

COMMONWEALTH OF PENNSYLVANIA  
Department of Environmental Protection  
August 30, 2011

**SUBJECT:** Review of Title V Operating Permit Renewal Application  
Pratt Compressor Station  
Equitrans, LP  
Waynesburg Boro, Greene County

**TO:** Air Quality Plan Approval File: TVOP-30-00110

**THROUGH:** Mark A. Wayner, P.E.  
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**BACKGROUND**

Equitrans, LP (Equitrans), a subsidiary of EQT Corporation, operates the Pratt Compressor Station (Pratt), a natural gas transmission facility located in Franklin Township, Greene County. The station consists of five (5) Cooper-Bessemer reciprocating internal combustion compressor engines, one (1) natural gas-fired electric generator, a tri-ethylene glycol (TEG) dehydration unit in which contact tower emissions are routed through the associated reboiler, a dry bed dehydration unit equipped with two (2) desiccant towers and a reboiler (indirect heater), and several miscellaneous combustion units.

The Pratt Station has been operating in accordance with Reasonably Available Control Technology (RACT) Operating Permit No. 30-000-110 (issued July 10, 1995), Title V Operating Permit TVOP-30-00110 (initially issued on July 29, 1997, renewed on July 29, 2003), and Plan Approval PA-30-00110A (issued on January 22, 2010). PA-30-00110A authorized the installation of Cooper-Bessemer CleanBurn™ Systems on Engines #1 and #2, the uprate of Engines #1 and #2, and the establishment of synthetic minor emission limitations for the facility, such that Pratt Station is no longer a major source.

On January 29, 2008, DEP received a TVOP renewal application submitted by Equitrans, LP to authorize the continued operation of the sources at the subject facility. On August 15, 2011, Equitrans submitted updates to the pending TVOP renewal application to expand the regulatory analysis section of the application and to include the conditions for Engines #1 through #5 that were established in PA-30-00110A. Although the facility is not major for emissions, Equitrans has opted to obtain a TVOP under the authority of PA Code Title 25 § 127.504(c).

## REGULATORY ANALYSIS

*PA Code Title 25 §§ 129.91-95 Standards for Stationary Source of NOx and VOCs.* Under the Clean Air Act, Pennsylvania was required to develop and implement a RACT program for major stationary sources of VOCs and NOx. PADEP's RACT regulation became effective on January 15, 1994, such that facilities that were major sources of VOC or NOx emissions were required to submit a proposal for compliance with the program by July 15, 1994. At the time, Equitrans considered Pratt Station to be a major source of NOx emissions, based on the manufacturer's data that was available then. In accordance with this requirement, Equitrans submitted a RACT proposal for the Pratt Station on July 12, 1994.

Equitrans examined the technical and economic feasibility of various control options for the 5 engines. Selective Non-Catalytic Reduction (SNCR), Non-Selective Catalytic Reduction (NSCR), and Selective Catalytic Reduction (SCR) were determined to be technically infeasible due to fluctuating operating conditions and inappropriate temperature ranges. Combustion modifications were found to be technically feasible, but not economically feasible. Cost effectiveness was calculated based on annual emissions of 99 tons per engine, per year. Therefore, DEP determined that RACT for the five Cooper Bessemer engines at the Pratt Station was operation of these sources in accordance with manufacturer's specifications, and presumptive NOx RACT requirements for the remaining combustion sources. The resultant 1995 RACT operating permit (#30-000-110) was issued by PADEP on July 10, 1995, and later incorporated by reference into the State Implementation Plan (SIP) through EPA approval on August 6, 2001.

The 1995 RACT Permit established annual and hourly NOx emission rates for each compressor engine of 99 tpy and 34 lb/hr., respectively. To ensure compliance with the 99 tpy NOx annual emission rate at the maximum hourly rate, the 1995 RACT Permit limits the hours of operation on each compressor engine to 5,811 hours annually. The RACT Permit limited emissions of NOx and VOC from the natural gas-fired Waukesha generator engine and included conditions for periodic stack testing and/or portable analyzer testing of all sources.

The RACT Permit established annual and hourly nonmethane VOC (NMVOC) emission rates for each compressor engine of 3 tpy and 1 lb/hr., respectively. However, as submitted in the original RACT proposal and noted on page 2 of DEP's RACT review document dated January 12, 1995, the Pratt Station was not major for VOCs and was not required to submit a RACT plan for NMVOC. Therefore, the NMVOC emission rates were erroneously established in the Pratt NOx RACT SIP.

In 1999, Equitrans equipped Engines #1 through #5 with Starfire 1601 inductive discharge spark systems, for improved flame stability.

PA-30-00110A established significantly more stringent annual and hourly NOx emission rates than those contained in the RACT Permit, resulting in total NOx emissions for the Pratt Station of less than 100 tpy. The more stringent annual NOx limitations correspond with operating the engines at the new maximum hourly NOx limits (less than 15% of the hourly limits contained in the 1995 RACT Permit) for the entire year.

The updated TVOP renewal application identifies the more stringent hourly and annual NOx limitations established in the above-referenced 2010 Plan Approval and proposes the inclusion in the TVOP renewal

of a Compliance Schedule to revise the Pratt NO<sub>x</sub> RACT SIP by replacing the existing NO<sub>x</sub> limitation (emission limits and hours of operation restriction) with the annual and hourly NO<sub>x</sub> limits contained in the 2010 Plan Approval, which are more stringent than the limitations in the 1996 RACT permit, and will result in lower NO<sub>x</sub> emissions.

The Compliance Schedule for the Pratt NO<sub>x</sub> RACT SIP Revision includes the following:

- (a) Within 30 days of issuance of this Title V Operating Permit, Owner/Operator shall submit a Pratt NO<sub>x</sub> SIP Revision Request that the Pratt NO<sub>x</sub> RACT SIP be revised to eliminate the hours of operation limitation on Engines #1 through #5, to eliminate the NMVOC limits that were erroneously established in the NO<sub>x</sub> RACT SIP, to establish emission limitations which make the Pratt Station a non-major facility, and to remove the requirement that EPA reference method stack testing be conducted between April and October.
- (b) Owner/Operator shall promptly address any deficiencies indentured by DEP SWRO and respond to any requests for information from DEP SWRO.
- (c) Within 60 days of resolution of any deficiencies identified in the Pratt NO<sub>x</sub> SIP Revision Request, DEP SWRO will prepare a Review Memo documenting their review of the proposed NO<sub>x</sub> RACT SIP revision.
- (d) Within 60 days of completion of the Review Memo, DEP SWRO will arrange a time and place to conduct a Hearing to accept testimony regarding the proposed Pratt NO<sub>x</sub> SIP Revision Request.
- (e) DEP SWRO will arrange to publish a notice of the Hearing in the PA Bulletin at least 30 days in advance of the Hearing.
- (f) Owner/Operator shall arrange to publish a notice of the Hearing in a newspaper of general circulation in the area where the source is located at least 30 days in advance of the Hearing. DEP SWRO will provide the local newspaper hearing notice to the Owner/Operator.
- (g) DEP SWRO will conduct a Hearing to accept testimony on the proposed Pratt NO<sub>x</sub> RACT SIP Revision. Owner/Operator may arrange for a stenographer to be present at the Hearing, at Owner/Operator's expense.
- (h) A 30-day comment period will exist after the Hearing.
- (i) All comments received during the public comment period will be carefully reviewed. DEP SWRO may request that Owner/Operator provide additional information. Changes may be made to the proposed Pratt NO<sub>x</sub> RACT SIP Revision if necessary.
- (j) Within 60 days of their completion of their review of all comments, and any responses received from the Owner/Operator at SWRO DEP's request, DEP SWRO will prepare a Comments and Response Memo documenting all activity that takes place after the Review Memo is issued.

- (k) Within 15 days of preparation of the Comments and Response Memo, DEP SWRO will send a Pratt NOx RACT SIP Revision Package to DEP Central Office. Package will include the Owner/Operator's Request, the Review Memo, the PA Bulletin and newspaper notices, a script of the Hearing, the Comments and Response Memo, and any other documentation that may be available.
- (l) DEP SWRO will assist -DEP Central Office with its review and processing of the Pratt NOx SIP Revision Package.
- (m) DEP Central Office will submit the Pratt NOx SIP Revision package to EPA within 60 days of resolution of any deficiencies.
- (n) Owner/Operator, DEP SWRO and DEP Central Office shall promptly address any questions or deficiencies identified by EPA and respond to any requests for information from EPA.
- (o) The Pratt NOx RACT SIP shall be revised in accordance with the Pratt NOx RACT SIP Revision, as modified by EPA on or before the expiration of the permit.

*40 CFR 63 Subpart ZZZZ – National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.* The five Cooper Bessemer engines at the Pratt Station are subject to 40 CFR 63, Subpart ZZZZ. The Pratt station is an area source of hazardous air pollutants (HAPs) and the five engines are considered to be existing engines. It should also be noted that the project to retrofit Engines #1 and #2 with Cooper-Bessemer CleanBurn™ control systems did not constitute reconstruction as defined by 40 CFR §63.2, such that Engine #1 and/or #2 would be considered new sources as a result of that project. Reconstruction would only be triggered if the fixed capital costs of the project were to exceed 50 percent of the fixed capital costs that would be required to construct a comparable new compressor engine. As noted in the Plan Approval application, the fixed capital costs were less than the 50 percent threshold.

As existing, non-emergency two-stroke lean burn engines greater than 500 HP, the five Cooper Bessemer engines at the Pratt Station must comply with the following work practices by October 19, 2013 in accordance with Table 2d as referenced by 40 CFR §63.6603:

- (a) Change oil and filter every 4,320 hours of operation or annually, whichever comes first,
- (b) Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and
- (c) Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.,

Similarly, the Emergency Generator #1 Engine must comply with the following work practices by October 19, 2013 in accordance with Table 2d as referenced by 40 CFR §63.6603:

- (a) Change oil and filter every 500 hours of operation or annually, whichever comes first,
- (b) Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and

(c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Note that Table 2d of Subpart ZZZZ does not contain emissions limits associated with existing spark-ignition two-stroke lean burn engines at area sources of HAPs.

After the compliance date, the engines must be operated to minimize time spent at idle and to minimize startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes in accordance with 40 CFR §63.6625(h). Compliance with the RICE MACT will be demonstrated by operating and maintaining the engines and control devices in accordance with Cooper Bessemer's emission-related written instructions or in accordance with a maintenance plan developed by Equitrans in accordance with 40 CFR §63.6640. Records will be maintained in accordance with 40 CFR §63.6650. These requirements have been included in the proposed TVOP renewal.

*40 CFR 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.* This Subpart applies to manufacturers, owners, and operators of new stationary spark ignition internal combustion engines manufactured after July 1, 2007. Emergency generator engines are subject to NSPS Subpart JJJJ if the manufacturing date is January 1, 2009 or later. All of the engines at the Pratt Station were manufactured well before 2007 and have not been reconstructed or modified since their installation.

Under 40 CFR §60.2, modification is defined as “any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted.” 40 CFR 60, Subpart JJJJ regulates emissions of NO<sub>x</sub>, CO, and VOC from natural gas-fired spark-ignition engines. Engines #1 and #2 experienced an increase in emissions of CO and VOC, relative to past actual emissions, as a result of the CleanBurn™ installation. However, the NSPS definition of modification excludes a number of activities that might otherwise be considered modifications, including the “addition or use of any system or device whose primary function is the reduction of air pollutants.” The CleanBurn™ systems on Engines #1 and #2 were installed primarily to reduce NO<sub>x</sub> emissions. Since the resulting increase is the direct result of the addition of a pollution reduction system, the project did not trigger modification as defined by NSPS.

Furthermore, the installation of the CleanBurn™ systems on Engines #1 and #2 did not trigger reconstruction as defined by 40 CFR §60.15, as the fixed capital costs of the pollution control systems did not exceed 50 percent of the fixed capital costs that would be required to construct a comparable new compressor engine. Nevertheless, emission rates from Engines #1 and #2 after the installation of the CleanBurn™ systems are equal to or less than the standards outlined in NSPS Subpart JJJJ for all regulated pollutants as shown below.

**COMPLIANCE WITH NSPS SUBPART JJJJ STANDARDS**

<b>Emission Rate</b>	<b>NO<sub>x</sub> (g/bhp-hr)</b>	<b>CO (g/bhp-hr)</b>	<b>VOC (g/bhp-hr)</b>
NSPS Subpart JJJJ Standard	2.0	4.0	1.0
Engines #1 and #2 with Control Systems	2.0	2.0	0.7

Engines #3, #4, and #5 were not physically modified and hourly emission rates will not increase for any pollutants from these engines as a result of the proposed changes to the annual hours of operation limits. The NSPS definition of modification specifically excludes certain activities that might otherwise be considered modifications, including an increase in the hours of operation [40 CFR 60.14(e)(3)]. Therefore, the NSPS definition of modification will not be met and NSPS will not be triggered for Engines #3, #4, and #5.

*40 CFR 60 Subpart III – Standards of Performance for Stationary Compression Ignition Internal Combustion Engine.* This Subpart applies to manufacturers, owners, and operators of stationary compression ignition internal combustion engines (ICE) that have been constructed, reconstructed, or modified after various dates, the earliest of which is July 11, 2005. All of the engines at the Pratt Station, including the #1 Generator, are spark-ignition IC engines, and therefore the requirements of this subpart do not apply.

*40 CFR 60 Subpart KKK – Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants.* A natural gas processing plant is defined as any processing site engaged in the extraction of natural gas liquids from a field gas, fractionation of mixed natural gas liquids to natural gas products, or both. Although this subpart includes requirements for compressors, dehydration units, and storage tanks, it only applies to those units located at a processing plant. The operations at the Pratt Station do not meet the definition of a processing plant. Therefore, the requirements of this subpart do not apply to the emission units at the Pratt Station.

*40 CFR Subpart LLL – Standards of Performance for Onshore Natural Gas Processing: SO<sub>2</sub> Emissions.* This subpart applies to each sweetening unit, and each sweetening unit followed by a sulfur recovery unit, at a natural gas processing plant. The Pratt Station does not meet the definition of a natural gas processing facility, nor does the station include a sweetening unit. Therefore, the requirements of this subpart do not apply.

*40 CFR 63 Subpart HH – National Emissions Standards for Hazardous Air Pollutants from Oil and Natural Gas Production Facilities.* This rule contains requirements for dehydration units, located at natural gas production facilities. The operations at the Pratt Station are limited to the storage and transmission of natural gas only (not production). Because the Pratt Station does not meet the definition of a natural gas production facility per 40 CFR §63.761, the requirements of this subpart do not apply.

*40 CFR 63 Subpart HHH – National Emissions Standards for Hazardous Air Pollutants from Natural Gas Transmission and Storage Facilities.* This MACT subpart applies to facilities which are major sources of HAPs that transport or store natural gas prior to entering the transmission pipeline to end users as defined by 40 CFR §63.1271. Subpart HHH specifically regulates TEG dehydration units at these

facilities. The Pratt Station stores and transmits natural gas and operates one TEG dehydration unit. However, the facility is not a major source of HAP. Therefore, the requirements of this subpart do not apply to the Pratt Station.

*40 CFR 63 Subpart DDDDD – National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters.* This MACT standard applies to industrial, commercial, and institutional boilers and process heaters of various sizes and fuel types. For Subpart DDDDD, a facility is only subject to this subpart if the facility operates an applicable unit that is located at, or is part of, a major source of HAP. Since the Pratt Station is not major for HAP, this subpart is not applicable

*40 CFR 63 Subpart JJJJJ – National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial and Institutional Boilers.* This MACT standard applies to industrial, commercial, and institutional boilers of various sizes and fuel types at area sources of HAPs. Equitrans operates miscellaneous natural gas-fired boilers and process heaters at the Pratt Station. However, process heaters are not affected sources and gas fired boilers are exempt from the regulation per 40 CFR §63.11195(e). The definition of gas fired boilers includes boilers that burn gaseous fuels, which include natural gas, process gas, landfill gas, coal derived gas, refinery gas, and biogas. The fuels burned in the combustion units at the Pratt Station fall under the gaseous fuels definition. Therefore, the combustion units are exempt from Subpart JJJJJ

*40 CFR 64 - Compliance Assurance Monitoring.* Under the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emissions units with the submittal of TVOP renewal applications, if applicable. CAM Plans are intended to provide an on-going and reasonable assurance of compliance with emission limits for sources that utilize active control devices. Under the general applicability criteria, this regulation only applies to emission units that use a control device to achieve compliance with an emission limit and whose pre-controlled emission levels exceed the major source thresholds under the Title V operating permit program.

The engines at the Pratt Station facility are not subject to CAM because they do not utilize control devices to achieve compliance with emission limits. Engines #1 and #2 utilize the CleanBurn™ system to reduce NO<sub>x</sub>. However, the CleanBurn™ systems do not meet the definition of control device found at 40 CFR 64.1 “For purposes of this part, a control device does not include passive control measures that act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants, use of low-polluting fuel or feedstocks, or the use of combustion or other process design features or characteristics.” The CleanBurn™ system meets the definition of inherent process equipment in 40 CFR §64.1. As such, the CleanBurn™ system is not considered a control device under CAM.

*Greenhouse Gases Tailoring Rule for PSD.* On June 3, 2010, the EPA published the Tailoring Rule in the Federal Register which establishes an approach to addressing GHGs from stationary sources under the Clean Air Act (CAA) permitting programs (PSD and Title V). Under this rule, Prevention of Significant Deterioration review would potentially apply to plan approvals issued after January 2, 2011. DEP has not issued a Plan Approval for the Pratt Station since January 2, 2011. Therefore, PSD for Greenhouse Gases does not apply.

*40 CFR Part 98 - Subpart W- Petroleum and Natural Gas Systems:* EPA's Greenhouse Gas Mandatory Reporting Rule (GHG MRR), codified under 40 CFR 98, includes monitoring and reporting requirements under Subpart W for natural gas compression transmission stations with actual emissions in excess of 25,000 metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) per year. This rule became effective on December 30, 2010, and requires affected facilities to monitor and report actual GHG emissions for the 2011 calendar year. The maximum potential emissions of CO<sub>2</sub>e from the Pratt Station have been estimated to be greater than the 25,000 tpy applicability threshold under 40 CFR 98 Subpart W. However, applicability of this rule is determined by actual emissions each calendar year, beginning with 2011. Equitrans will calculate 2011 actual emissions of CO<sub>2</sub>e from the Pratt Station in early 2012 in accordance with requirements specified by the GHG MRR, and at that time will determine if reporting under 40 CFR 98 Subpart W is required.

It should be noted that EPA has determined that the GHG MRR is not considered an "applicable requirement" under the Title V operating permit program. The following language is found in the preamble to the GHG MRR:

*“Comment:* EPA also received numerous comments about whether the requirements imposed by this rule are “applicable requirements” under the title V operating permit program. The majority of the comments took the position that the current definitions of “applicable requirement” at 40 CFR 70.2 and 71.2 do not include a rule such as this, promulgated under CAA section 114(a)(1) and 208. Commenters requested that EPA confirm their interpretation of the regulations.

*Response:* As currently written, the definition of “applicable requirement” in 40 CFR 70.2 and 71.2 does not include a monitoring rule such as today’s action, which is promulgated under CAA sections 114(a)(1) and 208.”

*PA Code Title 25 § 121 through 145.* Pennsylvania regulations related to fugitive emissions, particulate matter emissions, sulfur compound emissions, odor emissions, and open burning apply to this facility and are included in the TVOP renewal.

*40 CFR 68 Subpart B Risk Management Plans.* This rule outlines requirements for risk management plans pursuant to Section 112(r) of the Clean Air Act. Applicability of the subpart is determined based on the type and quantity of chemicals stored at a facility. Equitrans has evaluated the amount of Section 112(r) substances stored at the Pratt Station and have determined that there are no listed substances stored at quantities greater than the corresponding thresholds.



## SOURCES AND EMISSIONS

Emissions from this facility shall not exceed the following:

Component	Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Generator #1	Misc. Heaters	Emission Totals
Pollutants	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
CO	20.9	20.9	18.9	18.9	18.9	0.4	1.0	<99.0
NOX	20.9	20.9	18.9	18.9	18.9	0.7	1.2	<99.0
PM /PM10/ PM2.5 Filt	0.5	0.5	0.4	0.4	0.4	0.0	0.0	2.2
PM /PM10/ PM2.5 Total	1.0	1.0	0.8	0.8	0.8	0.0	0.1	4.5
SO2	0.03	0.03	0.02	0.02	0.02	0.00	0.01	0.14
NMNEHC	7.3	7.3	7.9	7.9	7.9	0.1	0.1	38.4
CO2	5,824.86	5,824.86	4,746.18	4,746.18	4,746.18	129.45	1,512.24	27,545.00
CH4	0.11	0.11	0.09	0.09	0.09	0.00	0.03	0.5
N2O	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.1
CO2e	5,830.57	5,830.57	4,750.84	4,750.84	4,750.84	129.58	1,513.72	27,572.02
Formaldehyde	1.0E+00	1.0E+00	8.3E-01	8.3E-01	8.3E-01	5.8E-02	2.7E-03	4.7
ALL HAPs Combined								7.41

Emissions from the Engines #1 through #5 shall not exceed the following:

SOURCE	Engine #1	Engine #2	Engine #3	Engine #4	Engine #5
Pollutants	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
CO (30-day rolling ave)	4.76	4.76	4.31	4.31	4.31
NOx (30-day rolling ave)	4.76	4.76	4.31	4.31	4.31
PM /PM10/ PM2.5 Filterable	0.1	0.1	0.4	0.4	0.4
PM /PM10/ PM2.5 Total	0.2	0.2	0.8	0.8	0.8
SO2	0.01	0.01	0.02	0.02	0.02
NMNEHC (30-day rolling ave)	1.67	1.67	1.8	1.8	1.8

Portable analyzer testing of NOx and CO emission from Engines #1 through #5 shall be conducted at least once every thirty (30) days. If the results of any valid portable compliance test exceed 120% of an hourly emission limitation for Engines #1 through #5 contained herein, another portable test shall be performed to demonstrate compliance as soon as practicable, but no later than 30 days after the prior test. If the portable retest results also exceed 120% of the hourly emission limitation, an EPA Reference Method stack test shall be conducted as soon as practicable, but no later than 60 days after the portable retest. The Department may extend the retesting deadline(s) if the Permittee demonstrates to the Department's satisfaction that retesting within the time limits set forth herein is not practical.

Compliance with the emission limits contained in the proposed TVOP renewal shall be demonstrated using portable analyzer and EPA reference method stack test results, vendor guarantees, and process operating parameters. Compliance with the stated average short-term (lb/hr) emission rates shall be demonstrated using the average emission rate from all valid compliance tests conducted on that engine in the most recent 12-month period. Annual emissions shall be calculated using this average emission rate multiplied by the actual hours of operation during the same period. Compliance with the annual emission

limits shall be demonstrated on a rolling 12-month basis, calculated monthly. Owner/Operator shall limit hours of operation of Engines #1 through #5 such that emissions from the facility do not exceed 99 tons of CO or NOx on a rolling 12-month basis.

## **RECOMMENDATIONS**

Equitrans has submitted an administratively and technically complete TVOP renewal application. The TVOP includes the synthetic minor emission limits established in Plan Approval PA-30-00110, methods of compliance for all applicable requirements and a Compliance Plan for revising the Pratt NOx RACT SIP to remove the hours of operation limitation, to remove a NMVOC RACT SIP emission limit, and to remove the requirement to conduct EPA Reference Method stack testing between April and October. I recommend that a five-year operating permit be issued, subject to the attached special conditions

**Special Conditions:**

1. Emissions from this facility shall not exceed the following:

Component	Engine #1	Engine #2	Engine #3	Engine #4	Engine #5	Generator #1	Misc. Heaters	Emission Totals
Pollutants	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)	(tpy)
CO	20.9	20.9	18.9	18.9	18.9	0.4	1.0	<99.0
NOX	20.9	20.9	18.9	18.9	18.9	0.7	1.2	<99.0
PM /PM10/ PM2.5 Filt	0.5	0.5	0.4	0.4	0.4	0.0	0.0	2.2
PM /PM10/ PM2.5 Total	1.0	1.0	0.8	0.8	0.8	0.0	0.1	4.5
SO2	0.03	0.03	0.02	0.02	0.02	0.00	0.01	0.14
NMNEHC	7.3	7.3	7.9	7.9	7.9	0.1	0.1	38.4
CO2	5,824.86	5,824.86	4,746.18	4,746.18	4,746.18	129.45	1,512.24	27,545.00
CH4	0.11	0.11	0.09	0.09	0.09	0.00	0.03	0.5
N2O	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.1
CO2e	5,830.57	5,830.57	4,750.84	4,750.84	4,750.84	129.58	1,513.72	27,572.02
Formaldehyde	1.0E+00	1.0E+00	8.3E-01	8.3E-01	8.3E-01	5.8E-02	2.7E-03	4.7
ALL HAPs Combined								7.41

- Generator #1 shall not operate more than 500 hours per rolling 12-month period.
- Emissions from Engines #1 and #2 shall not exceed 2.0 g NOx/hp-hr, 2.0 g CO/hp-hr and 0.7 g VOC/hp-hr.
- Engines #1 and #2 shall not operate unless Cooper-Bessemer CleanBurn™ Systems are operating properly. Equitrans will perform routine equipment inspections and preventative maintenance on components such as the turbocharger, jet cells, and check valves in accordance in accordance with Cooper Bessemer's emission-related written instructions or in accordance with a maintenance plan developed by Equitrans in accordance with 40 CFR §63.6640
- Permittee shall continue to operate Engines #3, #4 and #5 with Starfire 1601 inductive discharge spark systems (or equivalent).
- Engines #1 through #5 may operate up to 8,760 hours per year.
- Emissions from the Engines #1 through #5 shall not exceed the following:

SOURCE	Engine #1	Engine #2	Engine #3	Engine #4	Engine #5
Pollutants	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)	(lb/hr)
CO (30-day rolling ave)	4.76	4.76	4.31	4.31	4.31
NOx (30-day rolling ave)	4.76	4.76	4.31	4.31	4.31
PM /PM10/ PM2.5 Filterable	0.1	0.1	0.4	0.4	0.4
PM /PM10/ PM2.5 Total	0.2	0.2	0.8	0.8	0.8
SO2	0.01	0.01	0.02	0.02	0.02
NMNEHC (30-day rolling ave)	1.67	1.67	1.8	1.8	1.8

8. EPA Reference Method stack test shall be performed on Engines #1 through #5 at least once every five years to verify the emission rates for NO<sub>x</sub> (as NO<sub>2</sub>), CO, NMNEHC and formaldehyde. Testing shall be conducted in accordance with 25 PA Code Chapter 139 and the Department's Source Testing Manual. Testing shall be conducted while engines are operating at full load and full speed
- (a) Pursuant to 25 Pa. Code § 139.3, at least 45 calendar days prior to commencing an emissions testing program, a test protocol shall be submitted to the Department for review and approval. The test protocol shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.
  - (b) Pursuant to 25 Pa. Code § 139.3, at least 15 calendar days prior to commencing an emission testing program, notification as to the date and time of testing shall be given to the appropriate Regional Office. Notification shall also be sent to the Division of Source Testing and Monitoring. Notification shall not be made without prior receipt of a protocol acceptance letter from the Department.
  - (c) Pursuant to 25 Pa. Code Section 139.53(a)(3), within 15 calendar days after completion of the on-site testing portion of an emission test program, if a complete test report has not yet been submitted, an electronic mail notification shall be sent to the Department's Division of Source Testing and Monitoring indicating the completion date of the on-site testing.
  - (d) Complete test report shall be submitted to the Department no later than 60 calendar days after completion of the on-site testing portion of an emission test program.
  - (e) Pursuant to 25 Pa. Code Section 139.53(b), a complete test report shall include a summary of the emission results on the first page of the report indicating whether each pollutant measured is within permitted limits and a statement of compliance or non-compliance with all applicable permit conditions. The summary results will include, at a minimum, the following information:
    - i. A statement that the owner or operator has reviewed the report from the emissions testing body and agrees with the findings.
    - ii. Permit number(s) and condition(s) which are the basis for the evaluation.
    - iii. Summary of results with respect to each applicable permit condition.
    - iv. Statement of compliance or non-compliance with each applicable permit condition.
  - (f) Pursuant to 25 Pa. Code § 139.3, all submittals shall meet all applicable requirements specified in the most current version of the Department's Source Testing Manual.
  - (g) All testing shall be performed in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection.
  - (h) Pursuant to 25 Pa. Code Section 139.53(a)(1) and 139.53(a)(3), all submittals, besides notifications, shall be accomplished through PSIMS\*Online available through <https://www.depgreenport.state.pa.us/ecommm/Login.jsp> when it becomes available. If internet submittal cannot be accomplished, three copies of the submittal shall be sent to the

Pennsylvania Department of Environmental Protection, Bureau of Air Quality, Division of Source Testing and Monitoring, 400 Market Street, 12<sup>th</sup> Floor Rachael Carson State Office Building, Harrisburg, PA 17105-8468 with deadlines verified through document postmarks.

- (i) The permittee shall insure all federal reporting requirements contained in any applicable subpart of 40 CFR are followed, including timelines more stringent than those contained herein. In the event of an inconsistency or any conflicting requirements between state and the federal, the most stringent provision, term, condition, method or rule shall be used by default.
9. NO<sub>x</sub> and CO emissions from Engines #1 through #5 shall be monitored no less often than every 30 days, through the use of a portable analyzer.
10. The owner/operator shall have, at the facility, the complete operating procedure including calibration, QA/QC, and emissions calculation methods for the monitoring tests utilizing portable analyzers. The accuracy of the portable analyzer readings shall be verified by EPA method stack testing. Results from tests using portable analyzers shall be retained by the company at test location and provided annually if required by the Department.

The conversion from ppm to lbs/hr shall be determined using the following equations provided that:

- (a) Readings are corrected to 3% oxygen (15.1% in excess air)
- (b) Readings are determined volumetrically.

Equation 1:  $\text{ppm NO}_x * 0.001208 * \text{mmbtu/hr} = \text{lb/hr NO}_x$

Equation 2:  $\text{ppm CO} * 0.000735 * \text{mmbtu/hr} = \text{lb/hr CO}$

Equation 3:  $\text{ppm VOC} * 0.00258 * \text{mmbtu/hr} = \text{lb/hr VOC}$

11. If the results of any valid portable compliance test exceed 120% of an hourly emission limitation established herein for Engines #1 through #5, another portable test shall be performed to determine compliance as soon as practicable, but no later than 30 days of the prior test. If the portable retest results also exceed 120% of the hourly emission limitation, an EPA Reference Method stack test shall be conducted as soon as practicable, but no later than 60 days after the portable retest. The Department may extend the retesting deadline(s) if the Permittee demonstrates to the Department's satisfaction that retesting within the time limits set forth herein is not practical.
12. For all sources, records of all process operating parameters and maintenance procedures shall be recorded. Records may include, but are not necessarily limited to: fuel gas pressure, air manifold pressure and temperature, air-to-fuel ratios, operating hours, and daily fuel consumption. These records shall be maintained on file for five years and shall be made available to the Department upon request.
13. Compliance with the emission limits contained herein shall be demonstrated using portable analyzer and EPA reference method stack test results, vendor guarantees, and process operating parameters.

For Engines #1 through #5, compliance with the stated average short-term (lb/hr) emission rates shall be demonstrated using the average emission rate from all valid compliance tests conducted on that engine in the most recent 12-month period. Annual emissions shall be calculated using this average emission rate multiplied by the actual hours of operation during the same period. Compliance with the annual emission limits shall be demonstrated on a rolling 12-month basis, calculated monthly.

14. Engines #1 through #5 and Emergency Generator #1 are subject to the applicable requirements of 40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.
15. Owner/operator shall comply with all applicable notification and reporting requirements contained in 40 CFR 63, Subparts A and ZZZZ. All submittals shall be sent to both USEPA Region III and PADEP at the following addresses:

Director, Air, Toxics, and Radiation  
Environmental Protection Agency  
Region III  
Office of Air Quality  
1650 Arch Street  
Philadelphia, PA 19103

PA Department of Environmental Protection  
Regional Air Quality Program Manager  
400 Waterfront Drive  
Pittsburgh, PA 15222-4745

16. In accordance with 40 CFR § 63.6595(a), Owner/Operator shall comply with the applicable emission limitations and operating limitations no later than October 19, 2013.
17. In accordance with 40 CFR § 63.6605, at all times, Owner/Operator must be in compliance with the applicable emission limitations and operating limitations in this subpart. At all times owner/operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.
18. In accordance with 40 CFR § 63.6625(e)(3) and(5) Owner/Operator must operate and maintain Engines #1 through #5 and Emergency Generator #1 according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
19. In accordance with 40 CFR § 63.6625 (h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

20. In accordance with Table 2d to 40 CFR 63, Subpart ZZZZ, the following work practices apply to Emergency Generator #1: owner/operator must:
- (a) Change oil and filter every 500 hours of operation or annually, whichever comes first,
  - (b) Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and
  - (c) Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
21. In accordance with Table 2d to 40 CFR 63, Subpart ZZZZ, the following work practices apply to Engines #1 through #5. Owner/Operator must:
- (a) Change oil and filter every 4,320 hours of operation or annually, whichever comes first,
  - (b) Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and
  - (c) Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.
22. Sources have the option to utilize an oil analysis program as described in 40 CFR § 63.6625(i) in order to extend the specified oil change requirement in Table 2d of 40 CFR 6, Subpart ZZZZ.
23. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of 40 CFR 63, Subpart ZZZZ, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.
24. Owner/Operator must comply with the monitoring and data collection requirements of 40 CFR § 63.6635.
25. Owner/Operator shall comply with the continuous compliance demonstration requirements of 40 CFR § 63.6640.
26. Compliance Schedule
- (a) Within 30 days of issuance of this Title V Operating Permit, Owner/Operator shall submit a Pratt NOx SIP Revision Request that the Pratt NOx RACT SIP be revised to eliminate the hours of operation limitation on Engines #1 through #5, to eliminate the NMVOC limits that were erroneously established in the NOx RACT SIP, to establish emission limitations which

make the Pratt Station a non-major facility, and to remove the requirement that EPA reference method stack testing be conducted between April and October.

- (b) Owner/Operator shall promptly address any deficiencies indentured by DEP SWRO and respond to any requests for information from DEP SWRO.
- (c) Within 60 days of resolution of any deficiencies identified in the Pratt NOx SIP Revision Request, DEP SWRO will prepare a Review Memo documenting their review of the proposed NOx RACT SIP revision.
- (d) Within 60 days of completion of the Review Memo, DEP SWRO will arrange a time and place to conduct a Hearing to accept testimony regarding the proposed Pratt NOx SIP Revision Request.
- (e) DEP SWRO will arrange to publish a notice of the Hearing in the PA Bulletin at least 30 days in advance of the Hearing.
- (f) Owner/Operator shall arrange to publish a notice of the Hearing in a newspaper of general circulation in the area where the source is located at least 30 days in advance of the Hearing. DEP SWRO will provide the local newspaper hearing notice to the Owner/Operator.
- (g) DEP SWRO will conduct a Hearing to accept testimony on the proposed Pratt NOx RACT SIP Revision. Owner/Operator may arrange for a stenographer to be present at the Hearing, at Owner/Operator's expense.
- (h) A 30-day comment period will exist after the Hearing.
- (i) All comments received during the public comment period will be carefully reviewed. DEP SWRO may request that Owner/Operator provide additional information. Changes may be made to the proposed Pratt NOx RACT SIP Revision if necessary.
- (j) Within 60 days of their completion of their review of all comments, and any responses received from the Owner/Operator at SWRO DEP's request, DEP SWRO will prepare a Comments and Response Memo documenting all activity that takes place after the Review Memo is issued.
- (k) Within 15 days of preparation of the Comments and Response Memo, DEP SWRO will send a Pratt NOx RACT SIP Revision Package to DEP Central Office. Package will include the Owner/Operator's Request, the Review Memo, the PA Bulletin and newspaper notices, a script of the Hearing, the Comments and Response Memo, and any other documentation that may be available.
- (l) DEP SWRO will assist -DEP Central Office with its review and processing of the Pratt NOx SIP Revision Package.



- (m) DEP Central Office will submit the Pratt NOx SIP Revision package to EPA within 60 days of resolution of any deficiencies.
- (n) Owner/Operator, DEP SWRO and DEP Central Office shall promptly address any questions or deficiencies identified by EPA and respond to any requests for information from EPA.
- (o) The Pratt NOx RACT SIP shall be revised in accordance with the Pratt NOx RACT SIP Revision, as modified by EPA on or before the expiration of the permit.

27.

**TABLE 1**

**Historical NOx Emissions - Pratt Compressor Station Cooper-Bessemer Engines**

TEST DATE	TEST METHOD	RACT Limit	TEST RESULTS [LBS/HR]				
			ENGINE #1	ENGINE #2	ENGINE #3	ENGINE #4	ENGINE #5
Sep-95	Mapping	34	---	---	9.61	---	---
Sep-95	Stack	34	5.30	22.10	9.60	11.80	10.90
Nov-95	Portable	34	4.18	---	---	---	---
Mar-96	Portable	34	---	---	---	2.64	---
Jul-96	Portable	34	---	---	---	---	2.22
Dec-97	Portable	34	---	4.31	3.61	---	---
Apr-98	Portable	34	---	---	2.09	0.33	2.33
Dec-98	Portable	34	---	2.52	5.10	1.66	---
Feb-99	Portable	34	1.28	1.36	0.45	1.53	3.20
Mar-99	Portable	34	---	---	---	---	2.58
Oct-99	Portable	34	0.46	1.46	1.52	0.38	2.18
Dec-99	Portable	34	0.24	6.05	7.89	1.42	3.66
Feb-00	Portable	34	1.02	2.37	0.50	0.53	0.77
Aug-00	Portable	34	8.30	6.12	2.86	2.94	6.63
May-01	Portable	34	2.35	4.23	2.69	1.20	---
Nov-01	Portable	34	0.93	1.32	1.49	1.66	2.00
Jan-02	Portable	34	6.38	5.55	2.88	4.25	1.74
Jul-02	Portable	34	22.54	11.68	4.92	9.45	5.64
Jul-02	Stack	34	12.34	8.00	6.18	6.48	4.39
Jan-03	Portable	34	0.70	1.01	0.75	3.38	3.66
Aug-03	Portable	34	5.67	4.06	0.71	4.46	1.05
Jan-04	Portable	34	7.94	5.01	2.70	0.47	0.87
Oct-04	Portable	34	1.61	7.71	6.45	0.61	0.91
Jan-05	Portable	34	7.82	5.37	3.29	1.20	1.23
Aug-05	Portable	34	7.86	8.56	10.04	4.80	2.74
May-06	Portable	34	8.50	6.90	10.35	6.85	4.97
Oct-06	Portable	34	3.50	3.13	3.34	4.69	2.35
Feb-07	Portable	34	1.72	3.45	1.83	6.50	0.90

Sep-07	Portable	34	17.20	9.25	11.46	4.07	4.05
Sep-07	Stack	34	15.17	7.30	9.70	3.40	3.60
Mar-08	Portable	34	13.05	8.64	4.56	0.68	0.94
Oct-08	Portable	34	1.92	2.01	2.04	0.63	0.59
Oct-09	Portable	34	3.11	2.14	3.27	2.71	2.09
Aug-09	Portable	34	4.95	2.22	5.4	4.72	2.93
Mar-10	Portable	34	0.83	1.44	1.32	2.86	2.9
Sep-10	Portable	34	3.82	0.67	0.59	3.76	2.7
Oct-10	Stack	34	3.52	2.05			
Dec-10	Portable	34	1.76	0.52	0.8	0.88	0.63
Feb-11	Portable	34	---	---	---	---	0.45
Feb-11	Portable	34	1.38	3.64	1.62	1.56	2.15
Apr-11	Portable	34	1.68	1.17	*	0.9	*
Jun-11	Portable	34	---	---	1.42	---	1.05