INFORMATION RELATIVE TO
THE DRAFT TITLE V OPERATING PERMIT
October 25, 2024

GENERAL FACILITY INFORMATION

Facility Name: Columbia Gulf Transmission LLC, Inverness Compressor Station
Facility Address: 4161 Four Mile Road, Inverness, MS 38753
County: Humphreys
SIC Code(s): 4922
NAICS Code(s): 486210

APPLICATION SUMMARY

Permit No.: 1180-00020
Permit Action: Renewal includes Significant Modification
Permit Folder: PER20240001
Application Receipt Date: 1/30/2024
Application Deemed Complete: 4/22/24
CBI Submitted?: No

NSPS (Part 60): A, GG, KKKK
NESHAP (Part 61): N/A
NESHAP (Part 63): A, YYYY, ZZZZ
112(r) / RMP: N/A
Other: N/A

FACILITY DESCRIPTION

Columbia Gulf Transmission owns and operates its Inverness Compressor Station located in Humphreys County for the purpose of transporting natural gas through its pipeline distribution system. Natural gas compression at the Inverness Compressor Station is accomplished through four (4) 4,800-HP natural gas-fired Cooper-Beesemer Model LSV-16SG 4SLB SI natural gas-fired compressor engines, one (1) 16,793-HP Solar Mars Model 100-15000S natural gas-fired compressor turbine, and one (1) 21,916-HP Solar Titan Model 130-19802S natural gas-fired compressor turbine. The station also operates one (1) 750-HP and one (1) 46-HP natural gas-fired emergency generator engine. Other sources of emissions include emissions from piping and equipment fugitive sources, as well as insignificant activities. The following table lists the significant emission points at the facility.

Emission Point	Description
AA-001	4,800 brake horsepower (bhp) (39.4 MMBTU/hr) Cooper-Bessemer Model LSV-16SG four stroke lean burn (4SLB) spark ignition (SI) natural gas-fired compressor engine
AA-002	4,800 bhp (39.4 MMBTU/hr) Cooper-Besemer Model LSV-16SG 4SLB SI natural gas-fired compressor engine
AA-003	4,800 bhp (39.4 MMBTU/hr) Cooper-Besemer Model LSV-16SG 4SLB SI natural gas-fired compressor engine
AA-004	4,800 bhp (39.4 MMBTU/hr) Cooper-Besemer Model LSV-16SG 4SLB SI natural gas-fired compressor engine

Emission Point	Description
AA-007	46 bhp (0.6 MMBTU/hr) Ford Model LSG-4231 four stroke rich burn (4SRB) SI natural gas-fired emergency backup power generating engine
AA-008	750 bhp (9.1 MMBTU/hr) Waukesha Model L5790GU 4SRB SI natural gas-fired emergency backup power generating engine
AA-011	16,793 bhp (139.2 MMBTU/hr) Solar Mars Model 100-15000S natural gas-fired centrifugal compressor turbine
AA-012	21,916 bhp (167.3 MMBTU/hr) Solar Titan Model 130-19802S natural gas-fired centrifugal compressor turbine
AA-013	Plant wide Fugitive Emissions

TITLE V SOURCE APPLICABILITY

The facility's potential-to-emit (PTE) exceeds the Title V major source threshold of 100 tons per year (tpy) for each of the following criteria air pollutants: Nitrogen Oxides (NO_x) and Carbon Monoxide (CO). The facility's potential-to-emit hazardous air pollutants (HAPs) exceeds the Title V major source thresholds of 25 tpy of total HAPs and 10 tpy for formaldehyde.

Facility-Wide Potential-to-Emit Summary[1]

Pollutant	PTE Emissions (tons/yr)
Particulate Matter (TSP)	14.95
PM_{10}	14.95
$PM_{2.5}$	14.95
Sulfur Dioxide (SO_2)	1.39
Nitrogen Oxides (NO_x)	4,980.80
Carbon Monoxide (CO)	667.46
Volatile Organic Compounds (VOC)	91.00
Total Reduced Sulfur (TRS)	0.00
Lead	0.00
CFC/HCFC	0.00
Total HAP	51.53

[1] The PTE emissions reflect any emission limits or enforceable restrictions included in the proposed permit.

PREVENTION OF SIGNIFICANT DETERIORATION (PSD) APPLICABILITY

The facility is not one of the 28 categorical facilities listed in 40 CFR 52.21(b)(1)(i)(a); therefore, the PSD threshold for a major source is 250 tpy. The facility has the potential to emit

more than 250 tons per year of NOx and CO; therefore, the facility is considered a major stationary source. This permitting action will not change the current PSD status of the facility as an existing major source.

FACILITY MODIFICATIONS AND/OR PERMIT CHANGES

There are no modifications to the facility or other significant permit changes proposed as part of this permitting action except for the decommissioning and removal of the fire pump (Emission Point AA-009). Consequently, it has been removed from the permit.

COMPLIANCE ASSURANCE MONITORING (CAM) APPLICABILITY

40 CFR Part 64 specifies the requirements for CAM. The general applicability of this rule can be found in 40 CFR 64.2 and requires a Title V source to comply with the CAM requirements if all three of the following criteria are met for a pollutant-specific emission unit (PSEU):

1. The unit is subject to an emission limitation or standard for a regulated air pollutant other than exemptions under 40 CFR 64.2(b)(1);
2. The unit uses a control device to comply with the standard; and
3. The unit has pre-control emissions exceeding Title V major source threshold.

There is no control equipment associated with any of the emission units subject to an emission limit or standard at this facility, therefore, Compliance Assure Monitoring does not apply to the Inverness Compressor Station.

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) APPLICABILITY

The facility is a Major Source of Hazardous Air Pollutants (HAP) since the facility has the potential to emit more than 25 tons per year of total HAPs and 10 tpy of formaldehyde.

40 CFR 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The Reciprocating Internal Combustion Engines (RICE) NESHAP, Subpart ZZZZ, regulates HAP emissions from RICE.

Emission Points AA-001 through AA-004, AA-007, and AA-008, are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), 40 CFR Part 63, Subpart ZZZZ.

Emission Points AA-001 through AA-004 are existing non-emergency four stroke lean burn (4SLB) spark ignition (SI) stationary RICE, each with a site rating of more than 500 brake HP located at a major source of HAP emissions, and as such, are exempt from the requirements of 40 CFR 63, Subpart ZZZZ and the General Provisions in Subpart A.

Emission Point AA-007 is an existing four stroke rich burn (4SRB) SI emergency stationary RICE with a site rating of less than 500 brake HP located at a major source of HAP emissions, and as such, is subject to the operational requirements of 40 CFR 63, Subpart ZZZZ and the applicable General Provisions in Subpart A.

Emission Point AA-008 is an existing 4SRB SI emergency stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions, and as such, is subject only to the emergency operational requirements of 40 CFR 63, Subpart ZZZZ.

40 CFR 63 Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters

The facility does not operate any boilers or process heaters. The facility does operate small insignificant space heaters which are not classified as process heaters per the definition of process heaters in 40 CFR 63.7575, and thus are not subject to the MACT.

40 CFR 63 Subpart HHH

The NESHAP for Natural Gas Transmission and Storage Facilities establishes emission limitations and operating limitations for HAP emissions from glycol dehydrators from owners and operators of natural gas transmission and storage facilities that transport or store natural gas prior to entering the pipeline to a local distribution company or to a final end user, and that are major sources of HAP emissions. The Inverness Compressor Station is a Major Source of HAP emissions but does not operate any glycol dehydrators; therefore, NESHAP HHH does not apply to the facility.

40 CFR 63 Subpart YYYY

The NESHAP for Stationary Combustion Turbines establishes emission and operating limitations for HAP emissions from stationary combustion turbines located at a major source for HAPS. The Inverness Compressor Station operates two (2) turbines. Emission Points AA-011 and AA-012 are existing sources that were each constructed prior to the effective date of January 14, 2003. Therefore, each turbine is subject to NESHAP YYYY but does not have to meet the requirements of NESHAP YYYY or NESHAP A per 40 CFR 63.6090(b)(4).

Emission Point AA-012 was uprated in 2008 from a Solar Titan 130-T18000S to Solar Titan Model 130-19802S. The cost of the project was significantly less than 50% of the cost of a new turbine. Therefore, the project did not meet the definition of reconstruction under 40 CFR Part 60 or Part 63 and qualified only as a modification.

NEW SOURCE PERFORMANCE STANDARDS (NSPS) APPLICABILITY

40 CFR 60 SUBPART Kb

NSPS Kb applies to each volatile organic liquid storage tank that is greater than 75 cubic meters (19,813 gallons) in capacity and that has been constructed, reconstructed, or modified after July 23, 1984. NSPS Kb is not applicable to any of the organic liquid storage tanks at the facility as none of the tanks are sized over 19,813 gallons.

40 CFR 60 SUBPART GG

The provisions of 40 CFR 60 Subpart GG - New Source Performance Standards for Stationary Gas Turbines are applicable to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 million Btu) per hour, based on the lower heating value of the fuel fired, that commenced construction, modification, or reconstruction after October 3, 1977.

The facility operates two (2) turbines. Emission Point AA-011 is subject to the fuel sulfur requirements and NOx emission limitations of NSPS GG. Emission Point AA-012 is subject to 40 CFR, Subpart KKKK and is therefore exempt from the requirements of NSPS GG.

40 CFR 60 SUBPART KKKK

The provisions of 40 CFR 60 Subpart KKKK - New Source Performance Standards for Stationary Combustion Turbines are applicable to stationary combustion turbines with a heat input at peak load equal to or greater than 10.7 gigajoules (10 MMBtu) per hour, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005. Emission Point AA-011 was constructed prior to the NSPS KKKK effective date and is therefore exempt from the requirements of NSPS KKKK. Emission Point AA-012 was modified in 2008, after the NSPS KKKK effective date, and is therefore subject to the fuel sulfur requirements and NOx emission limitations of NSPS KKKK.

40 CFR 60 Subpart IIII

The provisions of 40 CFR 60 Subpart IIII - New Source Performance Standards for Compression Ignition Internal Combustion Engines (NSPS IIII) are applicable to stationary compression ignition internal combustion engines that commenced construction, modification, or reconstruction after April 1, 2006. The facility does not operate any stationary compression ignition internal combustion engines; therefore, no requirements of NSPS IIII are applicable to the facility.

40 CFR 60 Subpart JJJJ

The provisions of 40 CFR 60 Subpart JJJJ - New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines (NSPS JJJJ) are applicable to stationary spark ignition internal combustion engines that commenced construction, modification, or reconstruction after June 12, 2006. Emission Points AA-001 through AA-004, AA-007, and AA-008 are stationary spark ignition internal combustion engines; however, each engine has a manufacturer date before the June 12, 2006, effective date. Therefore, none of the engines are subject to any requirements of NSPS JJJJ.

40 CFR 60 Subpart KKK

The provisions of 40 CFR 60, Subpart KKK - Standards of Performance for Equipment Leaks of VOC from Onshore Natural Gas Processing Plants (NSPS KKK) apply to affected facilities in onshore natural gas processing plants that commences construction, reconstruction, or modification after January 20, 1984, and on or before August 23, 2011. Since the Inverness Compressor Station is not located at an onshore natural gas processing plant, as defined in 40 CFR 60.631, the Inverness Compressor Station is not subject to NSPS KKK.

40 CFR 60 Subpart OOOO

The provisions of 40 CFR 60, Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution (NSPS OOOO) are potentially applicable to owners and operators of onshore affected facilities that commence construction, modification, or reconstruction after August 23, 2011. The only potentially affected sources at the Inverness Compressor Station are the facility's compressor engines and oil condensate storage vessel. However, the compressor engines and storage vessel are not new and have not been modified or

reconstructed after August 23, 2011; consequently, NSPS OOOO does not apply to the Inverness Compressor Station.

40 CFR 60 Subpart OOOOa

The provisions of 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 (NSPS OOOOa) are potentially applicable to new and modified sources in the oil and gas industry after August 18, 2015. The only potentially affected sources at the Inverness Compressor Station are the facility's compressor engines, with respect to Leak Detection and Repair (LDAR), and pneumatic controllers. However, there have been no new compressors installed at the facility resulting in increased compression, nor has the facility modified any existing compressor engines or pneumatic controllers; consequently, NSPS OOOOa does not apply to the Inverness Compressor Station.

SPECIFIC APPLICABLE REQUIREMENTS

Emission Points AA-007 and AA-008 have a particulate matter emission limitation of 0.6 lbs/MMBTU, because they have a rated heat input less than 10 MMBTU/hr. Emission Points AA-001 through AA-004, AA-011, and AA-012, each have a rated heat input greater than 10 MMBTUH and thus are subject to a particulate matter limit of $E=0.8808 * I^{-0.1667}$ where E is the emission rate in pounds per million BTU per hour heat input and I is the heat input in millions of BTU per hour.

Since the applicable regulations are state standards for combustion for PM and SO_2, all the units should have a large margin of compliance. The only fuel that is being used is natural gas, therefore, the only monitoring requirement is the recording of the type and quantity of fuel used.

Other requirements are tabularized below.

Emission Point(s)	Pollutant / Parameter	Limit/Standard	Monitoring Requirements
AA-007 and AA-008	PM	0.6 lbs/MMBTUH	Record Type and Quality of Fuel Used
	Hour Meter	Emergency Operational Requirements	Monitoring of operations
AA-001 through AA-004, AA-011, and AA-012	PM	$E=0.8808*I^{-0.1667}$	Record Type and Quality of Fuel Used
AA-011	SO_2	≤ 0.8% sulfur by weight	Record Type and Quality of Fuel Used
	NO_x	Temperature > 0 °F: Full load 42 ppmvd @15% O_2 and 21.4 lb/hr	Performance Testing and Monitoring of operations
		Temperature > 0 °F: Low load (< 50% load) 70 ppmvd @ 15% O2 and 24.8 lb/hr	
		Low Temperature (<0 °F): 42 ppmvd @ 15% O2 21.6 lb/hr	
		Startup/Shutdown: 9.5 lb/hr	
		209.8 tpy	
	CO	Temperature > 0 °F: Full load: 15.5 lb/hr	
		Temperature > 0 °F: Low load (< 50% load): 475.1 lb/hr	
		Low Temperature (<0 °F): 31.3 lb/hr	

Emission Point(s)	Pollutant / Parameter	Limit/Standard	Monitoring Requirements
		Startup/Shutdown: 190.4 lb/hr	
		150.0 tpy	
AA-012	SO_2	0.060 lb SO2 /MMBTU (20 grains S/100scf	Record Type and Quality of Fuel Used
	NO_x	Temperature ≥ 0 °F: Full load: 42 ppmvd @15% O_2 and 26.0 lb/hr	Performance Testing and Monitoring of operations
		Temperature ≥ 0 °F: Low load (< 50% load): 70 ppmvd @ 15% O2 and 30.2 lb/hr	
		Low Temperature (< 0 °F): 42 ppmvd @ 15% O2 and 26.3 lb/hr	
		Startup/Shutdown: 10.7 lb/hr	
		99.6 tpy	
	CO	Temperature ≥ 0 °F: Full load: 18.8 lb/hr	
		Temperature ≥ 0 °F: Low load (< 50% load): 577.4 lb/hr	
		Low Temperature (< 0 °F): 38.1 lb/hr	
		Startup/Shutdown: 211.9 lb/hr	
		143.3 tpy	
AA-007	General Operating Conditions	Scheduled Maintenance Activities	Monitoring of operations
		Operational Requirements	
		Continuous Compliance and Minimizing Emissions	

OTHER REQUIREMENTS:
N/A