5: Other Required Information ___ Section AL6: Signature Block ___ Section AL7: Notes, Comments, and Explanations	<b>Additional Documentation</b>  ___ Additional Documentation attached
<b>Source Name:</b> <u>Columbia Gulf Transmission, LLC</u>		
<b>KY EIS (AFS) #:</b> <u>21- 197-00006</u>		
<b>Permit #:</b> <u>V-18-021</u>		
<b>Agency Interest (AI) ID:</b> <u>44369</u>		
<b>Date:</b> _____		
<b>Section AL1: Source Information</b>		
<b>Physical Location Address:</b>	Street: <u>3066 Morris Creek Road</u> City: <u>Stanton</u> County: <u>Powell</u> Zip Code: <u>40380</u>	Street or P.O. Box: <u>700 Louisiana Street, Suite 700</u>
<b>Mailing Address:</b>	City: <u>Houston</u> State: <u>TX</u> Zip Code: <u>77002</u>	
<b>Standard Coordinates for Source Physical Location</b>		
<b>Longitude:</b> <u>37.88867</u> (decimal degrees) <b>Latitude:</b> <u>-83.86278</u> (decimal degrees)		
<b>Primary (NAICS) Category:</b> <u>Pipeline Transportation of Natural Gas</u> <b>Primary NAICS #:</b> <u>486210</u>		

<b>Classification (SIC) Category:</b>	<u>Natural Gas Transmission</u> <b>Primary SIC #:</b> <u>4922</u>
<b>Briefly discuss the type of business conducted at this site:</b>	The Station receives natural gas via pipeline from upstream sources, compresses it using reciprocating internal combustion engines, and then transmits it via pipeline to downstream compressor stations.
<b>Description of Area Surrounding Source:</b>	<input checked="" type="checkbox"/> Rural Area <input type="checkbox"/> Industrial Park <input type="checkbox"/> Residential Area <b>Is any part of the source located on federal land?</b> <input type="checkbox"/> Yes <b>Number of Employees:</b> <span style="border: 1px solid black; padding: 2px;">12</span> <input type="checkbox"/> Urban Area <input type="checkbox"/> Industrial Area <input type="checkbox"/> Commercial Area <input checked="" type="checkbox"/> No
<b>Approximate distance to nearest residence or commercial property:</b> <u>80 ft</u>	<b>Property Area:</b> <u>40 Acres</u> <b>Is this source portable?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?</b>	
<b>NPDES/KPDES:</b> <input type="checkbox"/> Currently Hold <input type="checkbox"/> Need <input checked="" type="checkbox"/> N/A	
<b>Solid Waste:</b> <input type="checkbox"/> Currently Hold <input type="checkbox"/> Need <input checked="" type="checkbox"/> N/A	
<b>RCRA:</b> <input type="checkbox"/> Currently Hold <input type="checkbox"/> Need <input checked="" type="checkbox"/> N/A	
<b>UST:</b> <input type="checkbox"/> Currently Hold <input type="checkbox"/> Need <input checked="" type="checkbox"/> N/A	
<b>Type of Regulated Waste Activity:</b>	<input type="checkbox"/> Mixed Waste Generator <input type="checkbox"/> Generator <input type="checkbox"/> Recycler <input type="checkbox"/> Other: _____ <input type="checkbox"/> U.S. Importer of Hazardous Waste <input type="checkbox"/> Transporter <input type="checkbox"/> Treatment/Storage/Disposal Facility <input checked="" type="checkbox"/> I/A

## Section A1.2: Applicant Information

**Applicant Name:** Columbia Gas Transmission, LLC

**Title:** (if individual) \_\_\_\_\_

**Mailing Address:** **Street or P.O. Box:** 700 Louisiana Street, Suite 700  
**City:** Houston **State:** TX **Zip Code:** 77002

**Email:** (if individual) murali\_ramamoorthy@tcenergy.com

**Phone:** (832) 320-5059

### Technical Contact

**Name:** Murali Ramamoorthy

**Title:** Specialist Air Emissions

**Mailing Address:** **Street or P.O. Box:** 700 Louisiana Street, Suite 700  
**City:** Houston **State:** TX **Zip Code:** 77002

**Email:** murali\_ramamoorthy@tcenergy.com

**Phone:** (832) 320-5059

### Air Permit Contact for Source

**Name:** Murali Ramamoorthy

**Title:** Specialist Air Emissions

**Mailing Address:** **Street or P.O. Box:** 700 Louisiana Street, Suite 700  
**City:** Houston **State:** TX **Zip Code:** 77002

**Email:** murali\_ramamoorthy@tcenergy.com

**Phone:** (832) 320-5059

**Section AI.3: Owner Information**

**Owner same as applicant**

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Mailing Address:** **Street or P.O. Box:** \_\_\_\_\_  
**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip Code:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**List names of owners and officers of the company who have an interest in the company of 5% or more.**

**Name**

**Position**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**Section AI.4: Type of Application**

**Current Status:**  Title V  Conditional Major  State-Origin  General Permit  Registration  None

**Requested Action:**  Name Change  Initial Registration  Significant Revision  Administrative Permit Amendment  
*(check all that apply)*  Renewal Permit  Revised Registration  Minor Revision  Initial Source-wide Operating Permit  
 502(b)(10) Change  Extension Request  Addition of New Facility  Portable Plant Relocation Notice  
 Revision  Off Permit Change  Landfill Alternate Compliance Submittal  Modification of Existing Facilities  
 Ownership Change  Closure

**Requested Status:**  Title V  Conditional Major  State-Origin  PST  NSR  Other: \_\_\_\_\_

**Is the source requesting a limitation of potential emissions?**  Yes  No

<b>Pollutant:</b>	<b>Requested Limit:</b>	<b>Pollutant:</b>	<b>Requested Limit:</b>
<input type="checkbox"/> Particulate Matter	_____	<input type="checkbox"/> Single HAP	_____
<input type="checkbox"/> Volatile Organic Compounds (VOC)	_____	<input type="checkbox"/> Combined HAPs	_____
<input type="checkbox"/> Carbon Monoxide	_____	<input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F)	_____
<input type="checkbox"/> Nitrogen Oxides	_____	<input type="checkbox"/> Carbon Dioxide	_____
<input type="checkbox"/> Sulfur Dioxide	_____	<input type="checkbox"/> Greenhouse Gases (GHG)	_____
<input type="checkbox"/> Lead	_____	<input type="checkbox"/> Other	_____

**For New Construction:**

**Proposed Start Date of Construction:** *(MM/YYYY)* \_\_\_\_\_ **Proposed Operation Start-Up Date:** *(MM/YYYY)* \_\_\_\_\_

**For Modifications:**

**Proposed Start Date of Modification:** *(MM/YYYY)* \_\_\_\_\_ **Proposed Operation Start-Up Date:** *(MM/YYYY)* \_\_\_\_\_

**Applicant is seeking coverage under a permit shield.**  Yes  No **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**


## Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> DEP7007A Indirect Heat Exchangers and Turbines             | <input type="checkbox"/> DEP7007CC Compliance Certification                                   |
| <input type="checkbox"/> DEP7007B Manufacturing or Processing Operations                       | <input checked="" type="checkbox"/> DEP7007DD Insignificant Activities                        |
| <input type="checkbox"/> DEP7007C Incinerators and Waste Burners                               | <input type="checkbox"/> DEP7007EE Internal Combustion Engines                                |
| <input type="checkbox"/> DEP7007F Episode Standby Plan   | <input type="checkbox"/> DEP7007FF Secondary Aluminum Processing                              |
| <input type="checkbox"/> DEP7007J Volatile Liquid Storage                                      | <input type="checkbox"/> DEP7007GG Control Equipment  |
| <input type="checkbox"/> DEP7007K Surface Coating or Printing Operations                       | <input type="checkbox"/> DEP7007HH Haul Roads   |
| <input type="checkbox"/> DEP7007L Mineral Processes  | <input type="checkbox"/> Confidentiality Claim  |
| <input type="checkbox"/> DEP7007M Metal Cleaning Degreasers                                    | <input type="checkbox"/> Ownership Change Form  |
| <input type="checkbox"/> DEP7007N Source Emissions Profile                                     | <input checked="" type="checkbox"/> Secretary of State Certificate                            |
| <input checked="" type="checkbox"/> DEP7007P Perchloroethylene Dry Cleaning Systems            | <input checked="" type="checkbox"/> Flowcharts or diagrams depicting process                  |
| <input type="checkbox"/> DEP7007R Emission Offset Credit                                       | <input type="checkbox"/> Digital Line Graphs (DLG) files of buldings, roads, etc.             |
| <input type="checkbox"/> DEP7007S Service Stations   | <input type="checkbox"/> Site Map   |
| <input type="checkbox"/> DEP7007T Metal Plating and Surface Treatment Operations               | <input checked="" type="checkbox"/> Map or drawing depicting location of facility             |
| <input checked="" type="checkbox"/> DEP7007V Applicable Requirements and Compliance Activities | <input type="checkbox"/> Safety Data Sheet (SDS)  |
| <input type="checkbox"/> DEP7007Y Good Engineering Practice and Stack Height Determination     | <input type="checkbox"/> Emergency Response Plan  |
| <input type="checkbox"/> DEP7007AA Compliance Schedule for Non-complying Emission Units        | <input checked="" type="checkbox"/> Other: <input type="text" value="Emission Calculations"/> |
| <input type="checkbox"/> DEP7007BB Certified Progress Report                                   |   |

## Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official\*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.



Authorized Signature

Shawn Netherly

Type or Printed Name of Signatory

5/9/23

Date

Area Manager

Title of Signatory

\*Responsible official as defined by 401 KAR 52:001.

<b>Section AI.7: Notes, Comments, and Explanations</b>

Division for Air Quality  
 300 Sower Boulevard  
 Frankfort, KY 40601  
 (502) 564-3999

**DEP7007A**

Indirect Heat Exchangers and Turbines

- Section A.1: General Information
- Section A.2: Operating and Fuel Information
- Section A.3: Notes, Comments, and Explanations

**Additional Documentation**  
 Complete DEP7007AI, DEP7007N, DEP7007V, and DEP7007GG.  
 Manufacturer's specifications

Source Name: Columbia Gulf Transmission, LLC  
 KY EIS (AFS) #: 21- 197-00006  
 Permit #: V-18-021  
 Agency Interest (AI) ID: 44369  
 Date: May-23

**Section A.1: General Information**

Emission Unit #	Emission Unit Name	Process ID	Process Name	Identify General Type: Indirect Heat Exchanger, Gas Turbine, or Combustion Turbine	Indirect Heat Exchanger Configuration	Manufacturer	Model No./ Serial No.	Proposed/Actual Date of Construction Commencement (MM/YYYY)	SCC Code	SCC Units	Control Device ID	Stack ID
H4	Indirect-Fired Line Heater H-4	N/A	N/A	Indirect Heat Exchanger	N/A	TERI	TERI 250 T210213H	Aug-21	10200603	lb/MMscf	N/A	H4
H5	LSV Fuel Gas Heater	N/A	N/A	Indirect Heat Exchanger	N/A	TECV LC	HL-140	Oct-16	10200603	lb/MMscf	N/A	H5

**Section A.2: Operating and Fuel Information**

Emission Unit #	If multipurpose unit, identify the percentage of use by purpose				Rated Capacity Heat Input (MMBTU/hr)	Rated Capacity Power Output		Describe Operating Scenario (only if this unit will be used in different configurations)	Classify Fuel as Primary or Secondary	Identify Fuel Type: Coal, Natural Gas, Wood, Biomass, Landfill/Digester Gas, Fuel Oil # (specify 1-6), or Other	Heat Content (HHV)		Maximum Operating Hours	Ash Content (%)	Sulfur Content (%)
	Space Heat	Process Heat	Power	Emergency			(Specify units: hp, MW, or lb steam/hr)					(Specify units: Btu/lb, Btu/gal, or Btu/scf)			
H4	0%	100%	0%	0%	0.331	N/A	N/A	N/A	Primary	Natural Gas	1020	Btu/scf	8760	N/A	20 grains S/100 scf
H5	0%	100%	0%	0%	0.14	N/A	N/A	N/A	Primary	Natural Gas	1020	Btu/scf	8760	N/A	20 grains S/100 scf

**Section A.3: Notes, Comments, and Explanations**

1. Application for Indirect-Fired Line Heater (H4) was submitted on 2/26/2021 per Section 502(b)(10) Change

2. Off-Permit Change application for LSV fuel gas heater (H5) was submitted on 1/26/2023 per 401 KAR 52:010 Section 6

Division for Air Quality 300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<b>DEP7007DD</b> <b>Insignificant Activities</b> ___ Section DD.1: Table of Insignificant Activities ___ Section DD.2: Signature Block ___ Section DD.3: Notes, Comments, and Explanations
Source Name: <u>Columbia Gulf Transmission, LLC</u>	KY EIS (AFS) #: <u>21- 197-00006</u>
Permit #: <u>V-18-021</u>	Agency Interest (AI) ID: <u>44369</u>
Date: _____	

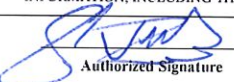
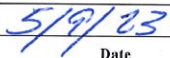
**Section DD.1: Table of Insignificant Activities**

\*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
IA-A10	Glycol Tank - 1050 Gallons	N/A	None	<0.02
IA-A04	Used Oil - 1800 Gallons	N/A	None	<0.02
IA-A16	Pipeline Liquids Tank - 2000 gallons	N/A	None	<0.02
IA-A17	Pipeline Liquids Tank - 2000 gallons	N/A	None	<0.02
IA-A20	Water Mixture Tank - 2000 gallons	N/A	None	<0.02
IA-A21	Water Mixture Tank - 2000 gallons	N/A	None	<0.02
IA-A22	Water Mixture Tank - 2000 gallons	N/A	None	<0.02
IA-A23	Water Mixture Tank - 2000 gallons	N/A	None	<0.02

**Section DD.2: Signature Block**

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

By:	 _____ Authorized Signature	 _____ Date
	Shawn Netherly _____ Type/Print Name of Signatory	_____ Area Manager _____ Title of Signatory

**Section DD.3: Notes, Comments, and Explanations**

1. Corrected Storage Capacity for glycol tank (IA-A10) from 900 gallons to 1050 gallons. The error in capacity was reviewed during the current renewal application preparation.

2. Request to include used oil tank (IA-A04), two pipeline liquids tank (IA-A16 and IA-A17), and four water mixture tanks (IA-A20, IA-A21, IA-A22, IA-A23) to the list of insignificant activities.




Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

**DEP7007N**

Source Emissions Profile

- Section N.1: Emission Summary
- Section N.2: Stack Information
- Section N.3: Fugitive Information
- Section N.4: Notes, Comments, and Explanations

**Additional Documentation**

Complete DEP7007AI

Source Name: Columbia Gulf Transmission, LLC

KY EIS (AFS) #: 21- 197-00006

Permit #: V-18-021

Agency Interest (AI) ID: 44369

Date:

**N.1: Emission Summary**

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	NOx	100 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.01	0.01	0.06	0.06
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	CO	84 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.01	0.01	0.05	0.05
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	PM	7.6 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.001	0.001	0.005	0.005
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	SO2	20 grains S/100 scf	20 grains S / 100 scf 0.25 grains S / 100 scf	NA	NA	0.01	0.01	0.04	0.04
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	CO2e	117.1 lb/ MMBtu	40 CFR 98 Subpart C, Tables C-1 and C-2	NA	NA	16	16	72	72
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	VOC	5.5 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.001	0.001	0.003	0.003
H5	LSV Fuel-Gas Heater	N/A	N/A	N/A	N/A	N/A	0.14 MMBtu/hr	Total HAPs	1.89 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.0003	0.0003	0.001	0.001

Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

### DEP7007N

#### Source Emissions Profile

- Section N.1: Emission Summary
- Section N.2: Stack Information
- Section N.3: Fugitive Information
- Section N.4: Notes, Comments, and Explanations

#### Additional Documentation

Complete DEP7007AI

**Source Name:** Columbia Gulf Transmission, LLC

**KY EIS (AFS) #:** 21- 197-00006

**Permit #:** V-18-021

**Agency Interest (AI) ID:** 44369

**Date:** \_\_\_\_\_

#### N.1: Emission Summary

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions	
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	NOx	100 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.03	0.03	0.14	0.14
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	CO	84 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.03	0.03	0.12	0.12
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	PM	7.6 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.002	0.002	0.01	0.01
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	SO2	20 grains S/100 scf	20 grains S / 100 scf 0.25 grains S / 100 scf	NA	NA	0.02	0.02	0.09	0.09
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	CO2e	117.1 lb/ MMBtu	40 CFR 98 Subpart C, Tables C-1 and C-2	NA	NA	39	39	170	170
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	VOC	5.5 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.002	0.002	0.008	0.008
H4	Indirect-Fired Line Heater H-4	N/A	N/A	N/A	N/A	N/A	0.331 MMBtu/hr	Total HAPs	1.89 lb/MMscf	AP-42 Table 1.4-1 (7/98)	NA	NA	0.0006	0.0006	0.003	0.003

Emission Unit #	Emission Unit Name	Process ID	Process Name	Control Device Name	Control Device ID	Stack ID	Maximum Design Capacity (SCC Units/hour)	Pollutant	Uncontrolled Emission Factor (lb/SCC Units)	Emission Factor Source (e.g. AP-42, Stack Test, Mass Balance)	Capture Efficiency (%)	Control Efficiency (%)	Hourly Emissions		Annual Emissions		
													Uncontrolled Potential (lb/hr)	Controlled Potential (lb/hr)	Uncontrolled Potential (tons/yr)	Controlled Potential (tons/yr)	

Division for Air Quality  300 Sower Boulevard Frankfort, KY 40601 (502) 564-3999	<h2 style="margin: 0;">DEP7007V</h2> <h3 style="margin: 0;">Applicable Requirements and Compliance Activities</h3> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.1: Emission and Operating Limitation(s)</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.2: Monitoring Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.3: Recordkeeping Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.4: Reporting Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.5: Testing Requirements</p> <p style="margin: 5px 0;"><input type="checkbox"/> Section V.6: Notes, Comments, and Explanations</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: center; padding: 5px;">Additional Documentation</th> </tr> <tr> <td style="padding: 5px;"> <input type="checkbox"/> Complete DEP7007AI                             </td> </tr> </table>	Additional Documentation	<input type="checkbox"/> Complete DEP7007AI																																																						
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<input type="checkbox"/> Complete DEP7007AI																																																										
<p><b>Source Name:</b> <u>Columbia Gulf Transmission, LLC</u></p> <p><b>KY EIS (AFS) #:</b> <u>21- 197-00006</u></p> <p><b>Permit #:</b> <u>V-18-021</u></p> <p><b>Agency Interest (AI) ID:</b> <u>44369</u></p> <p><b>Date:</b> _____</p>																																																										
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**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION  
TITLE V OPERATING PERMIT RENEWAL APPLICATION**

Appendix C

**Appendix C**

**FACILITY MAP, PLOT PLAN AND PROCESS FLOW DIAGRAM**



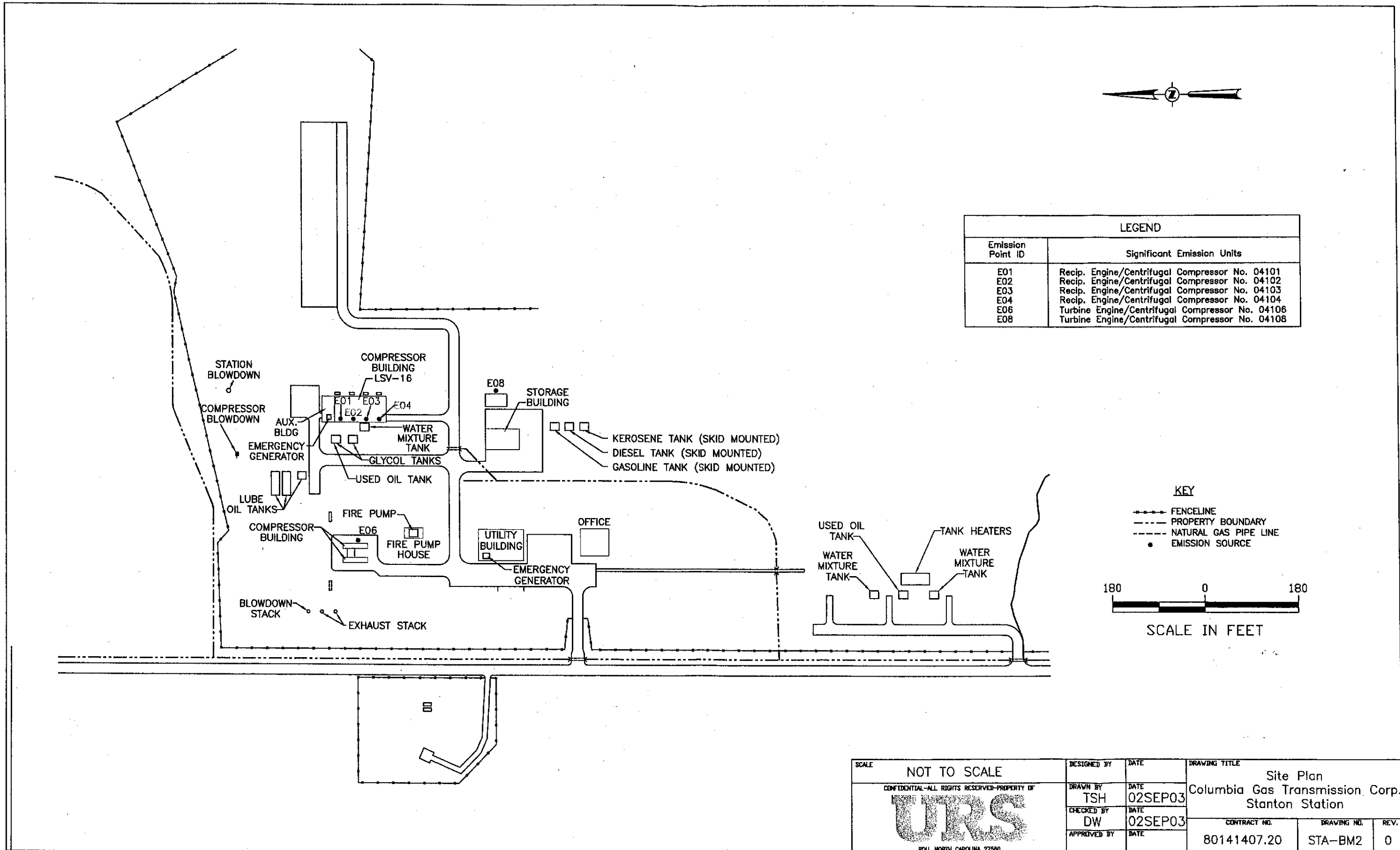


Figure 2. Plot Plan

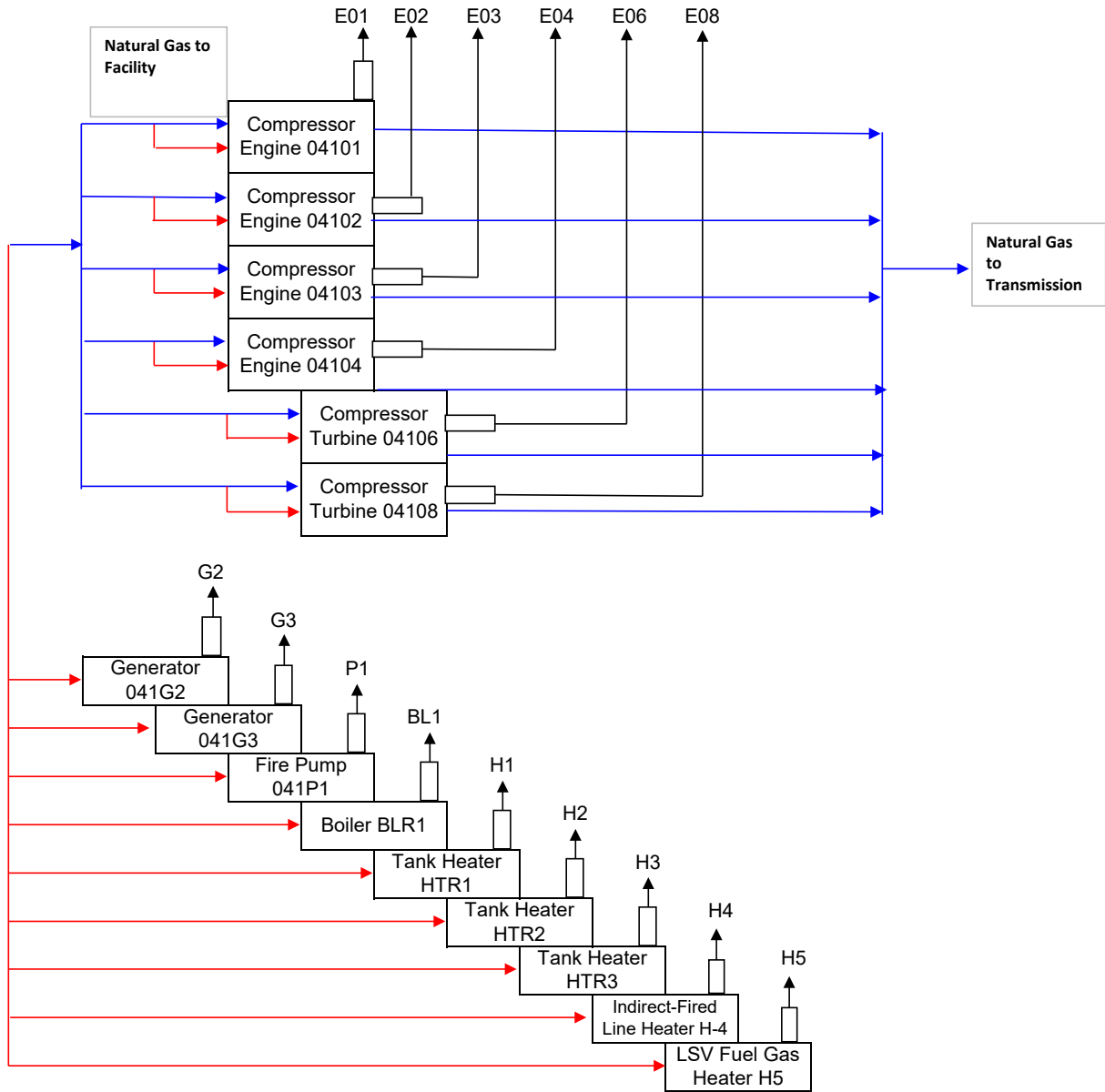


**Figure 1**

Date: May 2023

Facility Map  
Stanton Compressor Station

## ATTACHMENT C STANTON COMPRESSOR STATION PROCESS FLOW DIAGRAM



- Transmission Gas Stream
- Fuel Gas
- Emission Stream





**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION  
TITLE V OPERATING PERMIT RENEWAL APPLICATION**

Appendix D

**Appendix D**

**PROCESS DESCRIPTION**



## PROCESS DESCRIPTION

Columbia Gulf Transmissions LLC's Stanton Compressor Station is located near Stanton in Powell County, Kentucky. The Station receives natural gas via pipeline from an upstream compressor station, compresses it using natural gas-fired turbines and reciprocating internal combustion engines, and then transmits it via pipeline to downstream compressor stations.

Significant emission units at the Station consist of four (4) 4,400-horsepower (hp) (nominal) natural gas-fired internal combustion engines (EP101 – EP104), one (1) 10,500-hp (nominal) natural gas-fired turbine (EP106), and one (1) 13,976-hp (nominal) natural gas-fired turbine (EP108). This equipment is used to drive gas compressors.

Auxiliary equipment at the station includes one 1,175-hp (nominal) natural gas-fired emergency generator (EP1G3), one 38-hp (nominal) natural gas-fired emergency generator (EP1G2) and one 47-hp (nominal) natural gas-fired emergency fire pump (EP1P1). Additionally, the station operates one natural gas-fired heating system boiler (EPBLR1), three natural gas-fired tank heaters (EP09), one natural gas-fired in-line heater, one natural gas-fired fuel gas heater and numerous insignificant tanks used for the storage of various liquids.

**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION  
TITLE V OPERATING PERMIT RENEWAL APPLICATION**

Appendix E

**Appendix E**

**EMISSION CALCULATIONS**



**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Facility Total PTE**

Source	Annual Emissions (tpy)							
	NO <sub>x</sub>	CO	CO <sub>2e</sub>	PM <sub>10</sub> /PM <sub>2.5</sub>	VOC	SO <sub>2</sub>	CH <sub>2</sub> O	Total HAP
(4) Cooper Bessemer LSV-16 Engines	513.41	188.09	64,993	5.54	65.49	0.40	29.31	40.07
Ford Emergency Generator - G2	0.22	0.37	12	1.95E-03	2.98E-03	7.19E-05	2.06E-03	3.26E-03
Ford Fire Pump - P1	0.28	0.46	15	2.42E-03	3.69E-03	8.89E-05	2.55E-03	4.04E-03
Pratt & Whitney Turbine - E06	212.93	79.10	67,855	3.82E+00	1.22E+00	4.14E-01	4.11E-01	5.95E-01
Solar Mars Turbine - E08	80.19	57.97	62,363	3.51E+00	1.66E+00	3.80E-01	3.78E-01	5.47E-01
Waukesha Emergency Generator - G3	1.30	0.84	266	2.27E-02	2.59E-02	1.62E-03	1.20E-01	1.64E-01
Heating System Boiler - BL1	4.08	3.43	4,872	3.10E-01	2.24E-01	2.97E-02	3.06E-03	7.70E-02
Tank Heaters - H1, H2, H3	0.16	0.14	192	1.22E-02	8.86E-03	1.17E-03	1.21E-04	3.04E-03
Line Heater - H4	0.03	0.03	39	2.47E-03	1.78E-03	1.89E-02	2.43E-05	6.13E-04
Fuel Gas Heater - H5	0.06	0.05	72	0.0046	3.31E-03	4.38E-04	4.51E-05	1.14E-03
<b>Total</b>	<b>812.66</b>	<b>330.49</b>	<b>200,679.02</b>	<b>13.24</b>	<b>68.64</b>	<b>1.24</b>	<b>30.22</b>	<b>41.47</b>

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**4SLB Reciprocating Compressor Engine #04101 - #04104**

Horsepower	4,400 hp
Maximum Horsepower	4,840 hp
Brake Specific Fuel Consumption	7,200 Btu/Bhp-hr
Total Heat Input	31.68 MMBtu/hr
Max Heat Input	34.85 MMBtu/hr
Operating Hours	8,760 hr/yr
Natural Gas Heat Content	1,020 Btu/scf
Fuel Consumption	272.08 MMscf/yr 34,165 scf/hr
Quantity	4

Pollutant	Emission Factor		Emission Rate			Emission Factor Reference
	lb/MMBtu	lb/bhp-hr	lb/hr	ton/yr (per engine)	ton/yr (4 engines)	
NO <sub>x</sub> (Maximum Hourly)		7.27E-02	351.82			CGT Test
NO <sub>x</sub> (Average Annual)		6.66E-03		128.35	513.41	Permit Limit
CO (Maximum Hourly)		6.72E-03	32.52			CGT Test
CO (Average Annual)		2.44E-03		47.02	188.09	CGT Test
CO <sub>2e</sub>	117.1	0.84	4,081	16,248	64,993	40 CFR 98 Subpart C
PM <sub>10</sub>	0.010	7.19E-05	0.35	1.39	5.54	AP-42 Table 3.2-2 (7/00) - 4SLB
PM <sub>2.5</sub>	0.010	7.19E-05	0.35	1.39	5.54	AP-42 Table 3.2-2 (7/00) - 4SLB
VOC	0.118	8.50E-04	4.11	16.37	65.49	AP-42 Table 3.2-2 (7/00) - 4SLB
SO <sub>2</sub> (Maximum Hourly)	0.0571	4.11E-04	1.99			20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)	0.000714	5.14E-06		0.10	0.40	0.25 grains S / 100 scf
Formaldehyde	0.05280	3.80E-04	1.84	7.33	29.31	AP-42 Table 3.2-2 (7/00) - 4SLB
Total HAPs	0.07220	5.20E-04	2.52	10.02	40.07	AP-42 Table 3.2-2 (7/00) - 4SLB

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Ford LSG-4231-6007-B Emergency Generator #041G2**

Horsepower	38 HP
Maximum Horsepower	42 HP
Brake Specific Fuel Consumption	10600 Btu/Bhp-hr
Total Heat Input	0.40 MMBtu/hr
Maximum Heat Input	0.44 MMBtu/hr
Operating Hours	500 hr/yr
Natural Gas Heat Content	1020 Btu/scf
Fuel Consumption	0.20 MMscf/yr
	434 scf/hr based on maximum heat input

Pollutant	Emission Factor	Emission Rate		Emission Factor Reference
	lb/MMBtu	lb/hr <sup>1</sup>	ton/yr	
NO <sub>x</sub>	2.21	0.98	0.22	AP-42 Table 3.2-3 (7/00) - 4SRB
CO	3.72	1.65	0.37	AP-42 Table 3.2-3 (7/00) - 4SRB
CO <sub>2e</sub>	117.1	52	12	40 CFR 98 Subpart C
PM <sub>10</sub>	0.019	0.01	1.95E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
PM <sub>2.5</sub>	0.019	0.01	1.95E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
VOC	0.0296	0.01	2.98E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
SO <sub>2</sub> (Maximum Hourly)	0.0571	0.03		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)	0.000714		7.19E-05	0.25 grains S / 100 scf
Formaldehyde	0.02050	0.01	2.06E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
Total HAPs	0.03242	0.01	3.26E-03	AP-42 Table 3.2-3 (7/00) - 4SRB

1. Maximum hourly emission rate based on maximum horsepower under optimum conditions (10% greater than site rating).

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Ford LSG-4231-6007-B Fire Pump #041P1**

Horsepower	47 HP
Maximum Horsepower	52 HP
Brake Specific Fuel Consumption	10600 Btu/Bhp-hr
Total Heat Input	0.50 MMBtu/hr
Maximum Heat Input	0.55 MMBtu/hr
Operating Hours	500 hr/yr
Natural Gas Heat Content	1020 Btu/scf
Fuel Consumption	0.24 MMscf/yr
	537 scf/hr based on maximum heat input

Pollutant	Emission Factor	Emission Rate		Emission Factor Reference
	lb/MMBtu	lb/hr <sup>1</sup>	ton/yr	
NO <sub>x</sub>	2.21	1.21	0.28	AP-42 Table 3.2-3 (7/00) - 4SRB
CO	3.72	2.04	0.46	AP-42 Table 3.2-3 (7/00) - 4SRB
CO <sub>2e</sub>	117.1	64	15	40 CFR 98 Subpart C
PM <sub>10</sub>	0.019	0.01	2.42E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
PM <sub>2.5</sub>	0.019	0.01	2.42E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
VOC	0.0296	0.02	3.69E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
SO <sub>2</sub> (Maximum Hourly)	0.0571	0.03		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)	0.000714		8.89E-05	0.25 grains S / 100 scf
Formaldehyde	0.02050	0.01	2.55E-03	AP-42 Table 3.2-3 (7/00) - 4SRB
Total HAPs	0.03242	0.02	4.04E-03	AP-42 Table 3.2-3 (7/00) - 4SRB

1. Maximum hourly emission rate based on maximum horsepower under optimum conditions (10% greater than site rating).

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Pratt & Whitney GG3C-1 Turbine #04106**

Horsepower	10,500 hp
Maximum Horsepower	16,800 hp
Brake Specific Fuel Consumption	12,600 Btu/Bhp-hr
Total Heat Input	132.30 MMBtu/hr
Max Heat Input	211.68 MMBtu/hr
Operating Hours	8,760 hr/yr
Natural Gas Heat Content	1,020 Btu/scf
Fuel Consumption	1,136 MMscf/yr 207,529 scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMBtu	lb/bhp-hr	lb/hr	ton/yr	
NO <sub>x</sub> (Maximum Hourly)		5.73E-03	96.26		CGT Test
NO <sub>x</sub> (Average Annual)		4.63E-03		212.93	CGT Test
CO (Maximum Hourly)		3.83E-03	64.34		CGT Test
CO (Average Annual)		1.72E-03		79.10	CGT Test
GHG (CO <sub>2</sub> e)	117.1	1.48	24,787	67,855	40 CFR 98 Subpart C
PM <sub>10</sub>	0.0066	8.32E-05	1.40	3.82	AP-42 Table 3.1-2a (4/00)
PM <sub>2.5</sub>	0.0066	8.32E-05	1.40	3.82	AP-42 Table 3.1-2a (4/00)
VOC	0.0021	2.65E-05	0.44	1.22	AP-42 Table 3.1-2a (4/00)
SO <sub>2</sub> (Maximum Hourly)	0.0571	7.19E-04	12.09		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)	0.000714	9.00E-06		0.41	0.25 grains S / 100 scf
Formaldehyde	0.00071	8.95E-06	1.50E-01	0.41	AP-42 Table 3.1-3 (4/00)
Total HAPs	0.00103	1.29E-05	2.17E-01	0.60	AP-42 Table 3.1-3 (4/00)



**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Solar Mars 100-T15000S Turbine #04108**

Horsepower	13,976 hp
Maximum Horsepower	16,005 hp
Brake Specific Fuel Consumption (hour)	8,510 Btu/Bhp-hr
Brake Specific Fuel Consumption (year)	8,700 Btu/Bhp-hr
Total Heat Input	121.59 MMBtu/hr
Max Heat Input	136.20 MMBtu/hr
Operating Hours	8,760 hr/yr
Natural Gas Heat Content	1,020 Btu/scf
Fuel Consumption	1,044 MMscf/yr
	152,918 scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMBtu	lb/bhp-hr	lb/hr	ton/yr	
NO <sub>x</sub> (Maximum Hourly)		1.29E-03	20.65		Manufacturer Guarantee
NO <sub>x</sub> (Average Annual)		1.31E-03		80.19	Manufacturer Guarantee
CO (Maximum Hourly)		9.32E-04	14.92		Manufacturer Guarantee
CO (Average Annual)		9.47E-04		57.97	Manufacturer Guarantee
GHG (CO <sub>2</sub> e)	117.1	1.02	15,949	62,363	40 CFR 98 Subpart C
PM <sub>10</sub>	0.0066	5.74E-05	0.90	3.51	AP-42 Table 3.1-2a (4/00)
PM <sub>2.5</sub>	0.0066	5.74E-05	0.90	3.51	AP-42 Table 3.1-2a (4/00)
VOC		2.71E-05	0.43	1.66	Manufacturer Guarantee
SO <sub>2</sub> (Maximum Hourly)	0.0571	4.97E-04	7.78		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)	0.000714	6.21E-06		0.38	0.25 grains S / 100 scf
Formaldehyde	0.00071	6.18E-06	9.67E-02	0.38	AP-42 Table 3.1-3 (4/00)
Total HAPs	0.00103	8.94E-06	1.40E-01	0.55	AP-42 Table 3.1-3 (4/00)

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Waukesha VGF-P48GL Emergency Generator #041G3**

Horsepower	1175 HP
Brake Specific Fuel Consumption	7733 Btu/Bhp-hr
Total Heat Input	9.09 MMBtu/hr
Operating Hours	500 hr/yr
Natural Gas Heat Content	1020 Btu/scf
Fuel Consumption	4.45 MMscf/yr
	8908.1 scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	g/bhp-hr	lb/MMBtu	lb/hr	ton/yr	
NO <sub>x</sub>	2.00		5.18	1.30	Vendor Data
CO	1.30		3.37	0.84	Vendor Data
CO <sub>2</sub> e		117.1	1,064	266	40 CFR 98 Subpart C
PM <sub>10</sub>		0.010	0.09	0.02	AP-42 Table 3.2-2 (7/00) - 4SLB
PM <sub>2.5</sub>		0.010	0.09	0.02	AP-42 Table 3.2-2 (7/00) - 4SLB
VOC	0.04		0.10	0.03	Vendor Data (NMHC)
SO <sub>2</sub> (Maximum Hourly)		0.0571	0.52		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)		0.000714		1.62E-03	0.25 grains S / 100 scf
Formaldehyde		0.05280	0.48	0.12	AP-42 Table 3.2-2 (7/00) - 4SLB
Total HAPs		0.07220	0.66	0.16	AP-42 Table 3.2-2 (7/00) - 4SLB

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Ajax Heating System Boiler - BL1**

Heat Input 9.50 MMBtu/hr  
 Operating Hours 8760 hr/yr  
 Natural Gas Heat Content 1020 Btu/scf  
 Fuel Consumption 81.59 MMscf/yr  
 9313.7 scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMscf	lb/MMBtu	lb/hr	ton/yr	
NO <sub>x</sub>	100	0.098	0.93	4.08	AP-42 Table 1.4-1 (7/98)
CO	84	0.082	0.78	3.43	AP-42 Table 1.4-1 (7/98)
GHG (CO <sub>2</sub> e)		117.1	1112.43	4,872	40 CFR 98 Subpart C
PM <sub>10</sub>	7.6	0.007	0.07	0.31	AP-42 Table 1.4-2 (7/98)
PM <sub>2.5</sub>	7.6	0.007	0.07	0.31	AP-42 Table 1.4-2 (7/98)
VOC	5.5	0.005	0.05	0.22	AP-42 Table 1.4-2 (7/98)
SO <sub>2</sub> (Maximum Hourly)		0.0571	0.54		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)		0.000714		2.97E-02	0.25 grains S / 100 scf
Formaldehyde	0.075	0.00007	6.99E-04	3.06E-03	AP-42 Table 1.4-3 (7/98)
Total HAPs	1.89	0.00185	1.76E-02	0.08	AP-42 Table 1.4-3 & 4 (7/98)

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Babcock and Wilcox Tank Heaters - H1, H2, H3**

Heat Input 0.125 MMBtu/hr  
 Operating Hours 8760 hr/yr  
 Natural Gas Heat Content 1020 Btu/scf  
 Fuel Consumption 1.07 MMscf/yr  
 122.5 scf/hr  
 Quantity 3

Pollutant	Emission Factor		Emission Rate			Emission Factor Reference
	lb/MMscf	lb/MMBtu	lb/hr	ton/yr (1 heater)	ton/yr (3 heaters)	
NO <sub>x</sub>	100	0.098	0.01	0.05	0.16	AP-42 Table 1.4-1 (7/98)
CO	84	0.082	0.01	0.05	0.14	AP-42 Table 1.4-1 (7/98)
CO <sub>2e</sub>		117.1	15	64	192	40 CFR 98 Subpart C
PM <sub>10</sub>	7.6	0.007	9.31E-04	4.08E-03	0.01	AP-42 Table 1.4-2 (7/98)
PM <sub>2.5</sub>	7.6	0.007	9.31E-04	4.08E-03	0.01	AP-42 Table 1.4-2 (7/98)
VOC	5.5	0.005	6.74E-04	2.95E-03	8.86E-03	AP-42 Table 1.4-2 (7/98)
SO <sub>2</sub> (Maximum Hourly)		0.0571	0.01			20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)		0.000714		3.91E-04	1.17E-03	0.25 grains S / 100 scf
Formaldehyde	0.075	0.00007	9.19E-06	4.03E-05	1.21E-04	AP-42 Table 1.4-3 (7/98)
Total HAPs	1.89	0.00185	2.31E-04	1.01E-03	3.04E-03	AP-42 Table 1.4-3 & 4 (7/98)

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**INDIRECT-FIRED LINE HEATER (Emission ID: H4)**

Heat Input 0.331 MMBtu/hr  
 Operating Hours 8760 hr/yr  
 Natural Gas Heat Content 1020 Btu/scf  
 Fuel Consumption 2.84 MMscf/yr  
 324.5 scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMscf	lb/MMBtu	lb/hr	ton/yr	
NO <sub>x</sub>	100	0.098	0.03	0.14	AP-42 Table 1.4-1 (7/98)
CO	84	0.082	0.03	0.12	AP-42 Table 1.4-1 (7/98)
CO <sub>2e</sub>		117.1	39	170	40 CFR 98 Subpart C
PM <sub>10</sub>	7.6	0.007	2.47E-03	1.08E-02	AP-42 Table 1.4-2 (7/98)
PM <sub>2.5</sub>	7.6	0.007	2.47E-03	1.08E-02	AP-42 Table 1.4-2 (7/98)
VOC	5.5	0.005	1.78E-03	7.82E-03	AP-42 Table 1.4-2 (7/98)
SO <sub>2</sub> (Maximum Hourly)		0.0571	0.02		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)		0.000714		0.0010	0.25 grains S / 100 scf
Formaldehyde	0.075	0.00007	2.43E-05	1.07E-04	AP-42 Table 1.4-3 (7/98)
Total HAPs	1.89	0.00185	6.13E-04	2.68E-03	AP-42 Table 1.4-3 & 4 (7/98)

**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**LSV Fuel Gas Heater (Emission ID: H5)**

Heat Input 0.140 MMBtu/hr  
 Operating Hours 8760 hr/yr  
 Natural Gas Heat Content 1020 Btu/scf  
 Fuel Consumption 1.20 MMscf/yr  
 137.25 scf/hr

Pollutant	Emission Factor		Emission Rate		Emission Factor Reference
	lb/MMscf	lb/MMBtu	lb/hr	ton/yr (1 heater)	
NO <sub>x</sub>	100	0.098	0.01	0.06	AP-42 Table 1.4-1 (7/98)
CO	84	0.082	0.01	0.05	AP-42 Table 1.4-1 (7/98)
CO <sub>2e</sub>		117.1	16	72	40 CFR 98 Subpart C
PM <sub>10</sub>	7.6	0.007	1.04E-03	4.57E-03	AP-42 Table 1.4-2 (7/98)
PM <sub>2.5</sub>	7.6	0.007	1.04E-03	4.57E-03	AP-42 Table 1.4-2 (7/98)
VOC	5.5	0.005	7.55E-04	3.31E-03	AP-42 Table 1.4-2 (7/98)
SO <sub>2</sub> (Maximum Hourly)		0.0571	0.01		20 grains S / 100 scf
SO <sub>2</sub> (Average Annual)		0.000714		0.0004	0.25 grains S / 100 scf
Formaldehyde	0.075	0.00007	1.03E-05	4.51E-05	AP-42 Table 1.4-3 (7/98)
Total HAPs	1.89	0.00185	2.59E-04	1.14E-03	AP-42 Table 1.4-3 & 4 (7/98)

**COLUMBIA GULF TRANSMISSION COMPANY - STANTON COMPRESSOR STATION  
TITLE V OPERATING PERMIT RENEWAL APPLICATION**

Appendix F

**Appendix F**

**LIST OF NON-APPLICABLE REQUIREMENTS**



**Columbia Gulf Transmission, LLC  
Stanton Compressor Station**

**Assessment of Regulatory Applicability  
List of Non-Applicable Requirements**

<b>Citation</b>	<b>Equipment</b>	<b>Comments/Explanation</b>
401 KAR 50:042	Stacks	No stack height in excess of GEP height at the facility.
401 KAR 51:017	Major stationary sources constructed or modified after 9/22/82 and located in attainment or unclassified areas as defined in the PSD rule	No changes are planned that would require PSD review.
401 KAR 51:052	Major stationary sources constructed or major modifications commenced after 9/22/82 and located in a nonattainment area	Powell County is designated as an attainment area; therefore, this regulation does not apply.
401 KAR 55:020	All stationary sources in nonattainment areas	Station is in an attainment area. This facility has not been asked to submit an emergency episode standby plan. However, KYDEP can require submission of standby plans at any time.
401 KAR 57:002 40 CFR 61.240 to 61.247	Equipment leaks	No process fluid on site > 10 wt% VHAP.
401 KAR 57:002 40 CFR 61.110 to 61.112	Equipment leaks	No process fluid on site > 10 wt% benzene.
401 KAR 59:010	Internal combustion engines	No sources meet the definition of "process operation" [401 KAR 59:010, Section 2(1)].
401 KAR 59:015	Process heater	Heaters (HTR1, HTR2, and HTR3) < 1.0 MMBtu/hr heat input.
401 KAR 60:005 40 CFR 60.110b to 60.117b	Storage tanks	Non of the tanks build after 7/23/84 meet the size applicability criteria for 40 CFR 60 Subpart Kb.
401 KAR 60:005 40 CFR 60.110 to 60.113	Storage tanks	No storage tanks >40,000 gallons subject to 40 CFR 60 Subpart K.
401 KAR 60:11 40 CFR 60.110a to 60.115a	Storage tanks	No storage tanks >40,000 gallons subject to 40 CFR 60 Subpart Ka.
401 KAR 60:630 40 CFR 60.630 to 60.636	All equipment in wet gas service	The station is not located at an onshore natural gas processing plant.
401 KAR 60:005 40 CFR 60.640 to 60.648	Sweetening units, and sweetening units followed by a sulfur recovery unit	No sweetening units or sweetening units followed by a sulfur recover unit exist at this station.
401 KAR 61:015	Internal combustion engines	No sources meet the definition of "indirect heat exchanger" [401 KAR 61:015, Section 2(2)].
401 KAR 61:020	Internal combustion engines	No sources meet the definition of "process operation" [401 KAR 61:020, Section 2(1)].
401 KAR 63:010	Fugitive emissions from an apparatus, operation, or road	No apparatus, operation, or road exists at this station that may emit visible fugitive emissions.
401 KAR 63:015	Flares	No flares at the station.



Division for Air Quality

300 Sower Boulevard  
Frankfort, KY 40601  
(502) 564-3999

DEP7007AI

Administrative Information

- Section AI.1: Source Information
- Section AI.2: Applicant Information
- Section AI.3: Owner Information
- Section AI.4: Type of Application
- Section AI.5: Other Required Information
- Section AI.6: Signature Block
- Section AI.7: Notes, Comments, and Explanations

Additional Documentation

Additional Documentation attached

**Source Name:** Columbia Gulf Transmission, LLC - Stanton

**KY EIS (AFS) #:** 21- 197-00006

**Permit #:** V-18-021

**Agency Interest (AI) ID:** 44369

**Date:** \_\_\_\_\_

Section AI.1: Source Information

<b>Physical Location</b>	<b>Street:</b>	<u>3066 Morris Creek Road</u>		
<b>Address:</b>	<b>City:</b>	<u>Stanton</u>	<b>County:</b>	<u>Powell</u>
			<b>Zip Code:</b>	<u>40380</u>
<b>Mailing Address:</b>	<b>Street or P.O. Box:</b>	<u>700 Louisiana Street, Suite 700</u>		
	<b>City:</b>	<u>Houston</u>	<b>State:</b>	<u>TX</u>
			<b>Zip Code:</b>	<u>77002</u>

Standard Coordinates for Source Physical Location

**Longitude:** 37.88867 (decimal degrees)      **Latitude:** -83.86278 (decimal degrees)

**Primary (NAICS) Category:** Pipeline Transportation of Natural Gas      **Primary NAICS #:** 486210

**Classification (SIC) Category:** Natural Gas Transmission      **Primary SIC #:** 4922

**Briefly discuss the type of business conducted at this site:**  
The Station receives natural gas via pipeline from upstream sources, compresses it using reciprocating internal combustion engines, and then transmits it via pipeline to downstream compressor stations.

<b>Description of Area Surrounding Source:</b>	<input checked="" type="checkbox"/> Rural Area	<input type="checkbox"/> Industrial Park	<input type="checkbox"/> Residential Area	<b>Is any part of the source located on federal land?</b>	<input type="checkbox"/> Yes	<b>Number of Employees:</b>	<u>12</u>
	<input type="checkbox"/> Urban Area	<input type="checkbox"/> Industrial Area	<input type="checkbox"/> Commercial Area		<input checked="" type="checkbox"/> No		

**Approximate distance to nearest residence or commercial property:** 80 ft      **Property Area:** 40 Acres      **Is this source portable?**  Yes  No

What other environmental permits or registrations does this source currently hold or need to obtain in Kentucky?

<b>NPDES/KPDES:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A
<b>Solid Waste:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A
<b>RCRA:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A
<b>UST:</b>	<input type="checkbox"/> Currently Hold	<input type="checkbox"/> Need	<input checked="" type="checkbox"/> N/A

**Type of Regulated Waste Activity:**

<input type="checkbox"/> Mixed Waste Generator	<input type="checkbox"/> Generator	<input type="checkbox"/> Recycler	<input type="checkbox"/> Other: _____
<input type="checkbox"/> U.S. Importer of Hazardous Waste	<input type="checkbox"/> Transporter	<input type="checkbox"/> Treatment/Storage/Disposal Facility	<input checked="" type="checkbox"/> /A

**Section AI.2: Applicant Information****Applicant Name:** Columbia Gas Transmission, LLC**Title:** (if individual)**Mailing Address:** **Street or P.O. Box:** 700 Louisiana Street, Suite 1300**City:** Houston **State:** TX **Zip Code:** 77002**Email:** (if individual) melinda\_holdsworth@tcenergy.com**Phone:** (832) 320-5665**Technical Contact****Name:** Melinda Holdsworth**Title:** Air Quality - USNG Pipelines (ANR, TCO, and CGT)**Mailing Address:** **Street or P.O. Box:** 700 Louisiana Street, Suite 1300  
**City:** Houston **State:** TX **Zip Code:** 77002**Email:** melinda\_holdsworth@tcenergy.com**Phone:** (832) 320-5665**Air Permit Contact for Source****Name:** Melinda Holdsworth**Title:** Air Quality - USNG Pipelines (ANR, TCO, and CGT)**Mailing Address:** **Street or P.O. Box:** 700 Louisiana Street, Suite 1300  
**City:** Houston **State:** TX **Zip Code:** 77002**Email:** melinda\_holdsworth@tcenergy.com**Phone:** (832) 320-5665

**Section AI.3: Owner Information**

**Owner same as applicant**

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Mailing Address:** **Street or P.O. Box:** \_\_\_\_\_  
**City:** \_\_\_\_\_ **State:** \_\_\_\_\_ **Zip Code:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Phone:** \_\_\_\_\_

**List names of owners and officers of the company who have an interest in the company of 5% or more.**

**Name**

**Position**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Section AI.4: Type of Application**

**Current Status:**       Title V     Conditional Major     State-Origin                       General Permit                       Registration                       None

**Requested Action:**     Name Change               Initial Registration              Significant Revision                       Administrative Permit Amendment  
*(check all that apply)*     Renewal Permit               Revised Registration              Minor Revision                               Initial Source-wide Operating Permit  
                                   502(b)(10)Change     Extension Request              Addition of New Facility                       Portable Plant Relocation Notice  
                                   Revision                       Off Permit Change              Landfill Alternate Compliance Submittal     Modification of Existing Facilities  
                                   Ownership Change     Closure

**Requested Status:**     Title V     Conditional Major     State-Origin                       PS                       NSR                       Other: \_\_\_\_\_

**Is the source requesting a limitation of potential emissions?**                       Yes                       No

<p><b>Pollutant:</b>                      <b>Requested Limit:</b></p> <p><input type="checkbox"/> Particulate Matter                      _____</p> <p><input type="checkbox"/> Volatile Organic Compounds (VOC)                      _____</p> <p><input type="checkbox"/> Carbon Monoxide                      _____</p> <p><input type="checkbox"/> Nitrogen Oxides                      _____</p> <p><input type="checkbox"/> Sulfur Dioxide                      _____</p> <p><input type="checkbox"/> Lead                      _____</p>	<p><b>Pollutant:</b>                      <b>Requested Limit:</b></p> <p><input type="checkbox"/> Single HAP                      _____</p> <p><input type="checkbox"/> Combined HAPs                      _____</p> <p><input type="checkbox"/> Air Toxics (40 CFR 68, Subpart F)                      _____</p> <p><input type="checkbox"/> Carbon Dioxide                      _____</p> <p><input type="checkbox"/> Greenhouse Gases (GHG)                      _____</p> <p><input type="checkbox"/> Other                      _____</p>
---	--

**For New Construction:**

**Proposed Start Date of Construction:**                      **Proposed Operation Start-Up Date:** (MM/YYYY)

*(MM/YYYY)*                      \_\_\_\_\_                      \_\_\_\_\_

**For Modifications:**

**Proposed Start Date of Modification:**                      **Proposed Operation Start-Up Date:** (MM/YYYY)

*(MM/YYYY)*                      \_\_\_\_\_                      \_\_\_\_\_

**Applicant is seeking coverage under a permit shield.**                       Yes                       No                      **Identify any non-applicable requirements for which permit shield is sought on a separate attachment to the application.**

## Section AI.5 Other Required Information

Indicate the documents attached as part of this application:

- |  |   |
|--|---|
| <input type="checkbox"/> DEP7007A Indirect Heat Exchangers and Turbines                    | <input type="checkbox"/> DEP7007CC Compliance Certification                       |
| <input type="checkbox"/> DEP7007B Manufacturing or Processing Operations                   | <input type="checkbox"/> DEP7007DD Insignificant Activities                       |
| <input type="checkbox"/> DEP7007C Incinerators and Waste Burners                           | <input type="checkbox"/> DEP7007EE Internal Combustion Engines                    |
| <input type="checkbox"/> DEP7007F Episode Standby Plan                                     | <input type="checkbox"/> DEP7007FF Secondary Aluminum Processing                  |
| <input type="checkbox"/> DEP7007J Volatile Liquid Storage                                  | <input type="checkbox"/> DEP7007GG Control Equipment                              |
| <input type="checkbox"/> DEP7007K Surface Coating or Printing Operations                   | <input type="checkbox"/> DEP7007HH Haul Roads                                     |
| <input type="checkbox"/> DEP7007L Mineral Processes  | <input type="checkbox"/> Confidentiality Claim                                    |
| <input type="checkbox"/> DEP7007M Metal Cleaning Degreasers                                | <input type="checkbox"/> Ownership Change Form                                    |
| <input type="checkbox"/> DEP7007N Source Emissions Profile                                 | <input type="checkbox"/> Secretary of State Certificate                           |
| <input type="checkbox"/> DEP7007P Perchloroethylene Dry Cleaning Systems                   | <input type="checkbox"/> Flowcharts or diagrams depicting process                 |
| <input type="checkbox"/> DEP7007R Emission Offset Credit                                   | <input type="checkbox"/> Digital Line Graphs (DLG) files of buldings, roads, etc. |
| <input type="checkbox"/> DEP7007S Service Stations   | <input type="checkbox"/> Site Map   |
| <input type="checkbox"/> DEP7007T Metal Plating and Surface Treatment Operations           | <input type="checkbox"/> Map or drawing depicting location of facility            |
| <input type="checkbox"/> DEP7007V Applicable Requirements and Compliance Activities        | <input type="checkbox"/> Safety Data Sheet (SDS)                                  |
| <input type="checkbox"/> DEP7007Y Good Engineering Practice and Stack Height Determination | <input type="checkbox"/> Emergency Response Plan                                  |
| <input type="checkbox"/> DEP7007AA Compliance Schedule for Non-complying Emission Units    | <input type="checkbox"/> Other: <input type="text"/>                              |
| <input type="checkbox"/> DEP7007BB Certified Progress Report                               |   |

## Section AI.6: Signature Block

I, the undersigned, hereby certify under penalty of law, that I am a responsible official\*, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.



Authorized Signature

Shawn Netherly

Type or Printed Name of Signatory

3/8/24

Date

Area Manager

Title of Signatory

\*Responsible official as defined by 401 KAR 52:001.

<b>Section AI.7: Notes, Comments, and Explanations</b>

**From:** [Melinda Holdsworth](#)  
**To:** [Patil, Durga D \(EEC\)](#)  
**Subject:** RE: [EXTERNAL] AI 44369 Stanton Compressor station  
**Date:** Monday, November 4, 2024 11:31:49 AM  
**Attachments:** [image001.png](#)  
[Stanton DEP7007DD Form - Insignificant Activities.pdf](#)

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**This Message Originated from Outside the Organization**

This Message Is From an External Sender.

[Report Suspicious](#)

Morning Durga,

See attached DEP7007 Form and information on OOOO below:

40 CFR 60 Subpart OOOO—Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015

Subpart OOOO (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After August 23, 2011, and on or before September 18, 2015) establishes emission standards and compliance schedules for the control of volatile organic compounds (VOC) and sulfur dioxide (SO<sub>2</sub>) emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after August 23, 2011, and on or before September 18, 2015. The requirements defined for transmission sources are not applicable to this site.

40 CFR 60 Subpart OOOOa—Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015, and on or before December 6, 2022

Subpart OOOOa (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015, and on or before December 6, 2022) establishes emission standards and compliance schedules for the control of VOC and SO<sub>2</sub> emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after September 18, 2015, and on or before December 6, 2022. The Stanton Compressor Station is considered a natural gas compression facility and is potentially subject to this regulation. However, all equipment and processes potentially subject to this regulation were either installed prior to the applicability date or their installation was not classified as a modification or reconstruction. Therefore, this regulation does not apply.

40 CFR 60 Subpart OOOOb—Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022

Subpart OOOOb (Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After December 6, 2022) establishes emission standards and compliance schedules for the control of VOC and SO<sub>2</sub> emissions from affected facilities in the crude oil and natural gas source category that commence construction, modification, or reconstruction after December 6, 2022. The Stanton Compressor Station is considered a natural gas compression

facility and is potentially subject to this regulation. However, all equipment and processes potentially subject to this regulation commenced construction prior to the applicability date. Therefore, this regulation does not apply.

Please let me know if you need anything else or have any questions.

Thanks!

Mel Holdsworth

**Melinda Holdsworth**

Air Specialist - USNG Air Emissions and Reporting

Desk: 832-320-5665

**WORKING REMOTELY WEDNESDAY AND FRIDAY**



700 Louisiana St., Ste. 1300  
Houston, TX 77002

[TCEnergy.com](http://TCEnergy.com)

---

**From:** Patil, Durga D (EEC) <Durga.Patil@ky.gov>  
**Sent:** Friday, October 25, 2024 3:01 PM  
**To:** Melinda Holdsworth <melinda\_holdsworth@tcenergy.com>  
**Subject:** [EXTERNAL] AI 44369 Stanton Compressor station

**EXTERNAL EMAIL: PROCEED WITH CAUTION.**

This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe. If this email looks suspicious, report it.

---

Good afternoon:

I am starting to work on the renewal for the above AI, while I wait on information for the Clementsville station.

I wanted to confirm at this stage that there has been no changes at the Stanton Compressor station since the submission of the renewal application. In addition, it looks like for Stanton



there is no applicability of NSPS OOOO or OOOOa as no changes to the compressors or turbines have occurred after the applicability of the regulation.

That being said, I would like to have the emissions profile for the fugitive components (blowdown and equipment leaks count) and HAP speciation. Though the unit will still be an insig. Activity (not subject to NSPS OOOO/a) we still need to update the KYEIS.

In addition, would like the emissions profile for pipeline Liquids tanks with HAP speciation.

Thanks

*Durga Patil*

Environmental Scientist Consultant

Permit Review Branch

Department for Environmental Protection

Division for Air Quality

300 Sower Blvd

Frankfort, KY 40601

Phone: (502)- 782-6730

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(502) 564-3999

**DEP7007DD****Insignificant Activities**

\_\_\_ Section DD.1: Table of Insignificant Activities  
\_\_\_ Section DD.2: Signature Block  
\_\_\_ Section DD.3: Notes, Comments, and Explanations

**Source Name:** Columbia Gulf Transmission, LLC

**KY EIS (AFS) #:** 21- 197-00006

**Permit #:** V-18-021

**Agency Interest (AI) ID:** 44369

**Date:** 11/1/2024

**Section DD.1: Table of Insignificant Activities**

\*Identify each activity with a unique Insignificant Activity number (IA #); for example: 1, 2, 3... etc.

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
IA-A01	Lube Oil Tank - 5200 Gallons	N/A	None	<0.1
IA-A02	Lube Oil Tank - 5200 Gallons	N/A	None	<0.1
IA-A03	Lube Oil Tank - 2800 Gallons	N/A	None	<0.1
IA-A04	Used Oil - 1800 Gallons	N/A	None	<0.1
IA-A05	Glycol Tank - 2500 Gallons	N/A	None	<0.1
IA-A06	Water Mixture Tank - 1000 Gallons	N/A	None	<0.1
IA-A07	Used Oil - 8800 Gallons	N/A	None	<0.1
IA-A08	Water Mixture Tank - 8800 Gallons	N/A	None	<0.1
IA-A09	Water Mixture Tank - 8800 Gallons	N/A	None	<0.1
IA-A10	Glycol Tank - 1050 Gallons	N/A	None	<0.1
IA-A11	Kerosene Tank - 275 Gallons	N/A	None	<0.1
IA-A14	Pipeline Liquids Tank - 2100 gallons	N/A	None	<1.0 VOC; <0.036 Total HAP; <0.007 each: n-Hexane, Benzene, Toluene, Ethylbenzene, Xylenes
IA-A15	Pipeline Liquids Tank - 285 gallons	N/A	None	<0.5 VOC; <0.018 Total HAP; <0.004 each: n-Hexane, Benzene, Toluene, Ethylbenzene, Xylenes
IA-A16	Pipeline Liquids Tank - 2000 gallons	N/A	None	<1.0 VOC; <0.036 Total HAP; <0.007 each: n-Hexane, Benzene, Toluene, Ethylbenzene, Xylenes
IA-A17	Pipeline Liquids Tank - 2000 gallons	N/A	None	<1.0 VOC; <0.036 Total HAP; <0.007 each: n-Hexane, Benzene, Toluene, Ethylbenzene, Xylenes
IA-A20	Water Mixture Tank - 2000 gallons	N/A	None	<0.1

Insignificant Activity #	Description of Activity including Rated Capacity	Serial Number or Other Unique Identifier	Applicable Regulation(s)	Calculated Emissions
IA-A21	Water Mixture Tank - 2000 gallons	N/A	None	<0.1
IA-A22	Water Mixture Tank - 2000 gallons	N/A	None	<0.1
IA-A23	Water Mixture Tank - 2000 gallons	N/A	None	<0.1
IA-FUG	Fugitive Equipment Leaks/Blowdowns	FUG	None	<5.0 VOC; <0.18 Total HAP; <0.036 each: n-Hexane, Benzene, Toluene, Ethylbenzene, Xylenes
	Graywater Evaporation System	N/A	None	<0.1

**Section DD.2: Signature Block**

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

<b>By:</b>	_____ <b>Authorized Signature</b>	_____ <b>Date</b>
	_____ <b>Type/Print Name of Signatory</b>	_____ <b>Title of Signatory</b>

**Section DD.3: Notes, Comments, and Explanations**


**SITEWIDE FUGITIVE EMISSION CALCULATIONS**  
**Columbia Gulf Transmission, LLC**  
**Stanton Compressor Station**

Annual Hours of Operation: 8760  
 Component Count Buffer: 10%  
 Ideal gas law conversion factor: 379.48 scf/lb-mole  
 Conversion lb to ton: 2000  
 Conversion kg to lb: 2.20

Component Type	Number of Components <sup>1</sup>	Fugitive Emission Factor <sup>2,3</sup> (lb/hr/component)	Emissions								
			Total Hydrocarbons		VOC		HAP <sup>4</sup>		CH4	CO2	CO2e <sup>5</sup>
			(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(tpy)	(tpy)	(tpy)
Valves	1329	0.0099	13.1847	57.7492	0.2300	1.0072	0.0087	0.0379	47.9283	0.2764	1198.48
Flange	993	0.0009	0.8538	3.7396	0.0149	0.0652	0.0006	0.0025	3.1036	0.0179	77.61
Connectors	3933	0.0004	1.7342	7.5956	0.0302	0.1325	0.0011	0.0050	6.3039	0.0364	157.63
Open-Ended Lines	36	0.0044	0.1587	0.6952	0.0028	0.0121	0.0001	0.0005	0.5770	0.0033	14.43
Pressure Relief Valves	18	0.0194	0.3492	1.5295	0.0061	0.0267	0.0002	0.0010	1.2694	0.0073	31.74
Pump Seals	1	0.0053	0.0053	0.0232	0.0001	0.0004	0.0000	0.0000	0.0192	0.0001	0.48
Other	102	0.0194	1.9789	8.6674	0.0345	0.1512	0.0013	0.0057	7.1935	0.0415	179.88
<b>Total:</b>			<b>18.26</b>	<b>80.00</b>	<b>0.32</b>	<b>1.40</b>	<b>0.012</b>	<b>0.05</b>	<b>66.39</b>	<b>0.38</b>	<b>1660.26</b>

- 1 Number of components based on site-specific component count with a 10% buffer for a conservative count.
- 2 Fugitive emission factor from EPA-453/R-95-017, Table 2-4 - November 1995 Guidance - Oil & Gas Production Operations Average Emission Factors' from 'Protocol for Equipment Leak Emission Estimates'
- 3 Gas composition of C6+ from site specific analysis. HAP composition is based on GRI-GLYCALC factors for Transmission Industry Segment.
- 4 CO2e is carbon dioxide equivalent, which is the summation of CO2 (GWP = 1) + CH4 (GWP = 25) + N2O (GWP = 298).

Speciated HAP Pollutant	HAP	
	(lb/hr)	(tpy)
2,2,4-Trimethylpentane	0.0103	0.0453
Benzene	0.0015	0.0064
Ethylbenzene	0.0001	0.0004
n-Hexane	0.0001	0.0003
Toluene	0.0000	0.0000
Xylenes	0.0000	0.0002
<b>Total HAPs</b>	<b>0.012</b>	<b>0.05</b>

Gas composition of C6+ from site specific analysis. HAP composition is based on GRI-GLYCALC factors for Transmission Industry Segment.

**GAS ANALYSIS:**

Weight%:	
VOC	1.74%
HAP	0.07%
CH4	82.99%
CO2	0.48%
Gas Molecular Weight:	17.49
Gas Specific Gravity:	0.60
Molecular Weight of Air:	28.97
Density of Gas Sample (lb/scf):	4.62

VOC and HAP weight percentages based on site-specific analysis with a 20% buffer.