

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

B361055480

FACILITY: Pharmacia & Upjohn Co LLC, a subsidiary of Pfizer		SRN / ID: B3610
LOCATION: 7000 Portage Road, KALAMAZOO		DISTRICT: Kalamazoo
CITY: KALAMAZOO		COUNTY: KALAMAZOO
CONTACT: Scott Zabik , Environmental Professional		ACTIVITY DATE: 09/17/2020
STAFF: Monica Brothers	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT: Announced Scheduled Inspection		
RESOLVED COMPLAINTS:		

This was an announced scheduled inspection. This inspection covered the rest of Section 3 of the ROP that the Building 41 inspection the previous year, as well as the wastewater and leak detection provisions in 40 and H. This was the third and final year in the three-year inspection cycle. Staff, Monica Brothers arrived with Scott Zabik and Tim Swainston from Pfizer. No visible emissions, other than steam, were observed up facility walk-through.

We first went to a conference room to get started on reviewing records. We took a break from records around the pollution control equipment. Carl Leighton, who usually does the monthly visible emissions and pollutant operating ranges checks, was our guide. It was decided that because of COVID, we would only view the controls that require entering buildings where other employees work. We were able to view seven of these units on the days earlier, Carl took photos of the other fifty control equipment monitors, and these photos were reviewed.

The following table shows each piece of pollution control equipment that was observed and the corresponding

Rotoclone/ Scrubber	Fabric Filter	Emission Unit	Acceptable min/max or min GPM water	Acceptable minimum water pressure (psi)	Acceptable min/max differential pressure (inches of water)	Acceptable minimum water level (inches)
EX-104		EUCR138		40		
EX-214		EUCR138		40		
EX-T245		EUCR138				1
EX-OT354		EUCR138				1
	DUST1018	EUCR138			0.6/8	
127ROTO3127-1		EUCR1127		40		
127ROTO3128-		EUCR1127		40		

1						
SCRB1044		EUCR1155	30/70			7
EX-OT356		EUCR1166				1
EX-T288		EUCR1166				1
EX-T289		EUCR1166				1
EX-17		EUCR1195-S3		40		
EX-19		EUCR1195-S3			0.1/10	
EX-31		EUCR244		40		
EX-9		EUCR2149		40		
EX-10		EUCR2149		40		
EX-28		EUCR2149		40		
SCRB-1004		EUCR2149	120/200			
SCRB-1005		EUCR2149	70/150			
	DUST1008	EUCR373			0.2/5.0	
EX-6		EUCR3173		40		
EX-25		EUCR3173		40		
EX-34		EUCR3173		40		
SCRB1002		EUCR3173	300/400			
	DC1/207	EUCR3207			0.2/5.0	
SCRB1036		EUCR3207	52/132 upper nozzle			
SCRB1036		EUCR3207	52/132 lower nozzle			
SCRB1006		EUCR3225	175/275			
SCRB1007		EUCR3225	75/150			
	EF1C1HB1	EUCR3225			0.1/2.5	
	EX-27	EUCR3225			0.1/2.5	
	EX-30	EUCR3225			0.1/2.5	
	EX-34	EUCR3225			0.1/2.5	
	FILT1	EUCR466			0.05/2.5	
	FILT3114	EUCR466			0.1/2.5	
	FILT1543	EUCR466			0.1/2.5	

	HEPE1517	EUCR466			0.1/2.5	
EX-23		EUCR476		15		
	DUST1010	EUCR491COM			2.0/12.0	
	EX-27 1049	EUCR491COM			0.1/2.5	
	EX-27 1056	EUCR491COM			0.1/2.5	
	EX-117	EUCR491COM			0.1/3	
	EX-118	EUCR491COM			0.1/3	
	EX-119	EUCR491COM			0.1/3	
	DC22C	EUCR4335-S3			0.1/2.5	
	DUST242	EUCR4335-S3			0.1/2.5	
	DC39	EUCR4335-S3			0.1/2.5	
	335DUST5000-1	EUCR4335-S3			0.05/6.5	
	FANE0210-1	EUCR4335-S3			0.2/3.0	
SB180		EUCR4335-S3	132/475			
SB385		EUCR4335-S3	20/50			
	FILT0841-1	EUCR4335-S3			0.1/4.0	
	335DUST3007-1	EUCR4335-S3			0.2/8.0	
	DUST3010	EUCR4335-S3			0.2/8.0	
EX-217		EUC38R6ALL		40		
SCRB1047		EUC120R6ALL	20/80			

Records:**EUCR138-S3:**

- Lots of product produced per month (Limit = 295 lots/month)
 - Onsite Observations: They are consistently under this limit, with 67 lots/month in June 2019
- Actual particulate emission rates/month (Limit = 1180 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 268 lbs/month in June 2019

EUCR1127-S3:

- Lots of product produced per month (Limit = 152 lots/month)
 - Onsite Observations: They are consistently under this limit, with 36 lots/month in August 2018.
- Actual PM PM10 and PM2.5 emission rates/month. (PM Limit = 570 lbs/month, PM10 limit = 570 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 135 lbs/month in August 2018.

EUCR1155-S3:

- Lots of product produced in TSP process/month (Limit = 160 lots/month)
 - Onsite Observations: They are consistently under this limit, with 99 lots/month in April 2018
- Particulate emissions/month (limit = 400 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 247.5 lbs/month in April 2018.

EUCR1166-S3:

- Lots of product produced in TSP process/month (Limit = 50 lots/month)
 - Onsite Observations: They are consistently under this limit, with 7 lots/month in April 2020
- Particulate emissions/month (limit = 25 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 3.5 lbs/month in April 2020

EUCR1195-S3:

- Lots of product produced in TSP process/month (Limit = 120 lots/month)
 - Onsite Observations: They are consistently under this limit, with 66 lots/month in June 2019
- Particulate emissions/month (limit = 240 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 132 lbs/month in June 2019

EUCR244-S3:

- Lots of product produced in TSP process/month (Limit = 60 lots/month)
 - Onsite Observations: They are consistently under this limit, with 31 lots/month in March 2018.
- Particulate emissions/month (limit = 300 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 155 lbs/month in March 2018.

EUCR2149-S3:

- Lots of product produced in TSP process/month (Limit = 225 lots/month)
 - Onsite Observations: They are consistently under this limit, with 151 lots/month in August 2018.
- Particulate emissions/month (limit = 675 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 453 lbs/month in August 2018.

EUCR373-S3:

- Lots of product produced in TSP process/month (Limit = 20 lots/month)
 - Onsite Observations: They are consistently under this limit, with 8 lots/month in June 2019
- Particulate emissions/month (limit = 0.8 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 0.32 lbs/month in June 2018.

EUCR3173-S3:

- Lots of product produced in TSP process/month (Limit = 150 lots/month)
 - Onsite Observations: They are consistently under this limit, with 99 lots/month in July 2020
- Particulate emissions/month (limit = 240 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 158 lbs/month in July 2020

EUCR3207-S3:

- Lots of product produced in TSP process/month (Limit = 70 lots/month)
 - Onsite Observations: They are consistently under this limit, with 26 lots/month in August 2018.

- **Particulate emissions/month (limit = 105 lbs/month)**
 - **Onsite Observations:** They are consistently under this limit, with 39 lbs/month in August 2020.

EUCR3225-S3:

- **Lots of product produced in PM-emitting processes/month (Limit = 115 lots/month)**
 - **Onsite Observations:** They are consistently under this limit, with 54 lots/month in July 2019
- **Lots of product produced in VOC processes/month (limit = 30 lots/month)**
 - **Onsite Observations:** They are consistently under this limit, with 6 lots/month in May 2020
- **Actual PM PM10 and PM2.5 emission rates/month. (PM Limit = 188.6 lbs/month, PM10 limit = 188.6 lbs/month)**
 - **Onsite Observations:** They are consistently under this limit, with 88.56 lbs/month in July 2018.
- **VOC emissions/month (limit = 75 lbs/month)**
 - **Onsite Observations:** They are consistently under this limit, with 15 lbs/month in May 2020
- **Visible emissions observation once/month**
 - **Onsite Observations:** Visible emissions observations are being conducted monthly. If visible emissions are recorded, and appropriate actions are taken to fix the issue.

EUCR466-S3:

- **Lots of product produced in TSP process/month (Limit = 190 lots/month)**
 - **Onsite Observations:** They are consistently under this limit, with 19 lots/month in July 2020
- **Particulate emissions/month (limit = 475 lbs/month)**
 - **Onsite Observations:** They are consistently under this limit, with 47.5 lbs/month in July 2020

EUCR476-S3:

- **Product produced in TSP processes/month (Limit = 100,000 lbs/month)**
 - **Onsite Observations:** They have not run this process since before 2018.
- **Particulate emissions/month (limit = 14.5 lbs/month)**
 - **Onsite Observations:** They have not run this process since before 2018.

EUCR491COM-S3:

- **Lots of product produced in TSP processes/month (Limit = 30 lots/month)**
 - **Onsite Observations:** They are consistently under this limit, with 27 lots/month in March 2020
- **Lots of VOC emitting product produced in equipment not controlled by the thermal oxidizer/month**
 - **Onsite Observations:** They are consistently under this limit, with 0 lots produced within the period
- **Actual PM emission rate/month. (PM Limit = 90 lbs/month)**
 - **Onsite Observations:** They are consistently under this limit, with 67.5 lbs/month in March 2020
- **VOC emissions/month (limit = 50 lbs/month)**
 - **Onsite Observations:** They are consistently under this limit, with 0 lbs produced within the period
- **VOC emissions/lot (limit = 10 lbs/lot)**
 - **Onsite Observations:** They are consistently under this limit, with 0 lbs produced within the period
- **Methanol emissions per hour (limit = 0.1 pph)**
 - **Onsite Observations:** They are consistently under this limit, with 0 lbs produced within the period
- **Methylene Chloride emissions per hour (limit = 1 pph)**
 - **Onsite Observations:** They are consistently under this limit, with 0 lbs produced within the period
- **Ozone emissions per hour (limit = 0.2 pph)**
 - **Onsite Observations:** They are consistently under this limit, with 0 lbs produced within the period

EUCR4335-S3:

- **Monthly water flow rate for particle scrubber and ventilation scrubber**

- Ventilation scrubber min/max water flow rates = 132/475 gpm
 - Onsite Observations: Monthly check of water flow rate are being conducted. If flow range, it is recorded, and appropriate actions are taken to fix the issue.
- Particle scrubber min/max water flow rates = 20/50 gpm
 - Onsite Observations: Monthly check of water flow rate are being conducted. If flow range, it is recorded, and appropriate actions are taken to fix the issue.
- PM lbs/month (limit = no limit)
 - Onsite Observations: These records are being kept monthly.
- Process vent 335DUST5000-1:
 - Hours of operation while handling isoflupredone acetate-containing materials per month (no limit)
 - Onsite Observations: None for 2019 or 2020.
 - Hours of operation while handling isoflupredone acetate-containing materials per per 12-month rolling (limit = 38 hours)
 - Onsite Observations: None for 2019 or 2020.
 - Isoflupredone acetate emission calculations per month and per 12-month rolling (limit = 38 lbs/month)
 - Onsite Observations: None for 2019 or 2020.
 - VE readings once per month (limit = 10%)
 - Onsite Observations: Visible emissions observations are being conducted monthly. If observed, it is recorded, and appropriate actions are taken to fix the issue.

EUCR38R6ALL-S3:

- Lots of product produced per month (Limit = 95 lots/month)
 - Onsite Observations: They are consistently under this limit, with 7 lots/month in October 2018.
- Actual PM PM10 and PM2.5 emission rates/month. (PM Limit = 428 lbs/month, PM10 limit = 428 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 64.4 lbs/month in January 2018.

EUC120R6ALL-S3:

- Lots produced in TSP processes/month (Limit = 279 lots/month)
 - Onsite Observations: They are consistently under this limit, with 43 lots/month in March 2018.
- Particulate emissions/month (limit = 1493 lbs/month)
 - Onsite Observations: They are consistently under this limit, with 230.05 lbs/month in March 2018.

FGCRALLPART-S3:

- Visible emissions observations once per month
 - Onsite Observations: Visible emissions observations are being conducted monthly. If observed, it is recorded, and appropriate actions are taken to fix the issue.
- Operating range inspections for N-Rotoclones W-rotoclones, scrubbers and baghouses once per month
 - Onsite Observations: Monthly checks of operating ranges are being conducted. If out of range, it is recorded, and appropriate actions are taken to fix the issue.

FGCRALLTOX-S3:

This flexible group encompasses all of the equipment located in Region I process Buildings 38, 127, Buildings 44, 149; Region III process Buildings 73, 173, 207, 225; and Region IV process Buildings 66, 76, is connected to and controlled by the regional thermal oxidizer (TOX).

During the most recent CEMS RATA test on the TOX, which was conducted on September 10, 2020, I recorded the TOX:

- TOX temperature (limit = 1635°F at minimum)
 - Onsite Observation: 1709.6°F
- Inlet gas flow rate to TOX (limit= 5200 scfm at maximum)
 - Onsite Observation: 1724.77 scfm

- Water flow rate in gal/min in scrubber (limit = 750 gal/min at minimum)
 - Onsite Observation: 951.80 gal/min
- pH in scrubber liquid effluent (minimum daily average = 7.0)
 - Onsite Observation: 7.13

These parameters are continuously monitored and recorded. There are also alarms that are set to indicate parameters is out of range.

- TOX Records: after-control records were viewed for compliance.
 - Other VOC (VOC, methylene chloride, and acetone) (limit = 37 tpy on 12-month rolling time period)
 - Onsite Observation: 0.6 tpy in October 2019 was the highest recorded since 2018.
 - OVC (toxic air contaminants as defined in Rule 120, other than methylene chloride, acetone, and benzene) (limit = 17.5 pph)
 - Onsite Observation: 17.5 pph on average.
 - HCL (limit = 27 pph)
 - Onsite Observation: 3.36 pph for 2019.
- For the before-control emission limits, they have simply calculated the worst-case scenario for each parameter, essentially their emission limits in the ROP.
- They are also keeping track of after-control Dioxins and Furans.

FGCR6FERM-S3

- # lots of product code KCF in EUC121R6ALL-S3 on 12-month rolling time period (monthly) (limit = 8 lots/year)
 - Onsite Observation: For 2020, they produced 1 lot, for 2019 they produced 5 lots, and for 2018 they produced 8 lots. 12-month rolling calculations for February, March, and April of 2019 showed 8 lot/year on average.
- Aeration rate once per month (limit = 150,000 scf/min at maximum)
 - Onsite Observation: The highest rate since 2018 was 67,940 scf/min on January 8, 2018.
- VOC and acetone emission rate (not during KCF production) per month on 12-month rolling time period (limit = 32.4 tpy)
 - Onsite Observation: The highest emission rate since 2018 was 32.4 tpy during February 2019.
- VOC emission rate 12-month rolling after each month (limit = 45.7 tpy)
 - Onsite Observation: The highest emission rate since 2018 was 32.4 tpy during February 2019.
- VOC cumulative emissions from April through September (monthly) (limit = 24.0 tons)
 - Onsite Observation: The highest emission rate since 2018 was 13.15 tpy during 2018.
- Acetaldehyde 12-month rolling per month (limit = 9.6 tons/year)
 - Onsite Observation: The highest emission rate since 2018 was 0.88 tpy in February 2019.
- Formaldehyde 12-month rolling per month (limit = 1.9 tons/year)
 - Onsite Observation: The highest emission rate since 2018 was 0.6 tpy in January 2019.
- Number of NM fermentations each calendar day (limit = 13)
 - Onsite Observation: The highest number of fermentations since 2018 was 5 fermentations in 2019.
- Number of AX and 1DF fermentations each calendar day (limit = 4)
 - Onsite Observation: The highest number of fermentations since 2018 was 3 fermentations in 2019.
- Number of KCF fermentations each calendar day (limit = 4)
 - Onsite Observation: The highest number of fermentations since 2018 was 5 fermentations in 2019. Three were run concurrently in one day, and the other two were run concurrently on another day.

RULE 290 Records for S3

- There are over thirty Rule 290 emission units. Some of these may be new and may need to be added to the permit. I viewed the records for each of these emission units, and they were all under the required limits.

40 CFR, Part 63, Subpart GGG and Subpart H Leak Detection Program

During records review, Jeff Robey from Pfizer came in to talk about the leak detection program (LDAR). The process. A contracted technician uses a monitor to detect leaks on connectors, valves, pumps, agitators, etc. that the technician uses Method 21 to do the monitoring and calibrates the monitor three times per day. The data is stored electronically.

They have about 11,000 valves that currently require annual monitoring. However, there is a provision that monitoring if the leak rate is low enough. Jeff said that they may be able to qualify for bi-annual monitoring 27,000 connectors that are monitored on a 4-year cycle. Pumps and agitators are currently monitored on a required to have a weekly visible leak check, which is performed by operators in each area of the plant.

Pfizer has about 500 different pressure test trains. These trains tend to be batch processes that are not easily monitored. Continuous processes are monitored with LDAR monitoring. Pressure tests are performed once changes to the test trains occur. For connectors, valves, and pressure release devices, readings above 500 ppm are detected, it is recorded, and an orange tag is put on the equipment. They have five days to make a first attempt that does not work, they have 15 days to make the repair. However, pressure release devices are only allowed otherwise, it must be removed from service. They can also delay repair on a leaking unit, but the unit must be emptied until it is fixed. They also keep records of follow-up monitoring after repairs, how and when leaks occur. They also have a facility hotline to report leaks. Pfizer is required to submit to EGLE semi-annual LDAR monitoring. They have been submitting these reports.

40 CFR, Part 63, Subpart GGG Wastewater Provisions

Scott Zabik and I discussed the wastewater provisions under this federal regulation. This regulation designates "affected" if the annual average concentration of partially soluble HAP in the wastewater is greater than 1,000 ppm, annual concentration of partially soluble HAP and/or soluble HAP in the wastewater is greater than 5,200 ppm promulgated on October 21, 1998 and had a compliance date for existing sources on October 21, 2002. Before installing the steam stripper, associated inlet tanks, and tanks to hold the treated water before it goes to the plant. Various affected streams are treated with the steam stripper, which separates out the solvents. The solvent recovery area for further processing. This includes many distillation columns that are connected to the wastewater from the facility is processed either through the steam stripper, the distillation columns, sent to the deep injection well. Scott showed me some records that show that the wastewater that is sent to the Kalamazoo Plant or sanitary sewer is not considered "affected". It is below the required 1,300 ppmw for partially soluble and/or soluble HAP.

The facility seemed to be in compliance at the time of inspection.

NAME Monika

DATE 9/30/2020

SUPERVISOR RIL 10/2/20