

N7704
Mawila

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

N770440933

FACILITY: DETROIT WATER & SEWERAGE		SRN / ID: N7704
LOCATION: 12082 PLEASANT AVE, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT:		ACTIVITY DATE: 08/02/2017
STAFF: Stephen Weis	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: Minor
SUBJECT: Compliance inspection of the Great Lakes Water Authority Oakwood CSO facility on Pleasant St. in Detroit. The Oakwood CSO facility is scheduled for inspection in FY 2017.		
RESOLVED COMPLAINTS:		

Location:

Great Lakes Water Authority (formerly Detroit Water and Sewerage Department)
Oakwood CSO RTB Facility (SRN N7704)
12082 Pleasant Street
Detroit 48217

Date of Activity:

Wednesday, August 2, 2017

Personnel Present:

Steve Weis, DEQ-AQD Detroit Office
Luther Blackburn, GLWA
David McCord, GLWA
Vijay Valecha, GLWA

Purpose of Activity

A self-initiated inspection of the Great Lakes Water Authority (GLWA) Oakwood Combined Sewer Overflow (CSO) Retention Treatment Basin (RTB) facility (hereinafter "Oakwood CSO" or "Oakwood facility") was conducted on Wednesday, August 2, 2017. The Oakwood CSO is on my list of sources targeted for an inspection during FY 2017. The purpose of this inspection was to determine compliance of operations at the Oakwood facility with applicable rules, regulations and standards as promulgated by Public Act 451 of 1994 (NREPA, Part 55 Air Pollution Control), applicable Federal standards, and any applicable permits and orders.

Facility Description

The Oakwood CSO facility is located on the north side of Pleasant Street between Deacon and Liddesdale Streets. The facility property runs north to where Sanders Street would run through, and the property to the north is owned by Wolverine Pipeline. The areas to the north and east of the Oakwood facility are industrial in use, with a Buckeye Terminals LLC facility located on either side of Deacon Street north of Pleasant, and various aggregate and material storage facilities located to the northeast along the south bank of the Rouge River. The Marathon Petroleum Refinery facility (SRN A9831) is located ¼ mile to the west of the Oakwood facility. The areas to the west and south of the facility are residential area. The closest residence is located approximately 150 yards to the south of the facility.

The Oakwood CSO facility operates as part of the Great Lakes Water Authority's sewerage system. The system was formerly owned and operated by the Detroit Water and Sewerage Department (DWSD), but GLWA began a 40 year lease with the City of Detroit that provided for GLWA's operation of the regional water and sewerage system on January 1, 2016. The Oakwood CSO is a relatively new facility – the facility began operating in late 2012, and the facility was built adjacent to and in the place of the former Oakwood Pump Station (12330 Sanders, SRN M4841).

There are 18 CSO facilities in the GLWA's regional sewer system in Wayne, Oakland and Macomb

Counties. According to the GLWA website (www.glwater.org), the CSO-RTB facilities are part of a four-part strategy to address combined sewer overflows:

- Source reduction – reduce the amount of storm water flow that enters the wastewater system;
- In-system storage – maximize the use of existing storage space in the sewer system during storms;
- Wastewater treatment plant expansion – expand the capacity of primary treatment from 1.5 billion to 1.7 billion gallons per day to treat more flows during storms;
- End-of-pipe treatment – construct facilities to store and treat the combined sewage, preventing it from entering area waterways unless it is treated and disinfected.

The following description of a GLWA CSO-RTB facility is taken from the GLWA website:

“A CSO RTB is an underground tank that temporarily stores and treats combined sewage that previously was discharged through outfalls during storms. Flows diverted to the RTB are screened and treated with a disinfectant and discharged to the river if RTB storage capacity is exceeded. Materials removed by the screens are sent to the wastewater treatment plant (WWTP) for disposal. The stored flows are sent to the WWTP after the storm has subsided and capacity is available in the sewer system. Many times the flows are small enough to be completely captured and stored in the RTB.”

The Oakwood CSO has the capacity to pump 1,800 cubic feet per second of influent into the facility, and has an on-site storage capacity of 9 million gallons in two basins (the east and west basin, each having a storage capacity of 4.5 million gallons). There are 8 pumps used to pump water in and out of the Oakwood facility. Influent wastewater enters the facility, and is received in wet wells. When the wet wells overflow, the wastewater is directed into the basins, where it is screened and disinfected. Water that receives treatment in the basins is typically discharged to the GLWA Water Resource Recovery Facility (WRRF, formerly known as the Detroit Wastewater Treatment Plant, SRN B2103). The treated water can also be discharged to the Rouge River via the O'Brien Drain, which runs north from the Oakwood facility.

The facility's buildings are heated with unit heaters. I was told that there are no boilers at this facility.

Facility Operating Schedule

The Oakwood CSO operates on a 24 hour per day basis every day of the year.

Inspection Narrative

I arrived at the facility with GLWA staff at 1:00pm. We were met by facility staff, who walked us around the facility and explained the operations. We started by looking at the scrubber system associated with the wet wells and pump station, which is associated with the front building relative to Pleasant Street. I inquired of GLWA staff when the last carbon breakthrough test was performed on the scrubber. One of the conditions in the facility's permit requires that the activated carbon bed be checked for breakthrough at least once each calendar quarter, and that the permittee keeps records of each activated carbon breakthrough test. GLWA were not sure when the last test was performed, and they were unsure as to where the records of the tests would be kept.

We then walked to the larger building that contains the two basins. The odor control scrubbers are located at the back of this building. We took a look at the scrubber units. I once again asked about the required scrubber activated carbon bed tests, and GLWA staff told me that they were, again, unsure as to when the test was last performed on these scrubbers.

We walked through the rest of the facility, and the treatment process was explained to me. I was told that when the wet wells reach a level of 73 feet, influent is directed first to the east basin, then the west basin, for treatment and eventual discharge from the facility. Treated water is typically sent to the WRRF via the Northwest interceptor, or it can be discharged to the Rouge River using the O'Brien Drain.

We left the facility at 1:35pm.

Permits/Regulations/Orders/

Permits

The facility currently has one active air permit, PTI No. 291-06. This permit addresses the three odor control scrubbers in use at the Oakwood CSO. This PTI was issued on December 7, 2006 as the facility was just commencing construction. The permit Special Conditions (SCs) are structured to address requirements for the odor control system associated with the combined storm sanitary wet wells and the sanitary pump station room, which is given the designation EU-OCS-PUMP in the PTI, and to address the requirements for the odor control systems for the screen facility and two CSO basins, which are given the designations EU-OCS-SCR/CSO1 and EU-OCS-SCR/CSO2. These last two Emission Units are combined into a Flexible Group called FG-OCS-SCR/CSO.

The compliance status of the Oakwood CSO facility with the requirements of PTI No. 291-06 is summarized, as follows.

For Emission Unit EU-OCS-Pump

Special Condition 1.1a (Emission Limits)– This condition limits the hydrogen sulfide emission rate to 0.0043 pounds per hour. There is a requirement to perform a compliance stack test to determine H₂S emissions from the scrubber, but only if requested by DEQ-AQD. The primary compliance method is to monitor that the scrubber is operating properly by performing carbon breakthrough tests.

Special Condition 1.2 (Process/Operational Limits) – The facility is **in compliance** with this condition. I was told that the odor control system is placed in operation when the pump station is operating. The scrubber was operating when I was at the facility.

Special Condition 1.3 (Process/Operational Limits) – GLWA has an operation and maintenance plan for the scrubbers at this facility. **Compliance.**

Special Condition 1.4 (Testing) – The facility has not been required to test the odor control system for hydrogen sulfide emissions by DEQ-AQD.

Special Condition 1.5 (Testing) – GLWA was not sure when the scrubber was last tested for activated carbon bed breakthrough. **Non-compliance.** A Violation Notice (VN) was issued to GLWA dated August 14, 2017. GLWA submitted a response to the VN dated August 31, 2017 in which they provided that they consulted with Continental Carbon Corporation regarding the activated carbon beds. Based on this consultation, GLWA staff will be collecting a sample of carbon prior to September 30, 2017 and sending it to Calgon Corporation for an analysis and determination of remaining bed life. GLWA also committed to continuing to collect and analyze samples of the carbon quarterly, and to maintain records of the test results. A copy of GLWA's response to the VN is attached to this report for reference.

Special Condition 1.6 (Recordkeeping/reporting/Notification) – **Non-compliance.** GLWA is not maintaining records of the activated carbon breakthrough tests. See the discussion and resolution described in the discussion for SC 1.5.

Special Condition 1.7 (Stack/Vent Restrictions) – The stack information was not verified during this site visit.

For FG-OCS-SCR/CSO

Special Condition 2.1a (Emission Limits)– This condition limits the hydrogen sulfide emission rate to 0.0031 pounds per hour. There is a requirement to perform a compliance stack test to determine H₂S emissions from the scrubber, but only if requested by DEQ-AQD. The primary compliance method is to monitor that the scrubber is operating properly by performing carbon breakthrough tests.

Special Condition 2.2 (Process/Operational Limits) – The facility is **in compliance** with this condition. I was told that both odor control systems are placed in operation when the CSO facility has the potential to generate odors. The scrubber was operating when I was at the facility.

Special Condition 2.3 (Process/Operational Limits) – GLWA has an operation and maintenance plan for the

scrubbers at this facility. **Compliance.**

Special Condition 2.4 (Testing) – The facility has not been required to test the odor control system for hydrogen sulfide emissions by DEQ-AQD.

Special Condition 2.5 (Testing) – GLWA was not sure when these scrubbers were last tested for activated carbon bed breakthrough. **Non-compliance.** As mentioned in the discussion for SC 1.5, a Violation Notice (VN) was issued to GLWA dated August 14, 2017. GLWA submitted a response to the VN dated August 31, 2017 in which they provided that they consulted with Continental Carbon Corporation regarding the activated carbon beds. Based on this consultation, GLWA's staff will be collecting a sample of carbon prior to September 30, 2017 and sending it to Calgon Corporation for an analysis and determination of remaining bed life. GLWA also committed to continuing to collect and analyze samples of the carbon quarterly, and to maintain records of the test results. A copy of GLWA's response to the VN is attached to this report for reference.

Special Condition 2.6 (Recordkeeping/Reporting/Notification) – **Non-compliance.** GLWA is not maintaining records of the activated carbon breakthrough tests. See the discussion and resolution described in the discussion for SCs 1.5 and 2.5.

Special Condition 2.7a and b (Stack/Vent Restrictions) – The stack information was not verified during this site visit.

Compliance Determination

Based upon the results of the August 2, 2017 site visit and subsequent records review and correspondence with GLWA, the Oakwood CSO facility appears to be complying with all applicable rules, regulations and permits, except for the monitoring of the carbon bed in the scrubber. The non-compliance issue related to the testing of the activated carbon bed breakthrough will be considered resolved when GLWA completes sampling and analysis of the carbon bed, and demonstrates that records of these sampling and testing events are being maintained on a quarterly basis. DEQ-AQD will request copies of the results from the next test.

Attachments to this report: a copy of GLWA's response to the Violation Notice that was issued by DEQ-AQD on August 14, 2017.

NAME Steel Wells DATE 9/27/17 SUPERVISOR JK