

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office

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DATE May 23, 2016

RE Review Memo of Title V Renewal Application
Dominion Transmission, Inc. (DTI)
Rochester Mills Compressor Station
North Mahoning Township
Indiana County

APS 886156 AUTH 1099572 PF 251836

Background

Dominion Transmission, Inc. (DTI) is an interstate gas transmission subsidiary of Dominion Energy, Inc. and operates facilities in Pennsylvania for the production, storage, and transmission of natural gas. Rochester Mills Compressor Station (RM) supports Dominion's natural gas production operations and operates year round. The facility is located in North Mahoning Township, Indiana County. The current main sources of emissions at the facility included (2) 4-cycle, rich burn, 440 bhp naturally aspirated Ingersoll Rand Model #SVG-8AS engines which were installed between 1960 and 1974.

The current site source inventory from the previous Title V operating permit is as follows:

- 031 Dehydrator and still (0.375 mmbtu/hr)
- 102 Ing. Rand Comp. Engine 440 bhp
- 103 Ing. Rand Comp. Engine 440 bhp
- 109 Tank F-1 – 3000 Gallon Dehydration Wastewater (distillate)
- 110 Fugitive/Tank VOC Emissions
- 111 Emergency Generator (240 hp)

C01 Thermal Oxidizer

There have been some small changes at the facility since the issuance of the last TVOP which was issued on May 26, 2011. Engine #4 was last operated on May 14, 2013. The company submitted a Maintenance Plan for the engine on May 13, 2014. Source #106 Tank A-1 (5,000 gallon Lube Oil) was replaced with a 3,000 gallon tank and moved to *Miscellaneous Section*. Source #107 Tank E-1 (2,000 gallon waste Oil) was removed from this site and Source #108 Tank P-2 (2,000 gallon produced fluid) has been renamed I-1 and moved to *Miscellaneous Section*.

RM's Title V renewal permit expires on May 26, 2016. DTI submitted a renewal application on November 23, 2015 in accordance with Section B, Condition #004 of the permit which requires a renewal application be submitted at least six months prior to permit expiration. The application was deemed administratively complete December 21, 2015.

Regulatory Analysis

Operation of the equipment at RM results in the emission of various air contaminants. As a result of the levels of NO_x emitted, RM is a major stationary source as defined in Title I, Part D of the Clean Air Act Amendments. As such, the facility is subject to the Title V permitting requirements adopted at 25 Pa. Code, Chapter 127, Subchapter G.

All of the conditions derived from Title 25 of the Pennsylvania Code in the original Title V permit have been included in this renewal. The applicable emission limitations, monitoring, recordkeeping, reporting and work practice standard requirements of Pa. Code Title 25 Sections 123.1, 123.2, 123.13, 123.21, 123.31, 123.41, 123.42, 127.511, 127.513 and 135.5 have been included in this in this renewal Title V permit.

The tanks in this site are not subject to 25 Pa. Code §129.57 and thus will be listed in *Section H, Miscellaneous* as insignificant emission sources.

The RACT 2 Rule was published final in the Pennsylvania Bulletin on April 23, 2016. The RACT 2 Regulations (25 PA Code Section 129.96-129-100) are applicable to existing (existing before July 20, 2012) major sources of NO_x and VOC, therefore if a facility has a potential to emit (PTE) in excess of 100 tpy NO_x or 50 tpy VOC, it is subject to the RACT 2 requirements. Facilities that became major after July 20, 2012 are also potentially subject to the regulation.

The regulation does allow facilities that are currently major sources to cap emissions below major source thresholds and opt out of RACT 2. The caps must be in place within one year of the effective date of the regulation.

RACT 2 proposals or alternative RACT 2 petitions need to be submitted to PADEP by October 24, 2016 and facilities must be able to comply with applicable RACT 2 requirements by January 1, 2017. Rochester Mills Compressor Station is subject to RACT 2 requirements and shall comply with it by January 1, 2017.

There are several potentially applicable federal regulatory requirements which have been promulgated since the last time RM's Title V permit was issued. This includes both National Emission Standards for Hazardous Air Pollutants (NESHAPs) and New Source Performance Standards (NSPS). These are discussed below:

NSPS

NSPS require new, modified, or reconstructed sources to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A except where expressly noted.

40 CFR Subpart KKK—Standards of Performance for Equipment Leaks of VOC From Onshore Natural Gas Processing Plants applies to affected facilities in onshore natural gas processing plants. *Natural gas processing plant* means any processing site engaged in the extraction of natural gas liquids from field gas, fractionation of mixed natural gas liquids to natural gas products, or both. RM does not meet the definition of *natural gas processing plant* and thus these requirements are not applicable.

40 CFR Subpart JJJJ – NSPS For Stationary Spark Ignition Internal Combustion Engines applies to manufacturers, owners, and operators of new stationary spark ignition internal combustion engines manufactured after July 1, 2007. Emergency generator engine is subject to NSPS Subpart JJJJ if manufactured on January 1, 2009 or later. Since the engines at this facility were made before July 1, 2007, this regulation is not applicable.

NESHAPs

NESHAPs are applicable to both major and area sources of hazardous air pollutants (HAPs). Part 63 NESHAPs apply to sources in specifically regulated industrial source categories (CAA Section 112(d)) or on a case-by-case basis (Section 112(g)) for facilities not regulated as a specific industrial source type.

Subpart HHH, Natural Gas Transmission and Storage applies only to major sources of HAPs that transport or store natural gas prior to entering the transmission pipeline to end users as defined in 40 CFR §63.1271. RM is not a major source of HAPs. Thus, Subpart HHH is not applicable.

Subpart HH does apply to area as well as major sources. The affected source is each triethylene glycol (TEG) dehydration unit. However, 40 CFR 63.764(e)(1)(ii) exempts units from the most of the requirements of this subpart if the actual average emissions of benzene from the glycol dehydration unit process vent to the atmosphere and are less than 0.90 megagram (approximately 1.0 ton) per year as determined by the procedures specified in 40 CFR 63.772(b)(2). Use of the model GRI-GLYCalc, Version 3.0 or higher, and the procedures associated in the GRI-GLYCalc Technical Reference Manual is an approved method to determine benzene emissions under 63.772(b)(2). According to RM, actual average emissions of benzene from the unit will be well below one-tenth of a ton. DTI will still be required to maintain appropriate records of benzene emissions in accordance with 40 CFR 63.774(d)(1).

Subpart ZZZZ, Reciprocating Internal Combustion Engines applies to the owners/operators of new, reconstructed, and existing stationary reciprocating internal combustion engines (RICE) at both major sources of HAPs and area sources of HAPs such as RM. On August 10, 2010 the US EPA revised Subpart ZZZZ to establish requirements for existing stationary RICE. It was amended again on January 30, 2013. The applicable requirements depend on numerous factors including engine type (rich burn or lean burn), stroke (2 or 4), rated horsepower, fuel type, age (new, existing, or reconstructed), and purpose (emergency or non-emergency).

Existing spark ignition engines must comply with the applicable emission and operating limitations of Subpart ZZZZ no later than October 19, 2013. 40 CFR §63.6603 requires area sources to comply with the applicable requirements in Table 2d of this subpart and the applicable operating limitations in Table 2b. For the compressor engines at RM which are 440 bhp non-emergency, non-black start, 2SLB, spark ignition stationary RICE units, Table 2d requires oil and filter changes every 1,440 hours of operation or annually, whichever comes first, spark plug inspection/replacement when necessary, and inspection/replacement when necessary of hoses and belts every 1440 hours of operation or annually, whichever comes first. For the emergency generator engine, Table 2d requires oil and filter changes every 500 hours, spark plug inspection every 1,000 hours, and hoses/belts inspection every 500 hours or annually, whichever comes first. Table 2d also requires DTI to maintain records of Subpart ZZZZ maintenance for a minimum of five years.

40 CFR §63.6605 requires compliance with emission limitations, operating limitations, and operation in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. 40 CFR §63.6625(e) requires operation and maintenance of the RICE according to manufacturer's emission-related written instructions or development of specific engine maintenance plans which provide for operation in a manner consistent with good air pollution control practice for minimizing emissions. 40 CFR §63.6625(f) instructs the permittee to install a non-resettable hour meter on existing area source emergency generator engines if one is not already installed. 40 CFR §63.6625(h) states that an engine's time spent at idle during startup be minimized to a period needed for appropriate and safe loading of the engine not to exceed 30 minutes after which all applicable emission standards apply. 40 CFR §63.6640(f) dictates how the emergency generator engine must be operated in order for the engine to be considered an emergency stationary RICE under this subpart.

40 CFR §63.6645 covers notifications for affected sources while 40 CFR §63.6655 contains recordkeeping provisions for conducted maintenance. Table 8 lists all of the General Provisions of Part 63.1 through 63.15 which are applicable. All applicable requirements from 40 CFR Part 63, Subpart ZZZZ have been added to the proposed TVOP renewal.

Additional Federal Requirements

40 CFR Part 64: Compliance Assurance Monitoring

The Compliance Assurance Monitoring (CAM) requirements of 40 CFR §§ 64.1-64.10 have been evaluated for applicability to RM. The CAM rule was promulgated by EPA in 1997 and it is intended to provide a reasonable assurance of compliance with applicable requirements under the Clean Air Act (CAA). In accordance with 40 CFR 64.2(a), CAM applies to each pollutant-specific emission unit (PSEU) that:

- Is located at a major source that is required to obtain a Title V permit,
- Is subject to an emission limitation,
- Uses a control device to meet that limit, and
- Have pre-controlled emissions greater than the major source threshold.

At the RM, control devices are not used to achieve compliance with emission limitations. Therefore, CAM is not applicable to this facility.

40 CFR Part 68 Chemical Accident Prevention Provisions: This part sets forth the list of regulated substances and thresholds and the requirements for owners or operators of stationary sources concerning the prevention of accidental releases. The substances and threshold quantity that are considered a regulated substance under this part are listed in Tables 1, 2, 3, and 4 to 40 CFR §68.130. DTI does not store any of the listed compounds at the Rochester Mills Compressor Station; therefore the requirements of this subpart do not apply.

40 CFR Part 98 Mandatory Greenhouse Gas Reporting: This part was promulgated on October 30, 2009. In accordance with 40 CFR § 98.2(a), the Greenhouse Gas (GHG) reporting requirements and related monitoring, recordkeeping, and reporting requirements of this part apply to the owners and operators of any facility that is located in the United States and that meets the requirements of either paragraph 40 CFR § 98.2 (a)(1), (a)(2), or (a)(3) of this section.

However, public comments to the Greenhouse Gas Mandatory Reporting Rule (GHG MRR) questioned the requirements of this rule to meet current definitions of “applicable requirement” at 40 CFR §§ 70.2 and 71.2. The commentators requested that USEPA confirm their interpretation of the regulations. The EPA provided the following 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.” The preamble of the final version of the GHG MRR, located at 74 Fed Reg 209, pp. 56287-56288, states that the GHG MRR is not considered an “applicable requirement” under the Title V Operating Permit program. Therefore, this Subpart, while it may be an obligation for this facility, is not considered an applicable condition for this Title V Operating Permit.

40 CFR Parts 51 and 52 Greenhouse Gas Tailoring Rule: This regulation was issued on May 13, 2010. This rule establishes a process for conducting Prevention of Significant Deterioration (PSD) reviews, including Best Available Control Technology (BACT) determinations for control of greenhouse gases (GHG) when a new source or a modification to an existing source results in emissions of GHGs in excess of certain thresholds. The applicability of the Greenhouse Gas Tailoring Rule was evaluated during the review of the Title V application. New industrial facilities that emit the equivalent of 100,000 tons of carbon dioxide per year and modified sources that increase their emissions by 75,000 tons annually are required to get PSD approvals for greenhouse gas emissions. Since May 13, 2010, there have not been any changes at this site, so GHG PSD has not been triggered.

Equipment and Emissions:

The major sources of emissions at this facility are the two Ingersoll Rand compressor engines (Sources 101 and 102) each rated at 440 bhp. Table below shows the reported emissions for 2014 and 2015 and the permit limits for each engine:

Pollutant	Permit Limit	Amount reported on AIMS report (TPY)					
		2015			2014		
		Source 102	Source 103	Source 104	Source 102	Source 103	Source 104
NOx	21.1000 lbs/hr	70.603	65.871	0.000	81.139	71.990	0.000
	92.4000 tons/yr						
CO	1.0000 lbs/hr	1.708	3.008	0.000	1.963	3.287	0.000
	4.3800 tons/yr						
VOC	0.5000 lbs/hr	0.229	0.151	0.000	0.263	0.165	0.000
	2.1900 tons/yr						

In addition to the two compressor engines, emergency generator, a dehydrator & steel, three storage tanks, a thermal oxidizer (control device) and one source for fugitive emissions from the facility. Table below shows the facility wide reported emissions for 2014 and 2015:

Pollutant	Amount self-reported on 2014 AIMS report (TPY)	Amount self-reported on 2015 AIMS report (TPY)
CO	5.729	4.885
NOx	153.669	136.765
PM10	0.535	0.476
PM2.5	0.535	0.476
SOx	0.019	0.017
VOC	10.991	6.616
Total HAPs	0.408	0.350
Formaldehyde	0.323	0.285
Ammonia	2.378	1.779
CO2	3,550.059	3,116.195
Methane	0.067	0.059
N2O	0.010	0.010

There are no additional sources at the site that are considered trivial or insignificant activities

Conclusions and Recommendations:

Rochester Mills Compressor Station has met the regulatory requirements associated with this application submittal. The recent stack test was conducted on the enclosed flare on April 19, 2016. The most recent inspection was conducted on March 23, 2016. Reports indicate that facility is in compliance with all regulatory requirements. The attached proposed permit reflects terms and conditions as described in this permit application. It is my recommendation to issue a Title V Operating Permit renewal for this facility as proposed upon completion of the public comment period. Notice of intent to issue this TVOP renewal will be published in Pa Bulletin and local newspaper. EPA, the company and Air Quality inspector will be provided with this proposed TVOP renewal.