west virginia department of environmental protection

Division of Air Quality
601 57th Street, SE
Charleston, WV 25304-2345
Phone: 304 926 0475 • Fax: 304 926 0479

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

ENGINEERING EVALUATION/FACT SHEET

B ACKGROUND INFORMATION

Application No.:	R13-3221
Plant ID No.:	095-00014
Applicant:	Dominion Transmission, Inc.
Facility Name:	Ben's Run Terminal
Location:	Paden City
NAICS Code:	486210
Application Type:	Modification
Received Date:	October 29, 2014
Engineer Assigned:	Edward S. Andrews, P.E.
Fee Amount:	$2,000.00
Date Received:	November 5, 2014
Complete Date:	December 10, 2014
Due Date:	March 10, 2015
Applicant Ad Date:	November 26, 2014
Newspaper:	*Tyler Star News*
UTM's:	Easting: 491.40 km Northing: 4,368.57 km Zone: 17
Description:	The application is for the replacement of the existing natural gasoline storage tank (Tank 30) at the terminal.

DESCRIPTION OF PROCESS

Dominion Transmission Inc. (DTI) owns and operates the Ben's Run Terminal, which is located near Paden City, West Virginia. The main purpose of the terminal is to load natural gasoline into marine vessels (tanker barges). DTI owns and operates a pipeline segment between the Hastings Extraction Plant and Ben's Run Terminal, which is used to transport natural gasoline to the terminal. The gasoline goes through a dedicated pipeline segment and is piped into Tank 30. Tank 30 is currently a 1,000,000 gallon tank with an external floating roof.

Tank 30 is used as a holding tank for the loading of natural gasoline into marine vessels. As part of Dominion's plans replace this vessel, Dominion will erect the new vessel right beside

of the current vessel. Once the vessel is in service, Dominion will take Tank 30 out of service and remove it from the site.

SITE INSPECTION

Ben Run's Terminal is classified as a deferred Title V facility, which requires the agency to conduct routine inspections to ensure compliance with all applicable rules and regulations. This terminal was last inspected on August 8, 2012, by Mr. James Robertson, a Compliance & Enforcement engineer for the agency. During this inspection, Mr. Robertson, found the facility to be operating in compliance. For this review, no site inspection was deemed necessary.

ESTIMATE OF EMISSION BY REVIEWING ENGINEER

The applicant used US EPA's TANKS 4.09 program to predict volatile organic compound (VOC) emissions from the new Tank 30. The natural gasoline in the program was treated as gasoline with a Reid Vapor Pressure (RVP) of 15 psia. The applicant's run yielded a projected release of 2,869.77 pounds per year of VOC using an annual throughput of 50 MM gallons. This natural gasoline has a benzene content of 0.17% by volume. The potential benzene released from the tank would be 13 pounds per year.

The Ben's Run Terminal supports the Hastings Extracting Plant by storing natural gasoline to be loaded into marine barges. Recently, Dominion has requested to replace the natural gasoline tank (Tank 10) at the Hastings Extraction Plant. The annual throughput used to evaluate the VOC emissions from Tank 10 were based on annualizing the highest monthly production rate of natural gasoline, which was recorded in November 2013. This annualized rate was 47 MM gallons. Thus, an annual throughput slightly higher than Tank 10 should be considering the maximum potential for this case.

The largest source of the VOC emissions for the tank comes from losses from deck fittings which is 80% of the 2,869.77 pounds per year. Withdrawal losses from the tank were predicted to be 136.67 pounds of the 2,869.77 pounds per year. Thus, the annual throughput for this tank does not significantly affect emissions from the tank.

Other activity at the terminal that generates emissions is the loading of natural gasoline into marine barges. The VOC emission factor for loading natural gasoline was 3.9 pounds of VOC per 1000 gallons loaded, which came from Table 5.2-2 in Chapter 5.2 of AP-42. The hourly VOC potential from loading is 210.6 pounds per hour at a maximum design pump rate of 900 gallons per minute. Annual potential from loading was determined to be 97.5 tpy of VOCs.

The facility's potential would be 98.93 tpy of VOC which is based on maximum annual throughput of 50 MM gallons of natural gasoline annually. Benzene emissions would be less than 1.0 tpy.

REGULATORY APPLICABLILITY

The terminal is a minor source and classified as a deferred source under Title V (45CSR30). Under Title V, a major source is defined as a source having the potential to emit any criteria pollutant greater than 100 tpy or the potential to emit 10 tpy of any single HAP (i.e. benzene) or 25 tpy of combined HAPs.

Tank 30 is and will be subject to Subpart Kb of Part 60 because the natural gasoline is a volatile organic liquid (VOL). Dominion included information that indicates the site specific maximum true vapor pressure of the natural gasoline is 11.03 psia. This maximum true vapor pressure corresponds to a Reid Vapor Pressure of 15.5 psia for the natural gasoline. Since the maximum vapor pressure of the natural gasoline is less than 11.6 psia, either an internal or external floating roof that meets the specification of 40 CFR §60.112b(a) must be installed. Dominion has selected a vessel with internal floating roof using a double seal system to meet the control requirements of Subpart Kb.

The control requirements of Subpart Kb are considered as a substantive requirement under 45 CSR §13-.24.a., which required Dominion to obtain a permit for the replacement tank. Thus, Dominion prepared and submitted a complete application, paid the filing fee, and published a Class I Legal ad in *Tyler Star News* on November 26, 2014. When Tank 30 was originally constructed in 1986, this substantive requirement was not in the 1974 version of 45CSR13. Thus, the source was not obligated to obtain a construction permit under 45 CSR13.

As a result of this tank replacement, the terminal will remain a minor source classified as deferred Title V source. The facility is a deferred Title V source because the existing and replacement tanks are subject to federal regulation that automatically puts such sources into the Title V program. Since the terminal is not major under Title V, the facility is not required to obtain an operating permit under 45 CSR 30. Dominion will be required to submit certified emission statements and pay fees annually under 45 CSR 30.

TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

The new replacement tank will not emit any pollutants that aren't already being emitted by the existing Tank 30. Therefore, no information about the toxicity of the hazardous air pollutants (HAPs) is presented in this evaluation.

AIR QUALITY IMPACT ANALYSIS

The writer deemed that an air dispersion modeling study or analysis was not necessary, because the proposed change does not meet the definition of a major source as defined in 45CSR14.

MONITORING OF OPERATIONS

As noted earlier, the replacement tank is subject to Subpart Kb which requires routine inspections of the internal floating roof system and documentation of the maximum true vapor pressure of the VOL being stored in the vessel.

RECOMMENDATION TO DIRECTOR

The information provided in the permit application indicates the proposed changes of the facility will meet all the requirements of the applicable rules and regulations when operated in accordance with the permit application. Therefore, the writer recommends granting Dominion Transmission, LLC a Rule 13 modification permit for the proposal replacement of Tank 30 at the Ben's Run Terminal located in Paden City, WV.

Edward S. Andrews, P.E.
Engineer

December 12, 2014
Date