

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

N540424681

FACILITY: CITY OF SALINE WWTP		SRN / ID: N5404
LOCATION: 243 MONROE ST, SALINE		DISTRICT: Jackson
CITY: SALINE		COUNTY: WASHTENAW
CONTACT: Mark Fechik , Assistant Superintendent		ACTIVITY DATE: 03/27/2014
STAFF: Diane Kavanaugh-Vetort	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Compliance inspection - Minor Source. Odor control scrubbers PTI. (Required a follow up inspection on 4/25 to verify scrubber up/running after maintenance; verify Emergency engine status RICE MACT or NSPS)		
RESOLVED COMPLAINTS:		

CONTACT: Mark Fechik, Environmental Supervisor, Assistant Superintendent, Water Production & Wastewater Treatment, City of Saline. (734) 429-4907 ext 2325; mfechik@cityofsaline.org

On March 27, 2014, Diane Kavanaugh Vetort, MDEQ-AQD conducted a complete scheduled compliance inspection at the above facility location. The purpose of the inspection was to determine the facility's compliance status with the Natural Resources and Environmental Protection Act 451, Part 55, Air Pollution Control regulation and the administrative rules, and the conditions of Saline WWTP's PTI No. 499-94A covering two air pollution control packed bed scrubbers on portions of the WWTP operations.

I arrived at the facility at approximately 9:30 AM, entered the main office, presented identification and stated the purpose of the inspection. I met with Mark Fechik, Assistant Superintendent. He accompanied me during the inspection. He is familiar with the Air Use Permit, and we discussed the requirements. The last AQD inspection was 5/21/2008. The last odor complaint AQD received was June 19, 2007. Mark informed me the plant is currently undergoing major construction. Scrubber maintenance has been on hold somewhat over the winter. Scrubber maintenance is usually done by shutting down the scrubbers for several days during time when odors will be lessened, usually winter.

The construction project required modified process operations and Mark said this has led to an increase in odors in another area. Specifically, they have been unable to process raw sewage through the Digester and it has been re-routed and stored in the final tanks normally used for final stage material that is pumped out to land application. Mark said they received complaints directly from one resident over the winter or since the project started. I told Mark that AQD was unaware of the construction and hasn't receive any complaints to date.

Saline WWTP is primarily regulated by MDEQ Water Resources (WR), and Jeff Surfus is currently assigned District Staff. WR has the lead on most odor issues involving WWTPs and is the primary regulator. The City of Saline had odor issues in the past and complaints were verified by AQD. Saline obtained the existing AQD PTI 499-94A due to these past odor issues and a cited Rule 901 violation. I confirmed that Jeff, WR is aware of all the interim changes they are making to the plant's process flow based on the construction project.

The WWTP plant is located in a sort of small valley, almost built into a small hill, with different elevations throughout. There are homes up on the top of the hill actually on the North and East sides and it appeared the Odor Scrubber stacks are not much higher than those homes. The WWTP is also somewhat rimmed by trees/shrubs in the homes backyards and on side next to the river (discharge area). During the 2008 inspection they were then undergoing construction to switch from chlorine to UV technology, and also to add another sludge storage tank (covered).

Mark conducted a tour for me through the entire plant processes. I noted periodic, brief odors on the property as we walked by certain areas. The ongoing construction is in the Digester area and he pointed out that they were forced to open up the area in particular and that was fairly odorous. The Digester was observed to be operating today at a very reduced capacity per Mark; they just started it back up. He said they need to fill the tank fully to complete the roof seals. The roof is similar to a floating roof and there is currently an opening in the top. Per Mark it is not yet sealed because it has a very low level of material in it at present. They also are working on the new control system for the Digester. A small Pilot Flare controls the digester building but it needed upgrades and they are just getting this back online as well. The Flare was not operational during the inspection. I caught a whiff of odor and observed a visible steam emissions from the top of the Digester roof (per Mark @ 8 ft opening) and the small steam

emission from an area on one side of the roof edge seal. The odor I observed was objectionable but it was not intense and was of a short sporadic duration.

It is noted that I did not detect any odors upon my arrival to the facility. Following the inspection I drove around the neighborhood to the North and East of the plant and did not observe any odors.

Mark explained and pointed out the general processes: headworks, (2) Primary Tanks, (18) RBCs - rotating biological contactors, and Secondary settling tanks, all part of the main plant. In a separate building they operate the anaerobic Digester (discussed above w/construction) and one Boiler capable of burning either methane or natural gas and used to heat some of the facility buildings. Septic hauled sludge etc..is received separately and is sent to the digester (again bypassed now due to the construction). They have underground final storage tanks under a concrete pad with two carbon drums on the vents. They do have licensed haulers remove and land apply sludge 2-3 times per year.

I observed that the original Boiler (1980's) was replaced during the recent construction with a newer more efficient Boiler still capable of burning either natural gas or methane (from Digester process). I observed the dual fuel piping. The boiler appeared very small, I requested Mark verify the maximum heat input capacity because it was not located on the boiler plate. Following the inspection I consulted with Permit Section staff regarding use of the dual fuel including methane related to the exemptions. It appears it is regarded as the same as Natural Gas in some EPA references. Therefore, AQD has determined the new Boiler would qualify for the Rule 282 (b)(i) exemption from the requirement to obtain an Air Use Permit to Install.

The PTI No. 499-94A covers two odor scrubbers:

EUODORCONTROLSYSTEM1 (Dual Met-Pro 4900 cfm) and EUODORCONTROLSYSTEM2 (EroTech-SC multistage 10,000 cfm). Both Units were observed to be installed but were not operating during the inspection. They are located in a separate building at the back of the plant property. EUODORCONTROLSYSTEM1 controls the grit chamber and the No. 2 primary tank. EUODORCONTROLSYSTEM2 controls the RBCs and the No. 1 primary tank. EU...SYSTEM2 has an odor sample hose, that connects to the exhaust stack and you can open the valve and smell. There main purpose is to capture and control hydrogen sulfide emissions.

During the 2008 inspection I had observed a large number of 55 gallon drums labeled Caustic Soda in the scrubber building. Today I only saw a couple 5 gallon buckets sitting in the area. I later also observed a separate room accessed from a back door to the building that holds the Sodium Hypochloride (Chlorine) storage tank and holding day tank. The pH is monitored on both Scrubbers and Hypochloride is automatically added as needed for proper operation. Caustic soda is added manually. A digital gauge shows the pH monitoring. Make up water is also added and recirculated. Mark explained they have not run the scrubbers 24/7 due to the extreme cold weather, reduction in throughput over the winter, and because they are planning to conduct the annual maintenance of the Scrubbers, usually done during the winter. Again, this has been delayed due to the significant construction project.

I stressed to Mark that the Scrubber's purpose is *odor control* due to previous complaints and they know that their location is not ideal in relation to neighbors. The Scrubbers only control the RBCs and Primary Tanks. Mark said recent calls they received from neighbor(s) may have been due solely to odors from the new construction/sludge handling. However we don't know if not operating the Scrubbers contributed to area odors. He thinks most likely odor was (and will be) due to the Digester building construction and having to move /store raw sewage differently.

During the inspection I walked through the RBC area and only detected mild odor while walking among the initial first 4 RBC. There are 18 RBC total and the first 4 are the BOD initial stages and the remaining 14 are for ammonia, have less and less microbial materials.

While inspecting the Odor Scrubbers, of course the Pressure drop gauges were not operational for EU...SYSTEM1 and EU...SYSTEM2 Scrubbers because they were not operational. Again Mark stated they are planning on doing the annual overhaul maintenance very soon. Things have been behind due to the construction project. I observed there are two Magnehelix pressure drop gauges on EU...SYSTEM2 with Saline identified ranges marked: 1st stage = range 2-4 inches and 2nd Stage = @ range 0.6 -1.4 inches. EU...SYSTEM1 is an older design, spray tower packed bed unit and it only had a water flow meter measuring gallons per minute (GPM) back in 2008. During the inspection today I observed there is now also a Magnehelix pressure drop gauge.

It appeared the general condition of the Scrubbers was good however it was obvious some of the water and chemical(s) have impacted various pumps, valves, and piping components. I asked Mark to please review all of these areas during the overhaul maintenance. I requested Saline WWTP investigate calibration of all Magnehelix and other gauges, according to Manufacturer instructions, in addition to the usual maintenance work on the Scrubbers.

The PTI does not require any monitoring or recordkeeping. It does have emission limits for Hydrogen Sulfide of 0.003 pounds per hour for EU...SYSTEM1 and 0.006 pounds per hour for EU...SYSTEM2. The permit evaluation indicates these were calculated values based on assuming 10 ppm H₂S inlet. Testing would be needed in order to verify these limits. It is assumed if the scrubber are operated and maintained properly they will meet the requirements. The PTI does require they continuously operate and maintain the Scrubbers according to Operation and Maintenance Manual kept on site. Again according to Mark they take the Units down once per year for a couple days to clean them out and do maintenance. My 2008 inspection report indicated they notify all local authorities and neighbors and schedule it when it would be least odor potential. It appears scrubbers have been down for much longer this winter. I verified with Mark that they do run them 24/7 during warmer weather and I advised him to keep track of major maintenance items and orders starting now.

Mark agreed to do maintenance as soon as they can, probably within the next couple weeks. I requested and he agreed to notify me when everything is done and the Scrubbers are back up and operational. A deadline was set for April 25th.

MISCELLANEOUS ISSUES:

I observed the New small Boiler plate read: Min 600/1000 CFH and Max 1200/2000 CFH. As stated above it appears to be exempt from the requirement to obtain an Air Use PTI pursuant to Rule 282. I gave Mark a copy of the Permit to Install Exemption Handbook for future reference.

I informed Mark of the federal RICE MACT Subpart ZZZZ and the related NSPS Subparts IIII and JJJJ. Mark was unaware of the standard. He told me the City of Saline has numerous Emergency Reciprocating Internal Combustion Engine generators at their various locations. Here at the WWTP site they have one Diesel emergency generator. The Water plant has a natural gas and diesel. Their pump stations have small ones. I suggested they audit and put together a list and determine applicability under the regulation. I explained that AQD does not have delegation of authority for the Area MACT Standards, however we do have delegation for the New Source Performance Standards (NSPS IIII and JJJJ). I told him I will send him links to reference materials on line and am able to assist him in determining applicability.

COMPLIANCE SUMMARY

On April 25, 2014 I met Mark at the facility and reviewed the earlier pending compliance items. Mark and I had spoken by phone on April 22nd and he informed me that the maintenance was 75% done. I observed the EU...SYSTEM2 was back up and operating. It appeared to be operating properly. There are some minor maintenance items he is still working with namely, the water flow valve on the bottom of the Units' first stage.

I also observed that EU...SYSTEM1 was operating however it still needs additional work on the water flow meter and Magnehelix gauge. The pressure drop was also observed to be recording very low like < 1 inch. Mark told me he will take it out and determine if its plugged or needs new hoses etc... He explained that the chemicals in general are hard on the Units and that continually different issues arise with components and even the outer shells. The City is apparently looking at other options for control and may consider replacing one or both Units under the current projects for facility improvements. It is noted there is no guarantee or set plan at this time. We briefly discussed the possible exemptions or need to revise the existing permit.

During this follow-up on the 25th, I observed that all the required scrubber chemicals were in place with their respective automatic pumps. Drums of Sodium Hydroxide 25% (Caustic soda) were located near the scrubbers. Two pumps send chemical to EU..SYSTEM2 and one pump to EU...SYSTEM1.

Both Scrubber Control panels indicated pH readings but Mark said they are still making adjustments. The Second Stage of EU...SYSTEM2 was reading high so he said he was not adding Caustic at this time.

First Stage Pressure drop read: 2.5-2.7 within the range 2- 4 inches. Second Stage Pressure drop read: 0.75-1.0 (in middle) within the range .60 to 1.4 inches

Finally, Mark and I went over Saline's audit of Emergency generators at various City sites. Mark identified 7 emergency generators, 5 are diesel and 2 natural gas. Only one RICE is new and would be subject to the NSPS JJJJ, SI-ICE. Another existing Diesel Unit is large >500 HP and would be subject to RICE ZZZZ but may have different requirements then the other existing diesel units which are all small along with the other natural gas existing small emergency unit. On April 28th I followed up this discussion with an email to Mark with my determination based on best information available at this time. I sent him a copy of RICE ZZZZ summaries from the EPA Regulation Navigation Tool and a copy of eCFR NSPS JJJJ. Mark was advised to, and agreed to, review the standards and follow the applicable requirements.

It appears the City of Saline WWTP is operating in compliance with the applicable air pollution regulations and their Permit to Install. Discussions with Water Resources staff indicate it is a well run and compliant facility. Pending any future complaints it appears odors can be monitored when in the area. Future inspections will continue to be conducted and AQD may be able to obtain updates from Water staff as they are on site much more often.

NAME Deane Kay Vetter DATE 4/28/14 SUPERVISOR S