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October 21, 2019

Mr. Robert Burrough
Director, Eastern Region
Pipeline and Hazardous Materials Safety Administration
840 Bear Tavern Road, Suite 300
West Trenton, NJ 08628

Subject: Dominion Energy Transmission, Inc.
CPF 1-2019-1016W Warning Letter Received September 16, 2019

Dear Mr. Burrough:

This letter is in response to your Warning Letter dated September 13, 2019 concerning the Underground Natural Gas Storage (UGS) inspection conducted by the Office of Pipeline Safety (OPS) for Dominion Energy Transmission, Inc.'s ("Dominion" or "DETI") Fink-Kennedy-Lost Creek (FKLC) UGS field. The inspection was conducted between June 24th and June 27, 2019.

DETI's intention for responding to this letter is to outline the past and future measures the team is taking to continually operate its storage wells safely. Dominion is committed to the continuous improvement of our Storage Integrity Management Program. DETI has researched these concerns and has taken several actions to address this feedback, as described below.

In the Warning Letter, PHMSA alleged a probable violation of 49 C.F.R. § 192.12(d).

§ 192.12 Underground natural gas storage facilities

(d) Each underground storage facility that uses a depleted hydrocarbon reservoir or an aquifer reservoir for gas storage, including those constructed not later than July 18, 2017, must meet the operations, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security, emergency response and preparedness, and recordkeeping requirements and recommendations of API RP 1171, sections 8, 9, 10, and 11 (incorporated by reference, see 192.7) by January 18, 2018.

Section 9.3.2 of API RP 1171, Well Integrity Monitoring states:

The operator shall monitor for presence of annular gas by measuring and recording annular pressure and/or annular flow.

DETI's Response

DETI's FKLC storage pool has a total well count of 550 wells of which 247 wells do not have annular vents which was the acceptable design criteria at the time of installation. All 247 wells have had at least one production casing inspection log performed to confirm integrity. Each casing log inspection is evaluated and remediated as required per established DETI protocol. This casing logging program has effectively maintained casing integrity.

Furthermore, 226 of the 247 wells have the annulus between the production casing and the next larger diameter casing cemented to surface. The practice of cementing to surface and the casing inspection log assessment have been the historical means to prevent annulus gas flow. The remaining 21 wells do not have their production casing cemented to surface.

To further strengthen integrity in these cases, DETI plans to address the 21 storage wells without cement to surface between the production casing and the next larger diameter casing as part of our ongoing top joint and wellhead change-out program. Five of the 21 wells will be reworked in 2020 (wellhead and top joint replacements) including the installation of annular vents and the remaining 16 will be reworked by 2022, contingent upon receipt of all required permits. DETI will also continue to add annular vents to other storage wells at FKLC Storage as part of our project to replace casing top joints and wellheads, which is prioritized predominately using our risk ranking.

In addition, DETI will enhance its current monthly well inspections for wells without annular vents. DETI presently monitors all active wells for gas leaks monthly. The current monthly inspections and associated questions have been in place for more than a decade for all storage wells:

1) Well and all above ground piping, valves, methanol bottles, and surrounding area at the soil interface been checked for gas escaping and leaks? Answering this question with Yes in the past has fulfilled the monthly inspection requirement.
2) Any gas escaping or leaks found? If yes to question 1, then this question is required. If yes, an email with location comments is automatically sent from DETI's electronic compliance system to the Gas Storage Engineer, Area Supervisor, and Integrity Logging Program Manager and a deficiency is created for follow-up action.
3) If Yes, location of gas escaping or leaks. If yes to question 2, then location is required.

The following **additional** questions will be added for a storage well without annular vents to accommodate gas detector inspection. The new questions and thresholds being added for active wells with no annular vents are as follows:

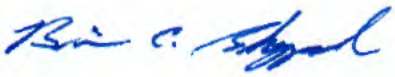
1) Has the entire perimeter at the soil interface of the well head at ground level been checked with a gas detector? Answering this question with Yes will fulfill the monthly inspection requirement.
2) If yes, was gas detected? If yes to question 1, then this question is required.

3) % LEL measured with a gas detector. If yes to question 2, then this question is a required.
    - In the handheld programing, the following thresholds will be set:
        - If the reading is greater than or equal to 10% LEL but less than 25% LEL, an email will be automatically sent from DETI's electronic compliance system to the Gas Storage Engineer and Operations Supervisor for notification and awareness.
        - If the reading is greater than or equal to 25% LEL, an email will be automatically sent from DETI's electronic compliance system to the Gas Storage Engineer and Operations Supervisor. The email will instruct the Gas Storage Engineer to create an issue in the Potential Compliance Monitoring System (PCMS) to investigate and track potential follow-up actions.

DETI's Gas Storage Guidelines and appendices in Dominion's Storage Integrity Management Program Plan are being updated to include this revised language. Training the well tenders on the new inspection will be completed prior to implementation. Records for the new inspection will be stored in DETI's Gas Well Storage (GWS) database.

DETI continues its focus on operational excellence while operating and maintaining its storage wells. DETI would appreciate OPS taking the considerations outlined above into account. If you have any questions or need additional information, please do not hesitate to call me.

Sincerely,



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