

B6179
manila
GeneSee

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

B617949455

FACILITY: LOCKHART CHEMICAL COMPANY		SRN / ID: B6179
LOCATION: 4302 JAMES P COLE BLVD, FLINT		DISTRICT: Lansing
CITY: FLINT		COUNTY: GENESEE
CONTACT: Raj Minhas, President & Chief Operating Officer		ACTIVITY DATE: 07/09/2019
STAFF: Daniel McGeen	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced, scheduled inspection of opt-out facility last inspected in 2015. This was the first inspection following issuance of their opt-out Permit to Install No. 26-16.		
RESOLVED COMPLAINTS:		

On 7/9/2019, the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD) conducted an unannounced, scheduled inspection of Lockhart Chemical Company. This Partial Compliance Evaluation (PCE) activity was conducted as part of a Full Compliance Evaluation (FCE). Another PCE, review of facility recordkeeping, was also conducted.

Environmental contact::

Rajinder S. Minhas, M.S., MBA, President & Chief Operating Officer; 810-789-8330, Ext. 208;
rminhas@lockhartchem.com

Facility description:

Lockhart Chemical Company creates materials used in the manufacturing of underbody and rust preventative coatings, metalworking additives, hydraulic fluids, and lubricants.

Emission units covered by opt-out Permit to Install No. 26-16:

Emission Unit* ID and Flexible Group** ID	Emission Unit Description (Process Equipment & Control Devices)
EUReactor304	Reactor 304 has a capacity of 9,500 gallons and is used to manufacture rust preventative products, primarily esters and sulfonic acid salts. The salts typically involve barium, sodium, or calcium. Reactor 304 is also used to blend and neutralize, with weak bases such as calcium hydroxide, oxidized waxes and petrolatum. The emission unit also includes a water-cooled condenser and a condensate receiver. Previously covered by PTI No. 311-98.
EUReactor310	Reactor 310 has a capacity of 6,500 gallons and is used to produce alkyl benzene sulfonic acid salts of elements such as barium, calcium, magnesium, potassium, sodium, and zinc. The emission unit also includes a water-cooled condenser, a condensate receiver, and an alcohol storage tank with a capacity of 13,000 gallons. Previously covered by PTI No. 366-94.
EUReactor306; FG306&307	Production of gelled calcium sulfonate. Process equipment includes a 2,800 gallon capacity reactor equipped with an air-cooled condenser and a 210-gallon condensate receiver. Previously covered by PTI No. 432-89.
EUReactor307; FG306&307	Production of gelled calcium sulfonate. Process equipment includes a 2,800 gallon capacity reactor equipped with an air-cooled condenser and a 210-gallon condensate receiver. Previously covered by PTI No. 432-89.
EU305&325	Production of calcium sulfonate/oxidate-based rust preventative coatings, using mineral spirits as a solvent. Process equipment includes two blend tanks with capacities of 12,000 gallons (T-305) and 9,000 gallons (T-325), a 1,000 gallon condensate collection tank, and a water-cooled condenser. Previously covered by PTI No. 120-00.
EUOxidation216	The emission unit consists of an air oxidation reactor (R-216, with 2,500 gallon capacity, equipped with a thermal incinerator) and two finishing tanks (T-212 and T-215) with capacity of 14,000 gallons each. The reactor is subject to 40 CFR Part 60, Subpart III. Previously covered by PTI No. 110-91.
EUPilotOxidation	Pilot air oxidation reactor (18.8 gallon capacity) with caustic scrubber, used for research and development to support production in EUOxidation216. The scrubber is used to control emissions of organic acids from the reaction. The reactor is subject to limited portions of 40 CFR Part 60, Subpart III. Previously covered by PTI No. 714-92.
EUCalcium	Process to produce natural calcium sulfonate. Process equipment includes four process tanks (401, 402, 403, and 404) used as reactors, each with 7,300 gallon capacity; four process tanks (405, 406, 407, and 408) for product drying, each with capacity of 7,300 gallons; two blending tanks, one with capacity of 300 gallons and one with capacity of 500 gallons; and a bag filter to control particulate matter emissions from the blending tanks. Blending tanks and bag filter previously covered by PTI No. 433-89 and process tanks previously covered by PTO No. 855-80A.

EULimeTank540; FGLime540-541	Bulk lime storage tank with 4,200 gallon capacity. Previously covered by PTO No. 254-83.
EULimeSlurry541; FGLime540-541	Lime slurry tank with 6,000 gallon capacity for mixing lime and mineral spirits. Previously covered by PTO No. 254-83.
EUBlending	Blending materials in various tanks, primarily: S-1, 322, BASF, M-1, M-2, M-3, Mini 304, 309, 701, 710, W2, 801, 802, 818, 806, 807, 808, 822, 845, 843, 855, 856, 857, UFO, or other drums, pails, or totes. Previously covered by PTO No. 855-80.
EUMeyers	Mixer with bag filter collector used to mix coatings with powder clay. Previously covered by PTO No. 432-88
EUEclipse	Natural gas-fired Eclipse boiler with 21 MMBTU/hr heat input rating. Previously covered by PTI No. 349-77

*An *emission unit* is any part of a stationary source that emits or has the potential to emit an air contaminant.

**A *flexible group* is used in a permit to install (PTI) or Renewable Operating Permit (ROP) to combine two or more emission units that have common or identical requirements.

Flexible Groups covered by opt-out PTI No. 26-16:

Flexible Group** ID, and Associated Emission Unit IDs	Flexible Group Description
FG306&307; EUReactor306, EUReactor307	Manufacture of calcium sulfonate coating in two reactors, each with capacity of 2,800 gallons. Each reactor has a condenser and a 210-gallon condensate receiver, which vents to the atmosphere. Previously covered by PTI No. 432-89.
FGLime540-541; EULimeTank540, EULimeSlurry541	Manufacture of lime slurry to be used in other reactors and blend tanks. Equipment includes a 4,200 gallon capacity storage silo with bin vent filter and a 6,000 gallon capacity lime slurry tank. Previously covered by Permit to Operate No. 254-83.
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

Regulatory overview:

This facility has an opt-out permit, Permit to Install (PTI) No. 26-16, to limit the potential to emit (PTE) for hazardous air pollutants (HAPs). The facility is considered a minor source rather than major for criteria pollutants. *Criteria pollutants* are those for which a National Ambient Air Quality Standard (NAAQD) exists. these include carbon monoxide, nitrogen oxides, volatile organic compounds (VOCs), lead, particulate matter smaller than 10 microns (PM-10), and particulate matter smaller than 2.5 microns (PM2.5). A major source has the PTE of 100 tons per year (TPY) or more for any single criteria pollutant. Currently the criteria pollutant with the highest PTE is VOC, but this is far below the major source threshold, according to the engineering notes by AQD Permit Engineer Paul Schleusener.

The facility previously had the PTE to be a major source for HAPs, so the facility applied for the current opt-out PTI, No. 26-16, to set enforceable restrictions to limit HAPs. It is now an *area source*, or minor source, for HAPs. This keeps it from becoming a major source which would require a Renewable Operating Permit. A major HAPs source has PTE of 10 TPY or more for a single HAP, and a PTE of 25 TPY or more for aggregate HAPs. The HAP with the highest PTE at the site is methanol, which is limited by the opt-out permit to 9 TPY. Prior to the opt-out permit, AQD's Nathan Hude calculated the methanol PTE as 19 TPY.

Opt-out PTI No. 26-16 also consolidated multiple existing permits, and addressed changes to permitted equipment and processes. For further details, see the section "History," later in this report.

The facility is subject to the following federal New Source Performance Standards (NSPS):

- 40 CFR Part 60, Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.*
- 40 CFR Part 60, Subpart III, *Standards of Performance for Volatile Organic Compound (VOC) Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes.*
- 40 CFR Part 60, Subpart Kb, *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984* was thought historically to apply for EUOxidation216, but now does not appear to apply.

There are no solvent-based parts washers onsite, I have been informed, so Lockhart Chemical is not subject to AQD rules for cold cleaners or vapor degreasers.

The onsite boilers, including the boiler EUEclipse, are exempt from 40 CFR Part 63 Subpart DDDDD, *National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*, because Lockhart Chemical is considered an area source. The boilers are exempt from 40 CFR Part 63, Subpart JJJJJJ, *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*. This is pursuant to paragraph 63.11195(e) and the definition of "gas fired boiler."

Fee status:

This facility is not considered category I fee-subject, because it is not a major source. However, it is considered category II fee-subject, because it is subject to federal NSPS standards III and Kb. The facility reports to the Michigan Air Emissions Reporting System, on an annual basis.

Location:

Lockhart Chemical is in a heavily industrialized area of Flint. It is located at the northeast end of the former General Motors Buick City site. To the immediate west is an industrial site. To the immediate east is I-475, followed by industrial sites. To the immediate south are industrial sites, some of them closed. To the immediate north are I-475 and industrial areas. The nearest residences are approximately 900 feet to the northwest of the plant, in a large residential area.

History:

As mentioned above, the plant is located at the northeast end of the former Buick City site. It was originally built in the 1970s as a facility to receive waste oils from GM plants in the area, for recycling. It originally was operated as Major Oil Company. In 1980 it was purchased by Kimes Corporation, and in 1987 they changed their name to Lockhart Chemical (there was no apparent change in ownership with the name change).

Older air PTIs and permits to operate (PTOs) which were consolidated into the current opt-out PTI No. 26-16 include:

1. PTI 120-00, EU305&325
2. PTI 311-98, EUReactor304
3. PTI 366-94, EUReactor310
4. PTI 714-92, EUPilotOxidation
5. PTI 110-91, EUOxidation216
6. PTI 433-89, later became part of EUCalcium
7. PTI 432-89, FG306&307
8. PTO 432-88, EUMeyers
9. PTO 254-83, FGLime540-541
10. PTO 855-80A, later became part of EUCalcium
11. PTO 855-80, EUBlending
12. PTO 349-77, EUEclipse

The above permits were described by AQD's Nathan Hude as vague, and were said to not provide readily

identifiable information that would allow for identification of emission units.

Recent violations:

Form the 9/1/2015 AQD inspection activity report by AQD's Nathan Hude, the EU-CALCIUM scrubber required by PTI No. 855-80A was not being used for the current process EU-CALCIUM as required by the PTI. The issuance of opt-out PTI No. 26-16 addressed this. Also, the EU-MYERS baghouse required by PTI No. 432-88 was in unsatisfactory condition.

Recent complaints:

No complaints are in the AQD Lansing District file on this facility, as far back as the year 2000. Files from previous years were sent to the State of Michigan Records Center, at some point in the past.

Protective attire needed:

Safety glasses with side shields, and hearing protection.

Arrival:

This was an unannounced, scheduled inspection. I had attempted to conduct the inspection on an earlier date this summer, but the environmental contact was offsite that day.

I checked for odors offsite, before arriving at the plant. I drove on Leith Street, and James P. Cole Boulevard, south of the plant, while out of sight. I drove on Andrew Street and Black Avenue, Pierson and Horton, and Dort. Weather conditions were sunny, hazy, and 75 degrees F, with winds out of the south southeast, at 0-5 Miles per hour (mph). The only odors I detected were as follows:

- At 10:09 AM at the corner of Dort Highway and Pierson I was barely able to detect an odor. It was so faint, bit was difficult to assign a character to it, but I felt there was an asphaltic quality to it.
- At 10:11 AM, by Leith Street and I-475, I detected a level 1 odor of fast food.

The 0-5 odor scale used by AQD is as follows:

Level	Description
0	Non-detect
1	Just barely detectable
2	Distinct and definite
3	Distinct and definite objectionable odor
4	Odor strong enough to cause a person attempt to avoid it completely
5	Odor so strong as to be overpowering and intolerable for any length of time

The asphaltic odor which I was barely able to detect at this time did not exactly match any one odor onsite at Lockhart Chemical. Even if it did come from the plant, however, the odor was determined to be insufficient to constitute unreasonable interference with the comfortable enjoyment of life and property.

I arrived at 10:14 AM. I checked for odors and visible emissions. There was no opacity, other than steam from a stack visible behind the main office. I could not detect any odors upon arrival.

I met with Mr. Raj Minhas, President & Chief Operating Officer. I provided my identification/credentials per AQD procedures, though I had previously met Mr. Minhas when I had accompanied N. Hude on his 9/1/2015 inspection of Lockhart Chemical.

Mr. Minhas explained that they manufacture rust preventative additives, rather than finished products. Their main ingredients, he said, are waxes, hydrocarbon sulfonates, oil, and fatty acids (like "tall oil"). Some of these are stored onsite in tanks, I was told. They have different grades of waxes and sulfonates, as I understand it. They do use some solvents, I was told.

A second kind of product they sell is sulfonates themselves. They may bring sulfonates in by rail and repackage them in smaller containers, like tanker trucks or drums, I was told. Sulfonates are salts or esters of a sulfonic acid that Lockhart creates using reaction chemistry.

A third type of product they make is emulsifier packages or "solution bases," I was advised. For this kind of product, oil and water are mixed together, I was told, and no solvents other than a small amount of glycol ether are added.

A fourth kind of product they sell is concentrated, gelled calcium sulfonate. This is said to be a very thick material, and not ready to be applied, but customers purchase it and customize it. Mineral spirits are said to be used by Lockhart to keep it in liquid form, but customers may add other solvents.

Lockhart Chemical is said to make a few intermediate products for their own use, such as oxydates from an oxidation process.

Mr. Minhas showed me samples of the various materials they work with, to give me a better understanding of their operations here.

They consider their production records to be proprietary, Mr. Minhas explained, as competitors might be able to glean information from them on how Lockhart Chemical makes its products. However, he indicated that they would be able to let me look at production records while onsite.

Inspection:

Mr. Minhas accompanied me throughout the plant. We did not inspect the warehouse building, and we did not inspect the filterpress building, which filters oily products. These are not regulated emission units under the PTI.

Compliance check with opt-out PTI No. 26-16:

EUReactor 304; PTI No. 26-16:

EU description: Reactor 304 has a capacity of 9,500 gallons and is used to manufacture rust preventative products, primarily esters and sulfonic acid salts. The salts typically involve barium, sodium, or calcium. Reactor 304 is also used to blend and neutralize, with weak bases such as calcium hydroxide, oxidized waxes and petrolatum. The emission unit also includes a water-cooled condenser and a condensate receiver. Previously covered by PTI No. 311-98.

Pollution control equipment: condenser with cooling tower, with efficiency of 96%.

Mr. Minhas informed me that they can also do some physical blending with no chemical reaction. EUReactor304 was not running, at the time of the inspection. The condenser unit was labeled.

PTI 26-16 Special Condition (SC) EUReactor304 I. 1. limits methanol emissions to 13.6 lbs/hr, over a one-hour time period.

INSPECTION RESULT: *COMPLIANCE.* I was told that they have not made any batches with methanol in Reactor 304 since 2016. Therefore, emissions when they are operating have been 0 lbs/hr.

PTI 26-16 SC EUReactor304 I. 2. limits VOC emissions to 32.9 lbs/batch.

INSPECTION RESULT: *COMPLIANCE.* I was told that they follow their formula(s), so they do not exceed 32.9 lbs VOC/batch.

PTI 26-16 SC EUReactor304 I. 3. limits VOC emissions to 3.2 TPY.

INSPECTION RESULT: *COMPLIANCE. The MAERS report for the 2018 operating year indicated VOC emissions were 110.0 lbs or 0.06 tons, below the permitted limit.*

PTI 26-16 SC EUReactor304 I. 4. limits n-Butanol emissions to 23.0 lbs/batch.

COMPLIANCE RESULT: COMPLIANCE. I have been advised by Minhas that butanol emissions are 6.0 lbs batch.

PTI 26-16 SC EUReactor304 II. 1. limits batch size to 70,000 lbs/batch.

INSPECTION RESULT: *COMPLIANCE. While I was onsite, I was shown spreadsheet data which confirmed this.*

PTI 26-16 SC EUReactor304 II. 2. limits the number of batches in this emission unit to 195 per year.

INSPECTION RESULT: *COMPLIANCE. I was advised that in 2018, there were 14 batches made, for a total of 84.0 lbs of butanol emissions that year from Reactor 304.*

PTI 26-16 SC EUReactor304 III. 1. states that the permittee shall not conduct heating or stripping operations with methanol in EUReactor304 while heating or stripping operations with methanol are conducted in Reactor 306, 307, or 310.

INSPECTION RESULT: *COMPLIANCE. I was advised that they have not made any batches with methanol in EUReactor304 since 2016.*

PTI 26-16 SC EUReactor304 IV. 1. states that the permittee shall not operate EUReactor304 unless the condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the condenser includes maintaining a received condensate temperature no greater than 110 degrees Fahrenheit as measured in the condensate collection tank at least one hour into the stripping stage of the process.

INSPECTION RESULT: *COMPLIANCE. The unit was not running. The temperature was the ambient temperature at the moment, 80 degrees F.*

PTI 26-16 SC EUReactor304 IV. 2. requires the permittee to equip and maintain the condenser with a received condensate temperature indicator in the condensate collection tank.

INSPECTION RESULT: *COMPLIANCE. The temperature was 80 degrees F. I was told they keep records of this onsite, in spreadsheet form.*

PTI 26-16 SC EUReactor304 V.

Not Applicable (NA)

PTI 26-16 SC EUReactor304 VI. 1. requires that the permittee complete all required calculations and records in a format acceptable to the AQD District Supervisor (DS) by the last day of the calendar month, for the previous calendar month, unless otherwise specified.

INSPECTION RESULT: *COMPLIANCE. I was shown spreadsheets at the site, so to the best of my available knowledge, this is being done.*

PTI 26-16 SC EUReactor304 VI. 2. requires the permittee to monitor and record the received condensate temperature at least one hour into the stripping stage of the process on a per-batch basis.

INSPECTION RESULT: COMPLIANCE. As noted above, I was informed they keep records of this onsite, in spreadsheet form.

PTI 26-16 SC EUReactor304 VI. 3.

The permittee is required to keep a monthly record of the following batch data for EUReactor304:

a. Size of each batch in pounds.

INSPECTION RESULT: COMPLIANCE. It is my understanding that they are doing this.

b. The number of batches produced in the 12-month rolling time period ending that month.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas indicated that they made 23 batches in the past 12 months. They are tracking the number of batches produced.

c. The amount of methanol, VOC, and n-butanol emitted for each batch, based on the calculation method in Appendix A or alternative method acceptable to the AQD District Supervisor.

INSPECTION RESULT: COMPLIANCE. The EUReactor304 2018 methanol emissions were 0 tons, the 2018 VOC emissions were 110.0 lbs or 0.06 tons. On 9/20/2019, I emailed Mr. Minhas to ask what the n-butanol emissions were for 2018. AQD will evaluate the data, upon receipt.

PTI 26-16 SC EUReactor304 VI. 4. requires calculating VOC emission rate from EUReactor304 on a monthly basis, using batch data or another method acceptable to the AQD DS.

INSPECTION RESULT: COMPLIANCE. It is my understanding that they are tracking VOC emissions from EUReactor304.

PTI 26-16 SC EUReactor304 VI 5. requires keeping a log of dates and time periods when heating or stripping operations are conducted with methanol in EUReactor304.

INSPECTION RESULT: COMPLIANCE. I was informed that methanol has not been used in EUReactor304 since 2016. It is my understanding that methanol use would be documented, if they were using it.

PTI 26-16 SC EUReactor304 VII.

NA

PTI 26-16 SC EUReactor304 VIII. requires the exhaust gases from the condenser vent be discharged unobstructed vertically upwards to the ambient air from a stack with maximum exhaust diameter of 2 inches and minimum height above ground of 30 feet.

INSPECTION RESULT: UNKNOWN. I did not note the condenser exhaust stack dimensions at this time. During AQD's next inspection of this facility I will attempt to verify this requirement is being met.

PTI 26-16 SC EUReactor304 IX.

NA

EUReactor 310, PTI No. 26-16:

EU description: Reactor 310 has a capacity of 6,500 gallons and is used to produce alkyl benzene sulfonic acid salts of elements such as barium, calcium, magnesium, potassium, sodium, and zinc. The emission unit also includes a water-cooled condenser, a condensate receiver, and an alcohol storage tank with a capacity of 13,000 gallons. Previously covered by PTI No. 366-94.

Pollution control equipment: water cooled condenser with efficiency of 99%.

EU Reactor 310 was not running at the time of the inspection, I was informed. The condenser was turned on by an employee, Jim, at the request of Mr. Minhas, to demonstrate it was working properly.

PTI 26-16 SC EU Reactor 310 I. 1-10 sets the following emission limits:

1. VOC: 10.2 lbs/hr, *RESULT: COMPLIANCE. 2018 emissions were 2.575 lbs/hr, I was advised.*
2. VOC: 31.8 lbs/batch, *RESULT: COMPLIANCE. 2018 emissions were 20.6 lbs per batch, I was advised.*
3. VOC: 6,496 lbs/yr, *Result: Compliance, as reported methanol (a VOC) emissions were 309 lbs for the 12-month rolling time period, and for the 2018 operating year.*
4. Methanol: 10.2 lbs/hr, *RESULT: COMPLIANCE. 2018 emissions were 2.575 lbs/hr, I was advised.*
5. Methanol: 20.6 lbs/batch, *RESULT: COMPLIANCE. 2018 emissions were 20.6 lbs per batch, I was advised.*
6. Methanol: 4,204 lbs/yr, *Result: Compliance, as reported methanol emissions were 309 lbs/yr for 12-month rolling time period and for the 2018 operating year.*
7. Mineral spirits: 0.50 lbs/hr, *Result: Compliance, 0 lbs/hr*
8. Mineral spirits: 2.00 lbs/batch, *Result: Compliance, 0 lbs/batch*
9. Mineral spirits: 408 lbs/yr, *Result: Compliance, 0 lbs/yr.*

PTI 16-16 SC EU Reactor 310 II. 1. limits material produced to 50,000 lbs per batch.

INSPECTION RESULT: COMPLIANCE. I was informed they are below 50,000 lbs/batch.

PTI 26-16 SC EU Reactor 310 II. 2. limits material produced to 204 batches/year.

INSPECTION RESULT: COMPLIANCE. Records indicated they produced only 15 batches for the past 12 months.

PTI 26-16 III. 1.

NA

PTI 26-16 SC EU Reactor 310 IV. 1. states that the permittee shall not operate EU Reactor 310 unless the condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the condenser includes maintaining a received condensate temperature no greater than 110 degrees Fahrenheit as measured in the condensate collection tank at least one hour into the stripping stage of the process.

INSPECTION RESULT: COMPLIANCE. Although EU Reactor 310 was not running, an employee, Jim, turned on the condenser, to demonstrate it was working properly. The temperature was the room temperature at the moment, 75 degrees F.

PTI 26-16 SC EU Reactor 310 IV. 2. requires the permittee to equip and maintain the condenser with a received condensate temperature indicator in the condensate collection tank.

INSPECTION RESULT: COMPLIANCE. The temperature was 75 degrees F. I was told they keep records of this onsite, in spreadsheet form.

PTI 26-16 SC EUReactor310 V.

NA

PTI 26-16 SC EUReactor310 VI. 1 requires that the permittee complete all required calculations and records in a format acceptable to the AQD District Supervisor (DS) by the last day of the calendar month, for the previous calendar month, unless otherwise specified.

INSPECTION RESULT: COMPLIANCE. I was shown spreadsheets at the site, so to the best of my available knowledge, this is being done.

PTI 26-16 SC EUReactor310 VI. 2. requires the permittee to monitor and record the received condensate temperature at least one hour into the stripping stage of the process on a per-batch basis.

INSPECTION RESULT: COMPLIANCE. It is my understanding that they keep records of this onsite, in spreadsheet form.

PTI 26-16 SC EUReactor310 VI. 3.

The permittee is required to keep a monthly record of the following batch data for EUReactor310:

a. Size of each batch in pounds.

INSPECTION RESULT: COMPLIANCE. I was advised that they are doing this.

b. The number of batches produced in the 12-month rolling time period ending that month.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas indicated that they are tracking this, and they made 15 batches in the past 12 months, well below the limit of 204 batches per year.

c. The amount of methanol, VOC, and mineral spirits emitted for each batch, based on the calculation method in Appendix A or alternative method acceptable to the AQD District Supervisor.

INSPECTION RESULT: COMPLIANCE. I was told that the EUReactor310 12-month rolling 2018 methanol emissions were 309 lbs. Plus, the operating year 2018 emissions were as follows, from MAERS: Methanol was 309 lbs, the 2018 VOC emissions were 309 lbs (same as methanol) and the 2018 mineral spirits emissions were 0 tons.

PTI 26-16 SC EUReactor310 VI. 4. requires calculating VOC emission rate from EUReactor310 on a monthly basis, using mass balance or another method acceptable to the AQD DS.

INSPECTION RESULT: COMPLIANCE. It is my understanding that they are doing this.

PTI 26-16 SC EUReactor310 VI 5. requires calculating methanol and mineral spirit emissions from EUReactor310:

INSPECTION RESULT: COMPLIANCE: COMPLIANCE. The company has tracked that their emissions from EUReactor 310, as 0 lbs/yr for methanol and 0 lbs/yr for mineral spirits, over the most recent 12-month rolling time period.

PTI 26-16 SC EUReactor310 VII.

NA.

PTI 26-16 SC EUReactor310 VIII sets stack limits as follows:

1. SVD-310 (Distillate pot)maximum exhaust diameter 3 inches, minimum height above ground 35 feet.

INSPECTION RESULT: UNKNOWN. I did not confirm the stack dimensions at this time. During AQD's next inspection here, I will attempt to verify this.

2. SVT-52 (storage tank) maximum exhaust diameter 3 inches, minimum height above ground 36 feet.

INSPECTION RESULT: UNKNOWN. I did not confirm the stack dimensions at this time. During AQD's next inspection here, I will attempt to verify this.

PTI 26-16 SC EUReactor310 IX.

NA.

EU305&325; PTI No. 26-16:

Emission unit description: Production of calcium sulfonate/oxidate-based rust preventative coatings, using mineral spirits as a solvent. Process equipment includes two blend tanks with capacities of 12,000 gallons (T-305) and 9,000 gallons (T-325), a 1,000 gallon condensate collection tank, and a water-cooled condenser. Previously covered by PTI No. 120-00.

Pollution control equipment: shared water cooled condenser with 99.5% efficiency.

Reactor 305 and blend tank 325 comprise emission unit EU305&325. The emission unit was running. Mr. Minhas informed me that it uses mineral spirits as a solvent. There were no fugitive emissions visible.

EU305&325 I. 1 limits emissions of mineral spirits to 8.0 lbs/batch.

INSPECTION RESULT: Their records indicate emissions are 1.6 lbs per batch, after the condenser.

EU305&325 I. 2. limits emissions of mineral spirits to 2,000 lbs/yr.

INSPECTION RESULT: COMPLIANCE. Their records indicate that mineral spirit emissions were 42 lbs in the most recent 12 month period.

EU305&325 II. 1. limits material produced to 250 batches per year.

INSPECTION RESULT: COMPLIANCE. Their records indicate that they produced 27 batches in the most recent 12 month period, far below the limit.

PTI 26-16 SC EU305&325 IV. 1. states that the permittee shall not operate EUReactor305&325 unless the condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the condenser includes maintaining a received condensate temperature no greater than 110 degrees Fahrenheit.

INSPECTION RESULT: COMPLIANCE. The condenser was running. The condensate pot was at 81 degrees F, below the permitted limit. There were no visible emissions from the condenser. The cooling tower was also running, and there were no visible emissions. I did not observe any evidence that the condenser was installed, maintained, or operated improperly.

PTI 26-16 SC EU305&325 V.

NA.

PTI 26-16 SC EU305&325 VI.1 requires a monthly record of the following batch data:

a. The number of batches produced.

INSPECTION RESULT: COMPLIANCE. They are tracking this. Recordkeeping indicated 27 batches were produced in the last 12 month.

b. The number of batches produced in the 12-month rolling period ending that month.

INSPECTION RESULT: COMPLIANCE. They are tracking this. Recordkeeping indicated 27 batches were produced in the last 12 month.

c. Mineral spirits emitted for each batch, based on the calculation method in Appendix A or other method acceptable to the AQD DS.

INSPECTION RESULT: COMPLIANCE. They are tracking this. Recordkeeping indicated 42 lbs of mineral spirits were emitted in the last 12 month.

PTI 26-16 SC EU305&325 VII.

NA.

PTI 26-16 SC EU305&325 VIII. sets stack limits for SVCondense305325 (vent from condenser) to a maximum exhaust diameter of 2 inches and a minimum height above ground of 30 feet.

COMPLIANCE RESULT: COMPLIANCE. I could not see the exhaust vent from ground level, but from the height of the condenser itself, a height of 30 feet appears to be realistic.

EUOxidation216, PTI No. 26-16:

Emission unit description: The emission unit consists of an air oxidation reactor (R-216, with 2,500 gallon capacity, equipped with a thermal incinerator) and two finishing tanks (T-212 and T-215) with capacity of 14,000 gallons each. The reactor is subject to 40 CFR Part 60, Subpart III. Previously covered by PTI No. 110-91.

Pollution control equipment: John Zink thermal oxidizer/afterburner for Reactor R-216.

EUOxidation216 was running, at the time of the inspection. There were no visible emissions from the John Zink thermal oxidizer/afterburner exhaust stack.

Control panel data showed that actual temperature varied from 1,400 to 1,420 degrees F. I was informed they keep daily circular chart records. I was shown the circular chart record for the previous day, 7/8/2019. The record indicated compliance. I was informed that if the temperature falls below the minimum required 1,400 degrees F, the unit shuts down. I was also advised that if it exceeds a high temperature threshold sounds an alarm.

PTI 26-16 SC EUOxidation216 I. 1. limits total organic compounds (TOC) emissions to whichever is less stringent:

- 20 ppmv on a dry basis, corrected to 3% oxygen, or

- 98 weight percent reduction.

INSPECTION RESULT: COMPLIANCE. I was advised that a stack test was conducted during the 1990s, to demonstrate compliance. It is my understanding that they use the value from the stack test in their MAERS reports..

PTI 26-16 SC EUOxidation216 II.

NA

PTI 26-16 SC EUOxidation216 III.

NA

PTI 26-16 SC EUOxidation216 IV 1. requires ReactorR-216 shall not be operated unless the vent gases from the reactor are burned in a thermal oxidizer and the thermal oxidizer is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the thermal oxidizer includes maintaining a minimum temperature of 1,400 degrees F and a minimum retention time of 3.75 seconds in the thermal oxidizer.

INSPECTION RESULT: COMPLIANCE. The unit's temperature varied from 1,400 to 1,420 degrees F, instantaneously, as I observed it today. The 3.75 minimum second retention time cannot be verified with a visual observation. Refer instead to the unit's technical specifications in the original permit application for the thermal oxidizer.

PTI 26-16 SC EUOxidation216 IV 2. requires the permittee to install, calibrate, and maintain and operate according to manufacturer's specifications a device to monitor and record the temperature in the firebox of the thermal oxidizer on a continuous basis.

INSPECTION RESULT: COMPLIANCE. The temperature was being monitored on a continuous basis. It is my understanding that they have their contractor, Joseph Day, come out once per year to check/maintain the monitoring device.

PTI 26-16 SC EUOxidation216 IV 3. requires the permittee to install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the vent stream flow on an hourly basis.

INSPECTION RESULT: COMPLIANCE. I was shown the digital readout for the unit, which was ioperating.

PTI 26-16 SC EUOxidation216 V.

NA

PTI 26-16 SC EUOxidation216 VI. 1 requires all records to be completed in a format acceptable to the AQD DS by the last day of the calendar month, for the previous calendar month, unless otherwise specified.

INSPECTION RESULT: COMPLIANCE. It is my understanding that this is being done.

PTI 26-16 SC EUOxidation216 VI. 2 requires the permittee to monitor and record in a satisfactory manner, the temperature of the firebox of the thermal oxidizer or afterburner on a continuous basis.

INSPECTION RESULT: COMPLIANCE: I observed the monitoring of the temperature of the thermal oxidizer, on a continuous basis. Circular chart records are being kept of the temperature readings.

PTI 26-16 SC EUOxidation216 VI. 3 requires the permittee to monitor and record in a satisfactory manner the vent stream flow from the reactor to the thermal oxidizer or afterburner.

INSPECTION RESULT: COMPLIANCE. This is being done in a digital format, I was advised.

PTI 26-16 SC EUOxidation216 VI. 4. requires the permittee to monitor emissions and operating information for Reactor R-216 in a accordance with 40 CFR Part 60, Subparts A and III.

INSPECTION RESULT: UNKNOWN. I was advised by Mr. Minhas that this condition was a sort of "catch-all" and may not be applicable. I will research this further for the next AQD inspection of this facility.

Note: AQD's N. Hude entered the following comments about Reactor R-216 in his 9/1/2015 inspection activity report:

This NSR Permit # 110-91 was considered significant enough at the time of issuance, to be entered in the national RACT-BACT-LAER Clearinghouse, RBLC.

If significant changes/modification/amendments are eventually made, especially if the emission limits are change or relaxed, it is important that the Michigan RBLC Administrator be advised to make appropriate changes or new entries into the National RBLC database. The entire country places some reliance on the validity of the RBLC database.

This NSR Permit is filed in the RBLC as # MI-0189.

Further information can be found at: <http://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en>

PTI 26-16 SC EUOxidation216 VII.

NA.

PTI 26-16 SC EUOxidation216 VIII. requires the stack dimensions for SV216Oxidizer, the oxidizer vent, to be a maximum exhaust diameter of 30 inches and a minimum height above ground of 50 feet.

INSPECTION RESULT: COMPLIANCE.

PTI 26-16 SC EUOxidation216 IX. requires compliance with 40 CFR Parts A and III as they apply to Reactor R-216.

INSPECTION RESULT: UNKNOWN. I was advised by Mr. Minhas that this condition was a sort of "catch-all" and may not be applicable. I will research this further for the next AQD inspection of this facility.

Note: AQD's N. Hude entered the following comments about Reactor R-216 in his 9/1/2015 inspection activity report:

This NSR Permit # 110-91 was considered significant enough at the time of issuance, to be entered in the national RACT-BACT-LAER Clearinghouse, RBLC.

If significant changes/modification/amendments are eventually made, especially if the emission limits are change or relaxed, it is important that the Michigan RBLC Administrator be advised to make appropriate changes or new entries into the National RBLC database. The entire country places some reliance on the validity of the RBLC database.

This NSR Permit is filed in the RBLC as # MI-0189.

Further information can be found at: <http://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en>

EUPilotOxidation; PTI No. 26-16:

Emission unit description: Pilot air oxidation reactor (18.8 gallon capacity) with caustic scrubber, used for research and development to support production in EUOxidation216. The scrubber is used to control emissions of organic acids from the reaction. The reactor is subject to limited portions of 40 CFR Part

60, Subpart III> Previously covered by PTI No. 714-92.

Pollution control equipment: caustic scrubber.

EUPilotOxidation was not running at the time of the inspection. Mr. Minhas indicated that it typically runs a couple times per year, for research and development (R&D). He said they might use it once this year. he explained that they typically use it if they change their supplier of a raw material, but this is a rare occurrence. He indicated that this emission unit could probably qualify as exempt from permitting. Rule 283 contains exemptions which are sometimes used by facilities for processes utilized in R&D.

PTI 26-16 SC EUPilotOxidation. I. 1. limits VOC to 0.4 lbs/hr.

INSPECTION RESULT: COMPLIANCE. The MAERS report for the 2018 operating year indicated that there were 0.00 lbs of VOC emissions in 2018.

PTI 26-16 SC EUPilotOxidation. I. 2 limits VOC to 100 lbs/year.

INSPECTION RESULT: COMPLIANCE. The MAERS report for the 2018 operating year indicated that there were 0.00 lbs of VOC emissions in 2018.

PTI 26-16 SC EUPilotOxidation. II. 1. limits material processed in the unit to 50 batches per year.

INSPECTION RESULT: COMPLIANCE. At the described maximum of a couple batches per year, the unit is well below 50 batches per year. The MAERS report for the 2018 operating year shows 0.00 units of E3 gal (thousand gallons) of material were used in the 2018 operating year.

PTI 26-16 SC EUPilotOxidation. III. 1. requires the permittee to maintain a Total resource Effectiveness (TRE) index value greater than 4.0 for EUPilotOxidation, pursuant to Section 40 CFR 60.610(c).

INSPECTION RESULT: UNKNOWN. I am not familiar with this requirement, and consequently did not understand the answer Mr. Minhas gave me, when I asked him about this. Further research of this NSPS requirement by me is needed, prior to my next inspection here.

PTI 26-16 SC EUPilotOxidation III. 2. requires the permittee to maintain a Total resource Effectiveness (TRE) index value greater than 4.0 for EUPilotOxidation without use of VOC emission control, pursuant to Section 40 CFR 60.612(c).

INSPECTION RESULT: UNKNOWN. I am not familiar with this requirement, and consequently did not understand the answer Mr. Minhas gave me, when I asked him about this. Further research of this NSPS requirement by me is needed, prior to my next inspection here.

PTI 26-16 SC EUPilotOxidation IV. 1. requires that the permittee shall not operate EUPilotOxidation unless the caustic scrubber is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining a pH of at least 9.0 in the scrubber liquid.

INSPECTION RESULT: COMPLIANCE. I was informed that because the Pilot air oxidation reactor is used so rarely, there is no liquid in the scrubber, except when they have occasion to use the reactor. They do not store scrubber liquid in the scrubber full time because the liquid is corrosive, with a pH of 9.0 or higher, I was told.

PTI 26-16 SC EUPilotOxidation V.

NA.

PTI 26-16 SC EUPilotOxidation VI. 1. requires all required calculations be completed in a format acceptable to the AQD DS by the last day of the calendar month, for the previous calendar month.

INSPECTION RESULT: COMPLIANCE. This is assumed to be compliance, in the absence of any recent operating dates.

PTI 26-16 SC EUPilotOxidation VI. 2 requires the facility to document the number of batches processed in EUPilotOxidation monthly, for the preceding 12-month rolling time period.

COMPLIANCE RESULT: COMPLIANCE. There were no batches produced during the 2018 operating year, according to the MAERS report for 2018, which showed zero throughput.

PTI 26-16 SC EUPilotOxidation VI. 3. requires the permittee to calculate the VOC emission rate from EUPilotOxidation monthly, for the preceding 12-month rolling time period.

COMPLIANCE RESULT: COMPLIANCE. There were 0.0 lbs VOC emitted for the 2018 operating year, as reported to MAERS.

PTI 26-16 SC EUPilotOxidation VI. 4. requires the permittee to monitor and record the pH of the scrubber solution before starting each batch.

INSPECTION RESULT: COMPLIANCE. I have been advised that pH is recorded, on the rare occasions when this process is used. I was also advised that this equipment is more or less for lab use, and it is not clear that a permit is actually required for its installation or operation.

PTI 26-16 SC EUPilotOxidation VI. 5. requires the permittee to recalculate the TRE index value whenever process changes are made, as required by 40 CFR 60.614(). Examples of process changes requiring recalculation include, but are not limited to, changes in production capacity, feedstock type, or catalyst type.

INSPECTION RESULT: UNKNOWN. I am unfamiliar with this requirement. Further research by me is needed on this, before AQD's next inspection here.

PTI 26-16 SC EUPilotOxidation VI. 6. requires the permittee to keep up-to-date, readily accessible records of the following:

- a. Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal, or addition of recovery equipment or air oxidation reactors.
- b. Any recalculation of the TRE index value performed pursuant to 40 CFR 60.614(f).
- c. The results of any performance test performed pursuant to the methods and procedures required by 40 CFR 60.614(d).

The above records are required to be kept for five years after the action taken which requires the record, kept in an acceptable format and made available upon request.

INSPECTION RESULT: UNKNOWN. AQD's next inspection here will focus more attention on EUPilotOxidation.

PTI 26-16 SC EUPilotOxidation VII.

NA

PTI 26-16 SC EUPilotOxidation VIII. 1 requires SVScrubberPilot to be exhausted from a stack with a maximum exhaust diameter of 1 inch and a minimum height above ground level of 30 feet.

INSPECTION RESULT: UNKNOWN. I saw the scrubber itself, inside the building housing the reactor, but did

not document the height of the stack.

PTI 26-16 SC EUPilotOxidation IX. 1 requires compliance with 40 CFR Parts A and III as they apply to EUPilotOxidation.

INSPECTION RESULT: UNKNOWN. I am not familiar with all of the requirements of Subpart III, nor with which parts apply to EUPilotOxidation. Further research by me is needed prior to AQD's next inspection here.

EUCalcium, PTI No. 26-16:

Emission unit description: Process to produce natural calcium sulfonate. Process equipment includes four process tanks (401, 402, 403, and 404) used as reactors, each with 7,300 gallon capacity; four process tanks (405, 406, 407, and 408) for product drying, each with capacity of 7,300 gallons; two blending tanks, one with capacity of 300 gallons and one with capacity of 500 gallons; and a bag filter to control particulate matter emissions from the blending tanks. Blending tanks and bag filter previously covered by PTI No. 433-89 and process tanks previously covered by PTO No. 855-80A.

Pollution control equipment: bag filter for blending tanks.

EUCalcium was not operating at the time of the inspection.

PTI 26-16 SC EUCalcium I. 1. sets a particulate matter (PM) limit of 0.10 lb per 1,000 lbs exhaust gas, calculated on a dry gas basis, for the blending tanks in EUCalcium.

INSPECTION RESULT: COMPLIANCE. A stack test would be necessary to confirm compliance, but there are no known or suspected problems with particulate emissions from this emission unit.

PTI 26-16 SC EUCalcium II.

NA.

PTI 26-16 SC EUCalcium III.

NA.

PTI 26-16 SC EUCalcium IV. 1. states the permittee shall not operate EUCalcium unless the bag filter is installed, maintained, and operated properly.

INSPECTION RESULT: COMPLIANCE. The process and the bag filter were not operating at the time of the inspection. The pressure drop gauge for the bag filter had some visible rust on the inside or outside of the clear face, but the needle was still visible.

PTI 26-16 SC EUCalcium IV. 2. requires the permittee to equip and maintain the bagfilter with a pressure drop indicator.

INSPECTION RESULT: COMPLIANCE. The process and the bag filter were not operating at the time of the inspection. The pressure drop gauge for the bag filter was in a high location, and could be reached by ladder. The face of the gauge had some visible rust on it, but the needle was still visible.

PTI 26-16 SC EUCalcium V.

NA.

PTI 26-16 SC EUCalcium VI. 1 requires the permittee to monitor and record the pressure drop for the bag filter once during each batch.

INSPECTION RESULT: UNKNOWN. I emailed the company on 9/20/2019, to inquire about this. AQD will evaluate the response upon receipt.

PTI 26-16 SC EUCalcium VII.

NA.

PTI 26-16 SC EUCalcium IX.

NA.

EUBLENDING, PTI No. 26-16:

Emission unit description: Blending materials in various tanks, primarily: S-1, 322, BASF, M-1, M-2, M-3, Mini 304, 309, 701, 710, W2, 801, 802, 818, 806, 807, 808, 822, 845, 843, 855, 856, 857, UFO, or other drums, pails, or totes. Previously covered by PTO No. 855-80.

Pollution control equipment: NA.

Mr. Minhas explained that the tanks, totes, and pails associated with EUBlending are geographically distributed throughout the plant.

PTI 26-16 SC EUBLENDING I.

NA, no emission limits.

PTI 26-16 SC EUBLENDING II. 1. Material processed is limited to 4,000,000 lbs per month.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas showed me records on his computer indicating that the yearly throughput through EUBlending was 14,333,444 lbs. I looked over the totals for each month and verified that no single month exceeded 4,000,000 lbs of throughput.

PTI 26-16 SC EUBLENDING II. 2. prohibits the permittee from processing any used or waste materials in EUBlending.

INSPECTION RESULT: COMPLIANCE. I saw no evidence of any waste or used materials being used.

PTI 26-16 SC EUBLENDING III.

NA.

PTI 26-16 SC EUBLENDING IV.

NA.

PTI 26-16 SC EUBLENDING V.

NA.

PTI 26-16 SC EUBLENDING VI. 1. requires all calculations to be completed in a format acceptable to the AQD DS by the last day of the calendar month for the previous calendar month.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas showed me records on his computer indicating that the yearly throughput through EUBlending was 14,333,444 lbs. I looked over the totals for each month and verified that no single month exceeded 4,000,000 lbs of throughput.

PTI 26-16 SC EUBLENDING VI. 2.requires the permittee to keep source operating data for EUBlending.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas showed me records on his computer indicating that the yearly throughput through EUBlending was 14,333,444 lbs. I looked over the totals for each month and verified that no single month exceeded 4,000,000 lbs of throughput.

PTI 26-16 SC EUBLENDING VI. 3 requires the permittee to keep a record of the identity and amount of material processed in EUBlending during each calendar month.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas showed me records on his computer indicating that the yearly throughput through EUBlending was 14,333,444 lbs. I looked over the totals for each month and verified that no single month exceeded 4,000,000 lbs of throughput.

PTI 26-16 SC EUBLENDING VII.

NA.

PTI 26-16 SC EUBLENDING VIII.

NA, as no stack or vent restrictions.

PTI 26-16 SC EUBLENDING IX.

NA.

EUEclipse; PTI No. 26-16:

Emission unit description: Natural gas-fired Eclipse boiler with 21 MMBTU/hr heat input rating. Previously covered by PTI No. 349-77

Pollution control equipment: NA.

Mr. Minhas showed me the Eclipse boiler, EUEclipse. It was running at the time. It is natural gas-fired only. There were no visible emissions from the unit.

There is also a 10 million Btu/hr natural gas-fired boiler in the same boiler room, made by the Johnston Boiler Co. This boiler is not in the permit. It is used as a standby unit, should the Eclipse boiler be unavailable, and vice versa.

PTI 26-16 SC EUEclipse !.

NA, as no emission limits.

PTI 26-16 SC EUEclipse II 1. prohibits the permittee from burning any fuel other than natural gas.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas showed me the natural gas line going into the boiler room. I did not see a means of delivering an alternate fuel.

PTI 26-16 SC EUEclipse III.

NA.

PTI 26-16 SC EUEclipse IV.

NA.

PTI 26-16 SC EUEclipse V.

NA.

PTI 26-16 SC EUEclipse VI.

NA.

PTI 26-16 SC EUEclipse VII.

NA.

PTI 26-16 SC EUEclipse VIII. 1. requires SVEclipse, the stack for the Eclipse boiler, to have maximum diameter of 28 inches and a minimum height above ground of 43 feet.

INSPECTION RESULT: COMPLIANCE. The stack appeared to be of the specified dimensions.

PTI 26-16 SC EUEclipse IX.

NA.

EUMeyers, PTI No. 26-16

Emission unit description: Mixer with bag filter collector used to mix coatings with powder clay. Previously covered by PTO No. 432-88

Pollution control equipment: Pulse-jet bin vent dust collector.

This process has not been used in 2018 or so far in 2019, Mr., Minhas advised.

PTI 26-16 SC EUMeyers 1. 1limits particulate matter emissions to 0.10 lbs per 1,000 lbs on a dry gas basis.

INSPECTION RESULT: COMPLIANCE. A stack test would be required in order to verify this, but AQD has no evidence of the process emitting excessively. Mr. Minhas advised me they have not used the Meyers mixer process in the past couple years.

PTI 26-16 SC EUMeyers II.

NA, as no material limits.

PTI 26-16 SC EUMeyers III

NA, as no process/operational restrictions.

PTI 26-16 SC EUMeyers IV. states the permittee shall not operate EUMeyers unless the dust collector is installed, maintained, and operated properly.

INSPECTION RESULT: COMPLIANCE. The dust collector appeared to be in good condition. It has a square stack with a rain cap. AQD prohibits rain caps in many permits, as they can interfere with dispersion, using the language "...shall be discharged unobstructed vertically upwards." That language is not in PTI No. 26-16, however. A rain sleeve, also known as a "no loss stack," is an acceptable alternative to a rain cap. As the emission unit has not run in a couple years, AQD is not pursuing this, at this time.

PTI 26-16 SC EUMeyers V.

NA, as no testing/sampling is required.

PTI 26-16 SC EUMeyers VI. 1. requires visual inspections of the dust collector exhaust to verify it is operating properly, once per batch.

INSPECTION RESULT: COMPLIANCE. Since the unit has reportedly not produced a batch in a couple years, the company has not needed to perform visual inspections recently.

PTI 26-16 SC EUMeyers VI. 2. requires the permittee to keep records of all visual inspections of the dust collector.

INSPECTION RESULT: COMPLIANCE. Since the unit has reportedly not produced a batch in a couple years, the company has not needed to perform visual inspections recently.

PTI 26-16 SC EUMeyers VII.

NA, as no reporting.

PTI 26-16 SC EUMeyers VIII.

NA, as no stack/vent restrictions.

PTI 26-16 SC EUMeyers IX.

NA, as no other requirements.

Flexible Group requirements:**FG306&307; PTI No. 26-16:****Flexible Group description:**

Manufacture of calcium sulfonate coating in two reactors, each with capacity of 2,800 gallons. Each reactor has a condenser and a 210-gallon condensate receiver, which vents to the atmosphere. Previously covered by PTI No. 432-89.

Emission units within flexible group: EUReactor306 and EUReactor307.

Pollution control equipment: Two air-cooled condensers, one for each reactor. Each is rated at 714,300 Btu/hr, with 99.9% efficiency for the type of process permitted.

Reactor 307 was running, and the identical Reactor 306 was turned on, so I could observe. We walked up onto a catwalk or balcony, so I could observe the top of Reactor 307, where materials are fed in. There were no fugitive emissions.

PTI 26-16 SC FG306&307 I. 1 limits methanol to 13.7 lbs/hr.

INSPECTION RESULT: COMPLIANCE. It is my understanding that 13.7 lbs/hr methanol is the maximum that could be emitted by a batch; therefore, there should be no exceedances.

PTI 26-16 SC FG306&307 I. 2 limits VOC to 54.9 lbs/batch.

INSPECTION RESULT: COMPLIANCE. It is my understanding that 54.9 lbs VOC is the maximum that could be emitted by a batch; therefore, there should be no exceedances.

PTI 26-16 SC FG306&307 I. 3. limits VOC to 3.4 TPY.

INSPECTION RESULT: COMPLIANCE. According to the MAERS report for the 2018 operating year, VOC emissions were 959.30 lbs, or 0.48 tons, well below the limit.

PTI 26-16 SC FG306&307 II. 1. limits material processed to 2,000 tons per year.

INSPECTION RESULT: COMPLIANCE. It is my understanding that they have not exceeded 2,000 tons per year of throughput. According to the 2018 MAERS report, 190,100 gallons of material were throughput. The weight of a gallon of raw material is not known to me. This can be inquired about during the next AQD inspection of the plant.

PTI 26-16 SC FG306&307 II. 2. limits material produced to 122 batches per year.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas advised me that they produced 118 batches over the past 12 months, below the limit.

PTI 26-16 SC FG306&307 III.

NA., as no process/operational restrictions.

PTI 26-16 SC FG306&307 IV. 1. states that the permittee shall not operate FG306&307 unless the associated condenser is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of each condenser includes maintaining a received condensate temperature no greater than 110 degrees Fahrenheit as measured in the condensate collection tank at least one hour into the stripping stage of the process.

INSPECTION RESULT: COMPLIANCE. Reactor 307 was running, and the temperature of the 307 condenser pot was 85-86 degrees F. Reactor 306 was turned on so I could observe it, and the temperature of the 306 condensate pot was 75 degrees F, or ambient temperature.

PTI 26-16 SC FG306&307 V.

NA, as no testing /sampling requirements.

PTI 26-16 SC FG306&307 VI. 1 requires the permittee to complete all required calculations, in a format acceptable to the AQD DS by the last day of the calendar month for the preceding calendar month.

INSPECTION RESULT: COMPLIANCE. FG306&307 emissions are being reported through MAERS. AT this

time I did not check on the timeliness of the calculations.

PTI 26-16 SC FG306&307 VI. 2. requires the permittee to monitor and record the received condensate temperature at least 1 hour into the stripping stage of the process, on a per-batch basis.

INSPECTION RESULT. UNKNOWN. I did not check this recordkeeping at this time. This can be examined more closely during the next AQD inspection of this facility.

PTI 26-16 SC FG306&307 VI. 3. requires the permittee to keep a record of the amount of material processed in FG306&307 in tons, and of the number of batches produced, on a calendar month and 12-month rolling basis.

INSPECTION RESULT: COMPLIANCE. The facility produced 118 batches during the most recent 12-month rolling time period. According to the MAERS report for the 2018 operating year, there were 190,100 gallons of material throughput. AQD will ask for the weight per gallon of material produced, as well as for the actual tonnage, during the next inspection of this facility.

PTI 26-16 SC FG306&307 VI. 4 requires the permittee to keep the following batch data:

a. The amount of VOC emitted for each batch, using the calculation method in Appendix A or an alternative method acceptable to the AQD DS.

INSPECTION RESULT: COMPLIANCE. I did not ask for batch data for VOCs at this time. However, the facility is reporting yearly VOC emissions, which could be averaged over 118 batches. Batches of different products could reasonably be expected to have differing emissions, however, so AQD will examine batch data during the next AQD inspection of this facility.

PTI 26-16 SC FG306&307 VI. 5. requires the facility to calculate the VOC emission rate from the process from the preceding 12-month rolling time period, using the batch data required by SC VI. 3 and VI. 4 or another method acceptable to the DS.

INSPECTION RESULT: COMPLIANCE. VOC emissions for the 2018 operating year were 959.30 lbs, below the permitted limit of 3.4 TPY.

PTI 26-16 SC FG306&307 VII.

NA, as no reporting requirements.

PTI 26-16 SC FG306&307 VIII.

NA, as no stack/vent requirements.

PTI 26-16 SC FG306&307 IX.

NA, as no other requirements.

FGLime540-541, PTI No. 26-16:

Flexible Group description: manufacture of lime slurry to be used in other reactors and blend tanks. Equipment includes a 4,200 gallon capacity storage silo with bin vent filter and a 6,000 gallon capacity lime slurry tank. Previously covered by Permit to Operate No. 254-83.

Emission units: EULimeTank540, EULimeSlurry541**Pollution control equipment: bin vent filter for storage silo.**

This emission unit was not running, at the time of the inspection. Mr. Minhas advised me that a brown tank to the left was EULimeTank540, while a shorter tank to its right was EULimeSlurry541.

PTI 26-16 SC FGLime540-541 I. 1. limits PM emissions to 0.1 lbs per 1,000 lbs dry gas basis.

INSPECTION RESULT: COMPLIANCE. A stack test would be required in order to verify this, but AQD has no evidence of the process emitting excessive amounts of PM. According to the MAERS report for the 2018 operating year, 32.90 lbs of PM₁₀ were emitted that year.

PTI 26-16 SC FGLime540-541 I. 2. limits VOC emissions to 1.10 TPY.

INSPECTION RESULT: COMPLIANCE. According to the MAERS report for the 2018 operating year, VOC emissions were 2,735.0 lbs, or 1.37 tons, slightly exceeding the 1.10 TPY limit, but that calculation appears to have been in error, Mr. Minhas said. His records showed that VOC emissions for the 2018 operating year were 1,460 lbs or 0.73 tons for 2018, below the permitted limit. He indicated he would be willing to correct the MAERS report. AQD will pursue making this change in the MAERS report for Lockhart Chemical.

PTI 26-16 SC FGLime540-541 I. 3. limits sulfonic acid emissions to 300 mg per cubic meter, corrected to 70 degrees F and 29.92 mm Hg.

INSPECTION RESULT: UNKNOWN. Testing would be required in order to verify this, but AQD has no evidence of the process emitting excessive amounts of sulfonic acid.

PTI 26-16 SC FGLime540-541 II. 1. limits mineral spirits used to 329,341 gallons per year.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas reviewed records on his computer which indicated 219,228 gallons were used during the most recent 12-month period.

PTI 26-16 SC FGLime540-541 III. requires the permittee to not operate the lime storage silo unless the preventative maintenance program has been implemented and is maintained.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas advised me that their maintenance program is essentially to shake the bag for the dust control system, to clean it.

PTI 26-16 SC FGLime540-541 IV. requires the permittee to not operate the lime storage silo unless the bin vent filter is installed, maintained, and operated in a satisfactory manner.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas advised me that their maintenance program is essentially to shake the bag for the dust control system, to clean it. AQD has no evidence that the dust control system is not operating properly.

PTI 26-16 SC FGLime540-541 V.**NA, as no testing/sampling is required.****PTI 26-16 SC FGLime540-541 VI. 1. requires the permittee to complete all required calculations, in a format acceptable to the AQD DS by the last day of the calendar month for the preceding calendar month.**

INSPECTION RESULT: COMPLIANCE. The facility is calculating emissions, and reporting to MAERS. I did not check on the timeliness of their calculations, but AQD can check on this during the next inspection of this facility.

PTI 26-16 SC FGLime540-541 VI. 2. requires the permittee to keep a record of the amount of mineral spirits processed in EULimeSlurry541 on a calendar month and 12-month rolling time period basis.

INSPECTION RESULT: COMPLIANCE. The facility is recording the mineral spirits used on a 12-month rolling basis and on a monthly basis. 219,228 gallons were used in the most recent 12 months.

PTI 26-16 SC FGLime540-541 VI. 3. requires the facility to calculate the VOC emission rate from the process from the preceding 12-month rolling time period, using mass balance or another acceptable method.

INSPECTION RESULT: COMPLIANCE. VOC emissions were reported to MAERS for the 2018 operating year.

PTI 26-16 SC FGLime540-541 VI. 4. requires the permittee to keep a record of actions taken under the lime storage silo preventative maintenance program.

INSPECTION RESULT: UNKNOWN. I did not check these records at the time of the inspection. AQD will focus on this during the next inspection of this facility.

PTI 26-16 SC FGLime540-541 VII.

NA, as no reporting required.

PTI 26-16 SC FGLime540-541 VIII.1. requires SVLime540, the storage silo vent, to exhaust at a minimum height above ground of 35 feet.

INSPECTION RESULT: COMPLIANCE. The vent appeared to meet this height requirement.

PTI 26-16 SC FGLime540-541 IX.

NA, as no other requirements.

FGFACILITY, PTI No. 26-16:

Flexible Group description: all process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

Emission units: All emission units at the plant.

Pollution control equipment: various.

PTI 26-16 FGFACILITY I. 1. limits methanol emissions to less than 9 TPY.

INSPECTION RESULT: COMPLIANCE. The MAERS report for the 2018 operating year indicated methanol emissions were 309 lbs, far below the 9 TPY limit.

PTI 26-16 FGFACILITY I. 2. limits aggregate HAPs to less than 22.5 TPY.

INSPECTION RESULT: COMPLIANCE. The MAERS report for the 2018 operating year indicated that total HAP emissions were 789 lbs, far below the 22.5 TPY limit. These emissions comprised 112.00 lbs of glycol ether, 309.00 lbs of methanol, and 368.00 lbs of isomers of xylene.

PTI 26-16 FGFACILITY II.

NA, as no material limits.

PTI 26-16 FGFACILITY III.

NA, as no process/operational restrictions.

PTI 26-16 FGFACILITY IV. requires the permitted equipment to be labeled with permanent labels that correspond with the AQD PTI No. 26-16, and additionally to label equipment that is not in use as not in use.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas showed me the labeled equipment throughout the plant, including unused equipment which was labeled as not in use. He explained that this was written as a requirement in the permit pursuant to N. Hude's interest in making the equipment easier to identify by AQD inspectors.

PTI 26-16 FGFACILITY V. requires records to be maintained for a period of 5 years.

INSPECTION RESULT: COMPLIANCE. Mr. Minhas indicated that they are doing this.

PTI 26-16 FGFACILITY VI. 1. requires the completion of all required calculations in a format acceptable to the AQD DS by the last day of the calendar month, for the preceding calendar month.

INSPECTION RESULT: UNKNOWN. I did not check on the timeliness of their monthly calculations, but will do so during the next AQD inspection of this facility.

PTI 26-16 FGFACILITY VI. 2. requires the permittee to calculate the methanol and aggregate HAP emission rates from FGFACILITY monthly, on a 12-month rolling basis.

INSPECTION RESULT: COMPLIANCE. The company appears to be tracking this. They report these emissions to MAERS each year.

PTI 26-16 FGFACILITY VII.

NA, as no reporting requirements.

PTI 26-16 FGFACILITY VIII.

NA, as no FGFACILITY stack/vent restrictions.

PTI 26-16 FGFACILITY IX.

NA, as no other requirements.

MAERS reporting:

Lockhart Chemical reports emissions annually, through MAERS. The audit of Lockhart Chemical's report for the 2018 operating year found them to be in compliance with permitted limits. Calculations were not provided for the emission estimates. Mr. Minhas explained to me that this is because of the proprietary nature of the raw materials that they work with. If competitors had access to their emission calculations, they might potentially learn how their products are made. He showed me spreadsheets on his laptop computer, to demonstrate the calculations which were done. He indicated I was always welcome to meet with him to review emission calculations, if I have any concerns about their calculated

emissions. The calculations done to reach emission estimates appeared to be reasonable.

Conclusion:

No instances of noncompliance could be identified. I left the site at 1:57 PM.

NAME 

DATE 10/7/2019

SUPERVISOR 