

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

B521447216

FACILITY: LBWL John Dye Water Conditioning Plant		SRN / ID: B5214
LOCATION: 148 S. CEDAR ST, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: INGHAM
CONTACT: Nathan Hude ,		ACTIVITY DATE: 11/29/2018
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Announced, scheduled inspection to determine compliance with PTI's 212-88 and 140-05		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow (author) and Marissa Buehler (DEQ Intern)

Personnel Present: Nathan Hude, Environmental Regulatory Compliance-Air (Nathan.hude@lbwl.com)
Mike Carie, Shift Supervisor

Purpose

Conduct an announced, scheduled inspection to determine compliance with LBWL John Dye Water Conditioning Plant's (LBWL John Dye) Permit to Install (PTI) Nos. 212-88 and 140-05. This facility was last inspected in September 2013.

Facility Background/Regulatory Overview

LBWL John Dye removes and conditions groundwater from the Saginaw formation aquifer to distribute as drinking water for area municipalities, including the City of Lansing, Delta Township, Holt, Dewitt, and Lansing Township. Conditioning includes adding minerals and adjusting other water parameters to ensure drinking water standards are met. Lime (calcium oxide) is used to treat carbonate water hardness and soda ash is used to treat non-carbonate water hardness.

The lime and soda ash unloading system is permitted under PTI 212-88.

General PTI 140-05 is for 2 diesel fuel-fired engine generators. As of July 6, 2010, per an internal letter from Vince Hellwig, AQD Chief at the time, General Permits to Install for diesel fuel-fired engine generators have been suspended (see attached), i.e. General PTI's will no longer be issued for these engines. Any General PTI's issued previous to July 6, 2010 still remain in effect; however, LBWL John Dye would need to obtain a permit to install for any future installations of diesel fuel-fired generators.

The generators are subject to the area source MACT subpart ZZZZ. N. Hude said MACT Subpart ZZZZ testing is conducted on these engines.

Inspection

This was an announced, scheduled compliance inspection. At approximately 10:30 a.m. on November 29, 2018, Marissa Buehler and I met with Nathan Hude, LBWL Air Compliance, and Mike Carie, LBWL John Dye Shift Supervisor. N. Hude and M. Carie proceeded to give us a tour of the facility, with special attention being paid to the lime and soda ash handling system, and diesel fuel-fired engines. Table 1 contains a list permitted and exempt equipment at the facility.

Table 1. Equipment located onsite

<u>EU</u>	<u>Description</u>	<u>PTI No/ Exemption</u>	<u>Compliance Status</u>
Lime/Soda Ash Unloading System with baghouse	1 baghouse used for lime 1 baghouse used for soda ash Baghouse collection systems are only	212-88	Compliance

	operated when receiving loads		
EG-1	2 MW, Diesel-fired engine	140-05	Compliance
EG-2	1 MW, Diesel-fired engine	140-05	Compliance
1 Parts Washer	Located in maintenance	Rule 281(2)(h)	Compliance
1 Parts Washer	Located in Dye maintenance shop	Rule 281(2)(h)	Compliance

PTI 212-88

In 2017, the 2 baghouses for the lime and soda ash unloading systems were replaced. The baghouses were replaced under exemption Rule 285(2)(d), and Dan McGeen, AQD inspector at the time, verified that the replacement appeared to be in compliance with Rule 285(2)(d). N. Hude verified that the air flow into the baghouse did not change, the feed system also remained the same, therefore ensuring that the replacement of the baghouses was with equivalent or more efficient equipment.

LBWL John Dye was not receiving any lime or soda ash during the inspection and therefore the baghouses were not operating during the inspection. The baghouses have an opacity limit of 20%. When operating properly baghouses should meet this limit.

LBWL John Dye is also required to ensure that the baghouse is installed and operating properly. Each baghouse magnehelic pressure drop monitoring device is labeled with an operating range: 0.5 – 4.0 "H₂O. M. Carie said that the 0.5 is the manufacturer's recommended lower range and 4.0 is what the LBWL has chosen as their upper range. M. Carie said the manufacturer recommends an upper pressure drop limit of 6.0. The 4.0 " H₂O upper limit is a conservative approach to ensuring that the baghouse is operating properly.

M. Carie also said that the baghouse pulses when the pressure drop hit 0.7" H₂O. He explained that if the pressure drop is below the lower limit of 0.5" H₂O (indicating there is a bag leak), they stop loading the trucks and the process is shutdown to address issue.

All lime and soda ash that is captured in the baghouses are integrated back into the process.

LBWL John Dye is in compliance with PTI 212-88 at this time.

General PTI 140-05

This PTI covers 2 diesel-fired generators and can only cover 2 diesel-fired generators with a maximum capacity of 5 MW. There are no sulfur content limits for the diesel.

Emission Limits, Material Limits, Testing, & Monitoring/Recordkeeping

NOx emissions are limited to 515 lbs per 1000 gallons of diesel. Testing is an option to ensure this limit is met, but it is my professional judgment that testing the diesel (via stack testing the engines) is not warranted at this time. Diesel usage rates are very low (less than 300 gallons over the course of a 12-month rolling period per engine) see attached records. LBWL John Dye is limited to 136,000 gallons diesel from all generators per 12-month rolling period.

LBWL John Dye is required to calibrate and maintain a device to monitor and record the fuel use for each engine on a monthly basis, and records of the usage are required to be kept on a monthly and 12-month rolling basis.

N. Hude provided me with the required fuel usage 12-month rolling records, November 2017 – October 2018. There is a gauge on each diesel fuel tank (see attached photo for EG2 tank example) that measures levels in the tank in feet and inches. Each gauge inch on the tank servicing engine 1 represents 41.4 gallons, and each gauge inch on the tank servicing engine 2 represents 63.4 gallons. The records indicate that the levels on each tank are measured several times per month, however, because the levels are measured in inches, it is challenging for LBWL John Dye employees to record an exact usage based on fractions of an inch. Therefore, the levels are measured to the nearest inch. When a decrease by an inch has been reached, the number of gallons is recorded in the log. A total of 273 gallons was used for both engines during the aforementioned 12-month rolling period.

Material Limits

LBWL John Dye is only allowed to burn diesel fuel in these engines. N. Hude verified that only diesel is stored and used in these engines, and verified that these engines do not have the capability to burn anything but diesel fuel.

The permit also requires that the sulfur content in the diesel be tested and under 0.5 wt% averaged annually if the electricity produced by the engines is sold to a utility power distribution system. M. Carie verified that the engines are not producing power to be sent to the grid but are only used during times where there is complete power loss; the engines are used to maintain pressure in the water distribution system only.

Monitoring/Recordkeeping

Records of the date, duration and description of any malfunction, any maintenance performed, and any testing results are required to be kept. N. Hude provided me with operation and maintenance logs for each engine. He also gave me a blank sheet as an example of the items that the engine operators utilize on a shift-basis as part of routine inspections on the units (and include documenting fuel levels, coolant levels, oil levels, tank inspections, and the air compressors).

LBWL John Dye conducts quarterly maintenance and readiness checks. EG 1 was last run on July 28, 2018, completion of operation ending at 1769 hours, which are the operating hours I also recorded on the engine during the inspection.

EG2 was last run October 6, 2018, completion of operation ending at 1826 hours, which are the operating hours I also recorded on the engine during the inspection.

Rule 281(2)(h) Parts Washers

There are 2 parts washer located onsite, one in maintenance and one in the Dye maintenance shop. Both units' lids were closed, both had operating instructions posted (inside the lid), and both were under 10ft² surface area. These units appear to be in compliance with Rule 281(2)(h) at this time.

Compliance Statement: LBWL John Dye is currently in compliance with all requirements under PTI's 212-88 and 140-05 at this time.

NAME Matt Hude

DATE 12/14/18

SUPERVISOR Julie L. Bunn