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

B596626744

FACILITY: Sun Chemical Corp		SRN / ID: B5966
LOCATION: 4925 EVANSTON AVE, MUSKEGON		DISTRICT: Grand Rapids
CITY: MUSKEGON		COUNTY: MUSKEGON
CONTACT: R. Sidney Shaw , EHS Manager		ACTIVITY DATE: 07/29/2014
STAFF: April Lazzaro	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Unannounced, scheduled inspection.		
RESOLVED COMPLAINTS:		

AQD staff, April Lazzaro and Prudy Blue arrived at the facility for an unannounced, scheduled inspection and met with security staff to watch the Sun Chemical safety video. Following completion of the video, staff met with Sidney Shaw Safety and Environmental Manager. Staff offered Mr. Shaw an opportunity to obtain the DEQ Environmental Inspections: Rights and Responsibilities brochure. Mr. Shaw was informed that this was to be an Full Compliance Evaluation (FCE), and records were requested.

FACILITY DESCTIPTION

Sun Chemical is the largest pigment manufacturing facility in the world. They create and/or process red, yellow and blue pigments for use in numerous industries. The processes include taking raw materials to create pigments, and then manipulate those pigments until they are ready as a final product. The plant consists of three areas, the Main Plant, High Volume Flush (HVF) and Intermediate Building Tetrazo (IBTZ).

Due to recent re-permitting (no NSR was conducted) the facility operates under five consolidated permits: 1058-84D, 153-13, 154-13, 155-13 and 156-13. As of the date of this writing, Consent Order No. 42-2014 has been through the public comment period and will be signed and enforceable soon. As such, the order has not been evaluated for compliance as part of this FCE.

The re-permitting required that the facility label all equipment as it relates to the PTI. Also, an updated Malfunction Abatement Plan (MAP) was required. This was submitted timely, but staff made several comments, which were provided to Mr. Shaw. An official request for changes was made, and per the PTI's the company has 45 days to re-submit the MAP. Basically the MAP is not sufficient because it does not contain adequate problem follow-up documentation. It also allows an alarm to occur and if a problem is not immediately identified, it allows for a follow-up to occur after two hours. Two hours is not an acceptable time frame. (ie. should be immediate) Also, there are places in the document that refer to the DNRE which is outdated. The updated MAP is due on September 12, 2014.

COMPLIANCE EVALUATION

The inspection began with the recordkeeping request in Mr. Shaw's office. After a time, he was able to access and print emissions recordkeeping. The records had not been updated with the current PTI numbers. Mr. Shaw e-mailed an updated version later that day.

I informed Mr. Shaw that I'd like to utilize the equipment list that is part of the MAP to compare with equipment observed during the physical tour. Staff took notes on the equipment list, of which a copy is attached with available values written down. All equipment was labeled, however there did seem to be a discrepancy with the nomenclature of the facility staff vs. the MAP with regard to SV-Stack25 of FG-Blend in 156-13. This will be addressed by Sun Chemical. Each permit will be addressed below.

Opt-out PTI No. 1058-84D

This PTI contains conditions related to fuel burning equipment and Opt-out limits for NO_x, PM and SO_2, as well as required recordkeeping to demonstrate emissions of such. Landfill gas usage is limited to use in the 750 HP (30.9 mmBtu/hr) Johnston boiler, and usage is limited to 492.0 million cubic feet per 12-month rolling time period. Reported landfill gas throughput is 80.32 million cubic feet. Staff was able to observe the landfill gas usage meter located on the side of the unit. The permit requires Sun to utilize sulfur content of the gas from "the most recent sampling data". It appears based on MAERS that the facility is using data obtained in 2008. This is not acceptable. Therefore, staff is requesting that the company incorporate into the required MAP that monitoring sulfur content of the gas will be conducted at least once per calendar year and utilized in the SO_2 calculations.

Facility NO_x emissions are limited to 89.9 tons per 12-month rolling time period. Reported emissions through June of 2014 are 80.32 tons. PM emissions are limited to 89.9 tons per 12-month rolling time period. Reported emissions through June of 2014 are 1.1 tons. SO_2 emissions are limited to 89.9 tons per 12-month rolling time period. Reported emissions through June of 2014 are 14.54 tons. Natural gas and landfill gas usage records were provided.

PTI No. 153-13

This PTI covers FG-IB; unpacking and blending DCB into solution and FG-TZ; equipment utilized in the formation of the tetrazo component. As previously indicated, staff has formally requested changes to the MAP, which is due September 12, 2014. DCB emission rates were requested, and Mr. Shaw could retrieve test results however they were not correlated to what PTI requirement or equipment so compliance could not specifically be determined. Fortunately, each test result has reportedly returned at <0.2 PPM. (non-detect) Mr. Shaw will need to fix this issue. AQD will not re-evaluate the testing schedule until after this has been addressed. These are located in the Tetrazo/IB building.

FG-IB

I. Emission Limits- include HCl, DCB, PM and VE's. The limits are based on test protocol.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms. Pressure drop of filter was at 1.9" H_2O- within acceptable range. The FG-IB scrubber was running at 30 gpm, with a pH of 12.15, both are acceptable values.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-TZ

I. Emission Limits- include HCl and DCB. The limits are based on test protocol and the DCB testing is being conducted.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above. All solid materials are in slurry form.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule. Records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

PTI No. 154-13

This PTI covers FG-DryBlue; dry blue pigment processing equipment, FG-WetBlue; wet blue pigment processing equipment and FG-Flush; flushing process of azo red and azo yellow. These are located in the HVF building.

FG-DryBlue

I. Emission Limits- include PM. The limits are based on test protocol.

II. Material Limits- Dry blue raw material is limited to 17,640,000 lbs based on a 12-month rolling time period. Reported raw material through June 2014 is 1,075,066 lbs.

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-WetBlue

I. Emission Limits- include VOC. The limits are based on test protocol and VOC recordkeeping. VOC limited to 2.16 tons per 12-month rolling time period. Reported VOC emissions are 0.01 tons.

II. Material Limits- Wet blue flush pigment limited to 1,113 batches per 12-month rolling time period. Reported wet blue flush pigment use through June 2014 is 116.

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-Flush

I. Emission Limits- NA

II. Material Limits- Azo Flush processed through the letdown tanks are limited to 88,200,000 lbs. Reported raw material through June 2014 is 21,260,932 lbs.

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms.

Condenser stack SV-Stack29A was not in operation but was at 24°C. Condenser stack SV-Stack29C was at 19°C. Solvent odor was present in the area.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

Opt-out PTI No. 155-13

This PTI covers FG-Azo, FG-Main and FG-Facility Opt-out for HAP's. These are located in the Main Plant building.

FG-Azo

I. Emission Limits- include PM, BNA, HCl and VE's. The limits are based on test protocol.

II. Material Limits- Red pigment material is limited to 12,500,000 lbs based on a 12-month rolling time period. Reported raw material through June 2014 is 5,134,110 lbs. Yellow pigment material is limited to 18,500,000 lbs. Reported raw material through June 2014 is 6,721,519 lbs. BNA content of tobias acid used is limited to 0.1% by weight. Leslie and Dave at Sun provided staff with information from a data sheet on the BNA. Each individual super sack delivered comes with its own spec sheet that is reviewed upon receipt.

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above. Bag disposal was not observed to be a concern. Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable, with note above on the DCB testing.

VII. Reporting- The permittee is aware of the DCB reporting requirement.

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-MAIN

I. Emission Limits- include PM, 3-aminonapthalene-2,7 disulfonic acid, 1-aminonapthalene-2-sulfonic acid, 2-napthylamine-6-sulfonic acid, sodium salt, BNA, benzene sulfonic acid, DCB, dichlorobiphenyl, DMB, HCl, sulfamic acid and VE's. The limits are based on test protocol.

II. Material Limits- Red pigment limited to 5,000,000 lbs pigment process through the strike tanks per 12-month rolling time period. Reported red pigment use through June 2014 is 1,354,196 lbs. BNA content of tobias acid used is limited to 0.1% by weight. Leslie and Dave at Sun provided staff with information from a data sheet on the BNA. Each individual super sack delivered comes with its own spec sheet that is reviewed upon receipt.

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above. Bag disposal was not observed to be a concern. Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable, with note above on the DCB testing.

VII. Reporting- The permittee is aware of the DCB reporting requirement.

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-FACILITY

I. Emission Limits- Aggregate HAPs limited to 25 tons per 12-month rolling time period. Reported aggregate HAPs through June 2014 are 0.542 tons. Individual HAP limited to less than 10 tons per 12-month rolling time period. Reported largest single use HAP through June 2014 is HCl at 0.5 tons.

II. Material Limits- NA

III. Process/Operational Restrictions- NA

IV. Design/Equipment Parameters- NA

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- NA

IX. Other Requirements- NA

PTI No. 156-13

This PTI covers EU-EirichDryer, EU-BeltDryer, EU-SprayDryer, FG-TrayDry, FG-SpinDry and FG-Blend. These are located in the Main Plant building.

EU-EirichDryer

I. Emission Limits- include PM and VE's. The limits are based on test protocol.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

EU-BeltDryer

I. Emission Limits- include DCB and DMB. The limits are based on test protocol. An error has been identified,

and a request to Lansing to correct it has been made.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable. Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

EU-SprayDryer

I. Emission Limits- NA

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable. Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-TrayDry

I. Emission Limits- include DCB, DMB, dichlorobiphenyl, PM and VE's. The limits are based on test protocol.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable. Sun is monitoring and recording DCB emissions but is not really keeping track of what product correlates with what permit/FG. Fortunately, all samples are non-detect, so compliance with that is not a concern. Sun will have to figure this out before asking for an alternate monitoring schedule.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-SpinDry

I. Emission Limits- include PM and PM10. The limits are based on test protocol.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

IX. Other Requirements- NA

FG-Blend

I. Emission Limits- include PM. The limits are based on test protocol.

II. Material Limits- NA

III. Process/Operational Restrictions- a formal request to change the MAP has been made as identified above.

IV. Design/Equipment Parameters- staff was able to observe labeling and was assured of audible alarms and required monitoring.

V. Testing/Sampling- NA

VI. Monitoring/Recordkeeping- records appear acceptable.

VII. Reporting- NA

VIII. Stack/Vent Restrictions- no changes have been identified.

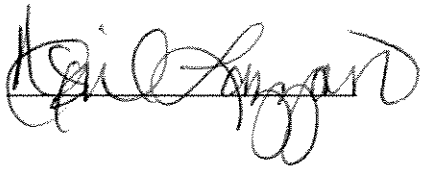
IX. Other Requirements- NA

SUMMARY

A request for follow-up information was made via e-mail on July 30, 2014. Specifically, (see attached) there was a HH alarm on stack 25, as evidenced by the yellow emissions identified by the stack, and staff requested the cause and response taken by Sun. Information on the how the sulfur content of landfill gas is obtained and how that is used in the emissions calculations. Also, red pigment emission/accumulation was identified on the facility roof. The emissions were observed which appeared to be emitted out of a room vent located next to stack 8. Staff requested an investigation into the cause of these emissions.

The information as requested was received on September 02, 2014. The response is adequate, and items regarding the red and yellow pigment will be followed up on during the next compliance inspection.

The facility was in compliance at the time of the inspection.

NAME  DATE 9-8-14 SUPERVISOR PMB