

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

B887635092

FACILITY: FLOWSERVE CORP		SRN / ID: B8876
LOCATION: 2100 FACTORY ST, KALAMAZOO		DISTRICT: Kalamazoo
CITY: KALAMAZOO		COUNTY: KALAMAZOO
CONTACT: Vincent Paige, Safety Coordinator		ACTIVITY DATE: 06/20/2016
STAFF: Monica Brothers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Unannounced scheduled inspection		
RESOLVED COMPLAINTS:		

This was an unannounced inspection. Staff (Monica Brothers and Rex Lane) arrived at Flowserve at 12:40pm. Joy Taylor Morgan, Amy Robinson, and Eric Hanson, from the air monitoring unit, also met us there so that they could use the Lumex to test for mercury, since this facility has a fluorescent bulb crusher. Flowserve makes different types of seals for pumps. Approximately 80% are used in the refinery business and the other 20% are used in pharmaceutical or chemical industries. They are permitted for a wastewater evaporator and a fluorescent bulb crusher, but also have some exempt equipment. When we arrived, I called Kim Davies' number, who was the Safety Coordinator for the last inspection in January 2011, but was redirected to the new Safety Coordinator, Vince Paige.

Vince greeted us in the lobby area and we all introduced ourselves. Vince then took us back to a conference room where I gave him my business card and the inspection brochure and explained what records I would be looking for, and that we'd like to take a tour of the facility. Vince told us that they have about 400 employees at the facility that work 5 basic shifts, 24 hours a day, 7 days a week, with weekend A and B shifts. They have two natural gas boilers, two emergency generators, and 1 cold cleaner. He also told us that Flowserve now has 3 buildings, one of which was very recently bought in 2013. Buildings #1 and #2 connect with each other, but the new Building #3 is separate and contains the distribution and assembly areas, along with a separate room for the bulb crusher. Equipment and areas are currently being moved around to take advantage of the new larger space that they have, so the facility may be arranged differently when the next inspection occurs in the future.

Cold Cleaner:

After our brief pre-inspection meeting, Vince started the tour off in the maintenance area where the cold cleaner was located. The lid was closed and instructions were posted on the inside of the lid. I gave Vince a couple of the DEQ stickers to place on the outside of the unit somewhere, and he said that as soon as they know where the unit will be placed after the relocation of different departments, he will place one on the wall by the cold cleaner. We then went into the lab area where they have 3 Gaspac seal testers that use mostly compressed air to test the seals' quality. Sometimes helium is used for cooling purposes.

Wash Tanks:

From there, we entered the manufacturing area in Building #2. There are many different machining areas in this building which do not vent outside and would be considered exempt processes. Vince told me that there were about 6-10 "wash tanks" in the building that use a small amount of Simple Green (MSDS attached) mixed with water. We walked over to a couple of them to see how they operate, and they looked like a cold cleaner unit except they were filled with water and were being used by the workers to simply rinse off parts of the seals after they go through a machining process. The lids were open and the units were currently in use at the time of inspection. The MSDS says that the Simple Green only contains about 0.25% VOC, so after also combining it with so much water, there would be very little VOC to escape into the in-plant environment. These wash tanks could be considered exempt under Rule 281.

Grinding/ Carbon-Milling:

There was a grinding/ carbon-milling area in building #2 that can be exempt under Rule 285(l)(vi). They have lathes and CNC machines that vent to a Torit baghouse outside, followed by secondary (hepa) filters, and then exhausts back inside the building. We examined the baghouse area outside and the area looked clean.

Plasmadyne Spray Area/ Welding Area:

The welding area or what used to be called the plasmadyne spray area is also an exempt operation under Rule 285(i). It uses chrome oxide and vents horizontally to two Torit baghouses outside and a hepa filter before it exhausts outside. The areas around the baghouse and the exhaust point looked clean.

Wastewater Evaporator:

The wastewater evaporator is also in Building #2 and is permitted under PTI #768-93A. It is an RTI gas-fired unit (Model RG-20). The wastewater that is processed in this unit comes from mopping and from the wash tanks and contains some coolant. The wastewater goes into a large tank where particulate can settle and any oils float to the top and then get skimmed off before the water is drawn to the evaporator. The evaporator was in use at the time of inspection. The set point temperature was set at 214F, the actual temperature of the burners was 213F, and the fluid temperature was 173F. Their permit limit for temperature is 220F, so they were in compliance with this during the inspection. The unit also had the required high-temp indicators.

Emergency Generator 1:

Next, Vince took us over to the new Building #3. Outside Building #3 is a new emergency generator, so we stopped to look at that first. It is a Generac Industrial Power, natural gas, 275kw generator that was installed in early 2016 and manufactured on 11/05/15. It runs for 15 minutes per week for testing and the hour meter read 9.2 hours. There was also a 2015 EPA certified sticker on it for stationary S1 engines. This emergency engine is subject to NSPS JJJJ.

Fluorescent Bulb Drum Crusher:

Inside Building #3, there was a large area that had been newly renovated and is now the distribution and assembly center. We went through this area to another large room that had not been renovated yet and continued into a smaller enclosed room where the fluorescent bulb crusher was located. The unit looked brand new and had instructions and information sheets hanging from it. The seal between the crusher and the drum seemed tight, there was a seal on the feed chute for when the unit isn't in use. There is a monitor on the unit that lets the user know when the filters need to be changed, but they also keep track of those dates in a separate spreadsheet and plan to replace the carbon filter every two years. They have had this unit just under two years, so they have not yet changed the carbon filter.

The person that is responsible for running the unit wears a full body suit and disposes of this suit, along with the hepa filters if they need changing, inside the same barrel. There is a broom in the room that is used only in this room and for cleaning up any bulb material. There were two full drums other than the one attached to the crushing unit. One was located in the same room as the crusher and the other one was located just outside this room in the un-renovated part of Building #3. These drums had labels on them with the words "Universal Waste" on them, which Joy told him was incorrect and that they would not be able to classify and dispose of it as such. Joy told Vince that these drums should be labeled as "Hazardous Waste" after they've been crushed. Vince said that he would change this, and the pictures (attached) he sent me in an email after the inspection show that he did.

Eric Hansen and Amy Robinson used the Lumex to take air samples around the bulb crusher unit and areas inside and outside the room. The highest reading was only 1200 nanograms/m³, but it did show that the closed and sealed drums were still off-gassing to the indoor environment. Since the bulb crusher was not in operation during the inspection Joy mentioned that she would like to come back with the Lumex the next time they are going to crush bulbs to see what kind of mercury readings occur around the unit. Vince said he would let us know the next date they will be crushing.

Other Exempt Equipment:**Second Generator:**

We took a look at the other emergency generator they have on-site. It is a 100kw/175HP, natural gas-fired Generac generator. It was installed on 1/29/07 and manufactured on 7/14/06 which makes the unit not subject to the NSPS JJJJ. They also run this generator for 15 minutes per week, and the hour meter read

197.1 hours. There was no EPA certification sticker on this generator, but Vince said that the generator company claimed it was "emissions free". Vince said he would email me documentation of this claim when the company gets back to him.

Boilers:

There are two small boilers at the facility. One that was rated at 105 lbs steam/hour and was built in 1996, and another 18 HP boiler that was built in 1974. Both are exempt from permitting under Rule 282(b).

Recordkeeping:

EUEVAPORATOR:

Vince made me a copy of the gallons of wastewater processed in the evaporator on a monthly basis. There is no limit specified in the permit, but maintaining these records is a requirement.

EUBULBCRUSHER:

Vince also gave me the records for the bulb crusher. The records for # and size of bulbs crushed per day, per month, and per 12-month rolling were calculated in the correct manner and they are under their limits. There was also an area on his spreadsheet that indicated when the carbon filter needed to be changed for the first time. I also received waste manifest records from Vince showing that they have been disposing the crushed bulbs as hazardous waste. I also received MSDS sheets for the cold cleaner solvent and the Simple Green used in the wash tanks. All records are attached.

At the time of inspection, Flowserve seemed to be in compliance with their permit. We let Vince know that he would be receiving two separate reports from both me, for permit compliance, and Joy, for the Lumex mercury inspection. We thanked Vince for his time and left the facility at 3:50pm.

NAME Maria Pate DATE 6/23/16 SUPERVISOR MA 6/24/2016