

# STATEMENT OF BASIS for TRANSCO COMPRESSOR STATION 505

## TITLE V OPERATING PERMIT SIGNIFICANT MODIFICATION

Program Interest (PI): 35742 / Permit Activity Number: BOP210001

### I. FACILITY INFORMATION

Transco Compressor Station 505 is located at 623 Case Rd., Neshanic Station, Somerset County, NJ and consists of a natural gas pipeline compressor station. The facility is owned and operated by Transcontinental Gas Pipeline Corporation.

The facility is classified as a major facility based on its potential to emit 192 tons per year of volatile organic compounds (VOC), 403 tons per year of nitrogen oxides (NOx), 263 tons per year of carbon monoxide (CO), and 223 tons per year of methane.

It is also classified as a major hazardous air pollutant (HAP) facility. A HAP emitting facility is designated as major when the allowed emissions exceed 10 tons per year of any individual hazardous air pollutant or 25 tons per year of any combination of individual hazardous air pollutants that may be emitted simultaneously.

This permit allows individual hazardous air pollutants to be emitted at a rate not to exceed: 46 pounds per year of acetaldehyde, 3.87 tons per year of acrolein, 14 pounds per year of benzene, 0.08 pounds per year of ethylene dibromide, 16.8 tons per year of formaldehyde, 0.06 pounds per year of methylnaphthalene, and 34 pounds per year of propylene oxide.

### II. AREA ATTAINMENT CLASSIFICATION

The Federal Clean Air Act (CAA) sets National Ambient Air Quality Standards (NAAQS) for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are particulate matter, ground-level ozone, carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), and lead. The US Environmental Protection Agency (USEPA) also classifies areas as "attainment" or "nonattainment" for each criteria pollutant, based on the magnitude of an area's problem. Nonattainment classifications are used to specify what air pollution reduction measures an area must adopt, and when the area must reach attainment. Currently, the entire State of New Jersey is designated as nonattainment for the 8-hour ozone NAAQS. New Jersey is designated attainment for all other pollutants. For nonattainment classification refer to <https://www.epa.gov/green-book/green-book-national-area-and-county-level-multi-pollutant-information>.

### III. BACKGROUND AND HISTORY

The equipment that emits air contaminants from this facility include eight 2,050 Horsepower (HP) natural gas-fired internal combustion engines, one 1,072 HP natural gas-fired emergency generator, one 1,800 HP natural gas-fired emergency generator, and two 150 million British Thermal Units per hour (MMBtu/hr) natural gas-fired turbines equipped with oxidation catalysts with no less than 90% reduction efficiency for carbon monoxide and select catalytic reduction devices (SCR) with no less than 50% reduction efficiency for nitrogen oxides.

Health Risk Assessment was conducted as part of the review of this permit application and health risk was determined to be negligible consistent with NJDEP Technical Manual 1003.

This is a permit modification and includes the following changes:

Compressor Station 505 will be adding two (2) natural gas-fired combustion turbines, one (1) natural gas-fired emergency generator, one natural gas condensate liquids storage tank, and other ancillary equipment. Upon start-up of the two combustion turbines, the facility plans to shut down and remove eight existing Ingersoll Rand 412-KVS reciprocating compressor engines from service and plans to file a minor modification to remove them from the Operating Permit. To limit the air contaminant emissions while the two turbines and eight engines are both in the Operating Permit, a requirement has been added to the compliance plan to limit the facility-wide usage of natural gas to 1,411.4 million cubic feet per year.

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This modification will also change the facility-wide emission limits as listed in the following table:

Allowable Emission Limits	Facility's Potential Emissions (tons per year)									
	VOC (total)	NO <sub>x</sub>	CO	SO <sub>2</sub>	TSP (total)	PM <sub>10</sub> (total)	PM <sub>2.5</sub> (total)	Pb	HAPs (total)	CO <sub>2e</sub> (total)
Current Permit	190	403	263	0.02	3.83	3.83	3.83	NA	20.6	87,411
Proposed Permit	192	403	263	2.72	3.83	6.33	6.33	NA	20.8	94,046
Change (+ / -)	2	0	0	2.7	0	2.5	2.5	NA	0.2	6,635

VOC Volatile Organic Compounds

NO<sub>x</sub> Nitrogen Oxides

CO Carbon Monoxide

SO<sub>2</sub> Sulfur Dioxide

TSP Total Suspended Particulates

PM<sub>10</sub>

PM<sub>2.5</sub>

Pb

HAPs

CO<sub>2e</sub>

Particulates under 10 microns

Particulates under 2.5 microns

Lead

Hazardous Air Pollutants

Carbon Dioxide equivalent

### IV. CASE-BY-CASE DETERMINATIONS

No case-by-case determinations were required for this modification.

### V. EMISSION OFFSET REQUIREMENTS

This modification is not subject to Emission Offset requirements.

### VI. BASIS FOR MONITORING AND RECORDKEEPING REQUIREMENTS

The facility's operating permit includes monitoring, recordkeeping and reporting requirements that are sufficient to demonstrate the facility's continued compliance with the applicable requirements consistent with the following:

- Provisions to implement the testing and monitoring requirements of N.J.A.C. 7:27-22.18, the recordkeeping and reporting requirements of N.J.A.C. 7:27-22.19, and all emissions monitoring and analysis procedures or compliance assurance methods required under the applicable requirements, including any procedures and methods promulgated pursuant to 40 CFR 64; and
- Where the applicable requirement does not require direct periodic monitoring of emissions, the Department requires periodic monitoring of surrogate parameters sufficient to yield reliable data from the relevant time period that are representative of the facility's compliance with the permit.

For emergency generator U12, the facility monitors hours of operation as the surrogate for the long-term (TPY) emission limits for VOC, NO<sub>x</sub>, CO, TSP, PM-10, PM-2.5, acrolein, ethylene dibromide, and formaldehyde.

For vertical fixed roof storage tank U13, the facility monitors the total throughput (gal/yr) and vapor pressure of each VOC stored as surrogates for the long-term (TPY) emission limits for VOC.

For combustion turbines U100, the facility monitors the fuel use as the surrogate for the long-term (TPY) emissions limits for VOC, NO<sub>x</sub>, CO, SO<sub>2</sub>, TSP, PM-10, PM-2.5, acetaldehyde, acrolein, benzene, formaldehyde, and propylene oxide.

- In some cases, direct periodic monitoring of emissions and/or surrogate parameters is not required due to one or more of the following:
  - Equipment size and capacity limitations,
  - Subject equipment being permitted at the maximum rated capacity,
  - There is no specific state or Federal standard that applies to this piece of equipment,
  - Not a pollutant of concern for this piece of equipment,

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- Agreements with EPA on the frequency of testing and monitoring for combustion sources.

#### VII. APPLICABLE STATE AND FEDERAL RULES

This modification is subject to New Jersey Air Pollution Control Regulations, codified in N.J.A.C. 7:27-1 through 34, as applicable. A complete text of these regulations is available at:

<http://www.nj.gov/dep/aqm/rules27.html>

This modification is also subject to Federal regulations listed below.

NSPS Subpart A:	General Provisions
NSPS Subpart JJJJ:	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines
NSPS Subpart KKKK:	Standards of Performance for Stationary Combustion Turbines
NSPS Subpart OOOOa:	Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015
MACT Subpart A:	General Provisions
MACT Subpart YYYY:	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines
MACT Subpart ZZZZ:	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

The Greenhouse Gas (GHG) emissions from this facility are 94,046 TPY of CO<sub>2</sub>e and the GHG emissions increase is 6,635 TPY of CO<sub>2</sub>e. This modification is not subject to PSD rules at 40 CFR 52.21.

#### VIII. FACILITY'S COMPLIANCE STATUS

The Responsible Official at the facility has certified that the facility currently meets all applicable requirements of the Federal Clean Air Act and the New Jersey Air Pollution Control Act. Based on this certification, the Department's evaluation of the information included in the facility's application, and a review of the facility's compliance status, the Department has concluded that this air pollution control operating permit should be approved.

This operating permit includes a permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. A permit shield provides that compliance with the relevant conditions of the operating permit shall be deemed compliance with the specific applicable requirements that are in effect on the date of issuance of the draft operating permit, and which form the basis for the conditions in the operating permit.

Prior to the expiration of the Operating Permit's five-year term, the facility will be required to apply for a renewal, at which time the Department will evaluate the facility and issue a public notice with its findings.

This operating permit includes a permit shield, pursuant to the provisions of N.J.A.C. 7:27-22.17. A permit shield provides that compliance with the relevant conditions of the operating permit shall be deemed compliance with the specific applicable requirements that are in effect on the date of issuance of the draft operating permit, and which form the basis for the conditions in the operating permit.

Also, prior to the expiration of the five-year period, the facility will be required to apply for a renewal of this operating permit, at which time the Department will evaluate the facility and issue a public notice with its findings.

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#### **IX. EXEMPT ACTIVITIES**

The facility's operating permit does not include exempt activities such as office and interior maintenance activities, maintenance shop activities, food preparation facilities, cafeterias and dining rooms, etc. A complete list of exempt activities, as allowed by the Operating Permit rule, can be found at N.J.A.C. 7:27-22.1.

FACILITY NAME (FACILITY ID NUMBER)  
BOP050001

Activity Number assigned  
by the Department

## New Jersey Department of Environmental Protection Facility Specific Requirements

Emission Unit Number  
assigned by the Facility

Brief description of  
emission unit

**Emission Unit:** U40 Sewage Sludge Incinerators  
**Operating Scenario:** OS Summary

OR

**OS2 Fluidized Bed Incinerator**

OS Summary lists all rules and requirements  
that apply to an emission unit. An emission unit  
may contain one or more pieces of equipment  
and corresponding operating scenarios.

OSX denotes the operating scenario number and lists the rules  
and requirements that apply to a scenario. An operating  
scenario represents various ways (or scenarios) a piece of  
equipment is permitted to operate.

Item  
Number

Description of applicable  
requirement

Monitoring method to  
ensure compliance

Recordkeeping to show  
facility's compliance

Actions and submittals  
required for the facility

Ref.#	Applicable Requirement	Monitoring Requirement	Recordkeeping Requirement	Submittal/Action Requirement
3	The permittee shall conduct an annual performance test for each pollutant in Table 2 of 40CFR62 Subpart LLL between 11 and 13 calendar months after the previous performance test or within 60 days of a process change. [40 CFR 62.16000(a)]	Other: Conduct the performance test using the test methods, averaging methods and minimum sampling volumes or durations as specified in 40CFR62 Subpart LLL and according to the testing, monitoring and calibration requirements specified in 40 CFR 62.16015(a). [40 CFR 62.16000(a)].	Other: (1) Maintain records of the results of initial, annual and any subsequent performance tests conducted to determine compliance with the emission limits and standards and/or to establish operating limits, as applicable. [40 CFR 62.16025(e)].	Submit a report: Annually to the Administrator and to the Department. The permittee shall submit an annual compliance report as specified in 40 CFR 62. [40 CFR 62.16000(d)]

Rule citation for  
applicable requirement

Rule citation for  
monitoring requirement

Rule citation for  
recordkeeping requirement

Rule citation for submittal/  
action requirement

### Explanation Sheet for Facility Specific Requirements