

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection**

N499055289

FACILITY: Michigan Dept. of Transportation		SRN / ID: N4990
LOCATION: Military/Bascule Bridge, PORT HURON		DISTRICT: Warren
CITY: PORT HURON		COUNTY: SAINT CLAIR
CONTACT: Endres Richard , Chief Geotechnical Engineer		ACTIVITY DATE: 08/28/2020
STAFF: Kaitlyn Leffert	COMPLIANCE STATUS: Compliance	SOURCE CLASS: Minor
SUBJECT: FY2020 Scheduled Inspection		
RESOLVED COMPLAINTS:		

On August 28th, 2020, Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) staff Kaitlyn Leffert contacted the Michigan Department of Transportation (MDOT) regarding a permit issued to a ventilation system operated at an MDOT owned bridge, located in Port Huron. The bridge was issued a permit to operate gas relief wells during replacement of the Military Street Bascule Bridge in Port Huron. The purpose of the inquiry was to determine whether this system was still operating, as well as compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); AQD administrative rules, and Permit to Install (PTI) Number 719-93.

Permit History

In 1994, the Michigan Department of Transportation was issued a permit to operate gas relief wells while the Military Street Bascule Bridge was being replaced. The gas relief wells were necessary due to the presence of underground pocket of gas that was identified during a geological investigation prior to work on the bridge. According to information provided during the permitting process, the vents had been installed and operating since October 1989. Each well is approximately 50 feet into bedrock and is equipped with a timed water pup, gas/water separator, water outlet, and vent pipe.

Current Status

I contacted MDOT to determine whether the gas ventilation system was still operational and to determine if there was any information on emissions from the ventilation system. Richard Endres, Chief Geotechnical Engineer, Bureau of Bridges and Structures, MDOT, responded to by email to inform me that he believes the system is still operational, but that he does not have much more information since many old records have since been destroyed. He also referred me to the engineering firm, Somat Engineering, that assisted with the project to see if they had any additional information. Jonathan Zaremski, Geotechnical Services Manager, Somat Engineering, contacted me to let me know that they did not have much information on this project either.

Permit Conditions

Based on the conversations with MDOT and the lack of information otherwise, it appears that the gas relief wells at the Military Street Bridge are still installed and operating. If the ventilation system is operating, then compliance with the conditions of the permit must be assessed. PTI No. 719-93 contains the following special conditions:

- Volatile Organic Compound (VOC) emission limit of 0.39 pounds per hour and 1.71 tons per year
- Visible emissions shall not exceed 0% opacity
- VOC emission rates may be tested if requested
- Stack restrictions: the exhaust stack must have a maximum diameter of 2 inches be at least 20 feet above the sidewalk

The hourly and annual VOC limits in the permit were calculated based on concentrations of VOCs measured in air samples collected at the time of permitting and the assumption of a 100scfm flow rate. As is noted in the permit documentation, this flow rate is unlikely to be achieved without a blower and is therefore intended to be a maximum possible emission rate. In addition, the gas relief wells are venting gas from bedrock gas pockets and presumably the VOC concentration will drop over time as the quantity of gas in the pocket is depleted. Therefore, while there has not been any additional sampling done to measure VOC emission rates from the gas relief well, it is likely that VOC emission rates are lower than at the time of permitting. It is therefore assumed that MDOT continues to operate in compliance with the permitting.

Regarding the stack restrictions, there have not been any known modifications to the ventilation system since installation and therefore the stack is likely to still be in compliance with this condition.

Conclusion

Based on the information supplied by MDOT, the gas ventilation system appears to still be installed at the Military Street Bascule Bridge in Port Huron. A site visit was not conducted due to ongoing challenges related to COVID-19 pandemic and the fact that there is not much to observe above ground at the site of the bridge. Based on the available information, the gas relief wells are presumed to be operating in compliance with the permitted emission limits.

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