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

B414555045

FACILITY: AkzoNobel Coatings Inc		**SRN / ID:** B4145
LOCATION: 120 Franklin, PONTIAC		**DISTRICT:** Warren
CITY: PONTIAC		**COUNTY:** OAKLAND
CONTACT: Jeffrey Poniewierski , Process Improvement Supervisor		**ACTIVITY DATE:** 07/30/2020
STAFF: Adam Bognar	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On Thursday, July 30, 2020, Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) staff, I, Adam Bognar, conducted a scheduled inspection of AkzoNobel Coatings Inc. (AkzoNobel or the "facility") located at 120 Franklin, Pontiac, MI 48341. The purpose of this inspection was to determine the facility's compliance status with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) rules; Opt-Out Permit to Install No. 184-06; and Permit to Install No. 195-19.

Due to the ongoing COVID-19 pandemic, an in-office record review was conducted rather than on-site. I requested records electronically from Mr. Jeff Poniewierski, HSE Business Partner on June 17, 2020. Mr. Poniewierski provided me the requested records on July 15, 2020. I reviewed records for July 2019 through June 2020. These records can be accessed on the AQD shared drive at the following address: S:\Air Quality Division\STAFF\Bognar, Adam\Inspection Documents\AkzoNobel FY2020

Also due to the ongoing COVID-19 pandemic, this inspection was conducted virtually rather than in person. Mr. Poniewierski showed me around the plant using a mobile camera device. I was able to view operations at AkzoNobel virtually on a computer screen. I gave the company the option of doing an in-person or virtual inspection. AkzoNobel decided they preferred to do the inspection virtually. We began the virtual inspection at around 10 am.

This facility is located in Oakland county which is in non-attainment for ozone. Oakland County is in attainment for CO, lead, NOx, and PM. AkzoNobel is located slightly west of Woodward Avenue. The closest residential property is about 300 feet directly south of the facility. There are also residential properties approximately 2000 feet east of AkzoNobel (across Woodward Avenue). Several commercial businesses are adjacent to AkzoNobel.

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AkzoNobel manufactures paint and coatings for a broad range of applications. Most manufactured products end up at automotive body shops for collision repair. There are approximately 155 employees that operate this plant 5 to 7 days a week during three shifts. Mr. Poniewierski stated that they were producing some amount of coatings that were deemed essential during the state shut down order. One of these coatings was a paint used on emergency vehicles. As of this inspection date, AkzoNobel is running at approximately 90% of normal capacity.

Paint manufacturing at AkzoNobel is a batch process. Constituents of a paint/coating mixture are blended in a mixing tank to create the desired product. A variety of solvents and organic dyes are used in this process. In this manner, AkzoNobel manufactured approximately 3.2 million gallons of paint/coatings in the most recent 12-month rolling period ending in June 2020. Finished products and raw materials are stored on-site in a separate warehouse from the manufacturing floor.

Paint/coating manufacturing at AkzoNobel can be categorized in one of three batch types: Large batch (LB), small batch (SB), and color blending unit (CBU). The large batch tanks are stationary units larger than 550 gallons that are bolted in place and have permanent dedicated plumbing on each tank. The small batch tanks are portable units smaller than 550 gallons that can be wheeled around. The color blending unit (CBU) manufacturers small batches (less than 250 gallons) with a relatively short lead time (1-2 days). This is possible because the formulation usually includes premixed raw materials that are manufactured in the main

manufacturing area. There are several premixed raw materials that are all attached to a common unit (CBU) that pumps the desired quantities into the batch manufacturing mix tank.

Emissions from this facility are estimated using a commercially available software called PirnieAIR. PirnieAIR is a Microsoft Access database that takes in process specific data and EPA-published equations or AP-42 emission factors to calculate emissions from a batch. The larger paint manufacturing processes utilize around 90 manufacturing steps to calculate emission factors. These steps include adding each solvent, mixing, heating, and gas sweeps.

During a gas sweep, solvent vapors are evacuated during product mixing to prevent an explosive mixture of vapors inside a vessel. Nitrogen gas is used to evacuate vapors. Emissions from the gas sweeps account for almost half the emissions for large batches. In general, emissions from large batch manufacturing are around 8 times more than in a small batch.

PirnieAIR emission factors were determined using the weighted average of VOC and HAP content for each batch formulation. The formulation with the highest weighted VOC and HAP content (worst-case scenario) is used as the basis for calculating VOC and HAP emission factors. A worst-case scenario formulation was assigned to each of the following batch types: small batch solvent pigmented coatings, small batch solvent non-pigmented coatings, small batch waterborne coatings, large batch solvent pigmented coatings, large batch solvent non-pigmented coatings, large batch waterborne coatings, and color blending unit operations. The emission factor generated is multiplied by the total gallons produced in each type of batch.

PirnieAIR also estimates emissions for portable tank cleaning. Portable tanks are cleaned using a churn washer. Clean recycled solvent is sprayed into the portable tank. A rotating brush is lowered into the tank, sealing the opening and cleaning the inside of the tank. Spent solvent is collected in a waste solvent drum. Each cleanup uses approximately 5 gallons of clean solvent.

Waste solvent from manufacturing and tank cleaning is processed by Chemical Solvents, Inc. and sent back to AkzoNobel as recycled solvent to be reused for tank cleaning and other miscellaneous cleaning. Around 4,000 gallons of waste solvent per week is sent to Chemical Solvents, Inc. with a recovery rate of around 65%. Recycled solvent is stored in a 12,000-gallon tank at the tank farm.

Opt-Out PTI No. 184-06

EUPARTSWASHER – The special conditions of this section apply to a specialized solvent-based parts washer that AkzoNobel has not installed. Mr. Poniewierski stated that there are currently no plans to install a specialized parts washer at the facility. Because this washer is not currently installed, these special conditions do not currently apply.

FGCLEANING

This flexible group applies to the cleaning of portable storage tanks and all exempt cold cleaners installed after 1979.

Special Condition 2.1: States that AkzoNobel shall conduct cleaning of paint manufacturing and paint shipping containers using methods that minimize VOC emissions. Organic solvent is used for tank/equipment cleaning. Tanks are completely closed during cleaning cycles.

Special Condition 2.2: States that AkzoNobel shall store wash solvent in closed containers. All solvents at the facility appeared to be stored in closed containers.

Special Condition 2.3: Requires AkzoNobel to submit to the AQD district supervisor, within 60 days of permit issuance, approvable work practice standards for portable tank cleaning. On October 23, 2006, AkzoNobel Submitted the work practice standards for both the Hockenmeyer tank cleaner and the color blending unit tank cleaner. These cleaning procedures are still used today and can be found in the AkzoNobel AQD file.

Special Condition 2.4: Requires AkzoNobel to equip all stationary and portable mixing tanks, and high-speed dispersion mills with covers that cover all openings except for what is needed to allow safe clearance for the mixing shaft. All of these tank types were covered during my inspection. Stainless steel covers are used in cases where the tank contains solvents. On clean tanks, sometimes a flexible plastic cover is used to prevent the introduction of dust.

Special Condition 2.5: Requires AkzoNobel to keep monthly records of the number of portable tanks cleaned.

These records are maintained in the Pirnie Air database. The highest reported monthly number of tanks cleaned was 410 tanks in October 2019. The most recently reported monthly total was 252 tanks in June 2020.

Special Condition 2.6: Requires AkzoNobel to keep a record of the number of parts cleaners used at the facility. Mr. Poniewierski provided me with these records. There are 9 parts washers throughout the facility, 8 of which are in service. All parts washers utilize reclaimed solvent from the tote cleaning process. Parts washers had operating procedures posted and the lids were closed.

During my last inspection, I noted one solvent-based parts washer that was set up differently than the others. It was an open top sink that drains into a catch bucket underneath. I told Mr. Poniewierski that this solvent-wash station is technically a cold cleaner and thus is subject to certain regulatory requirements. Instead of modifying this solvent-wash station to comply with our rules, Mr. Poniwierski stated that he would replace this solvent-wash station with a 55-gallon drum/sink style parts washer that is identical to some of the other parts washers on site. I verified that this cold cleaner was replaced with a 55-gallon drum/sink style parts washer.

Cold cleaner emissions are estimated at 280 lbs/unit/year VOCs and 89.6 lbs/year/unit HAPs. With 8 cold cleaners, this equates to 2240 lbs VOC and 717 lbs HAP emissions.

Special Condition 2.7: Requires AkzoNobel to keep a written record of current emission factors used to calculate VOC and HAP emission rates in FGCLEANING. These records were made available to me during my inspection. The current emission factor is 1.5 lb VOC and 0.48 lb HAP per portable tank cleaned.

Special Condition 2.8: Requires AkzoNobel to keep monthly and 12-month rolling time period calculations of VOC and HAP emission rates from FGCLEANING. These records are maintained. Mr. Poniewierski provided me with the most recently calculated 12-month rolling period beginning in July 2019 and ending in June 2020. 3,650 portable tanks were cleaned during this period resulting in calculated VOC emissions of 2.7 tons and HAP emissions of 0.9 tons.

FGPAINT

This flexible group includes all paint manufacturing operations including EULARGEBATCH, EUSMALLBATCH, and EUCBU (Color Blending Unit). Batches larger than 550 gallons are considered large batches. Batches less than or equal to 550 gallons are considered small batches. The color blending unit is used for batches less than or equal to 250 gallons.
In all three emission units, VOC emissions are vented directly to the atmosphere through conservation vents, exhaust systems, or dust collection systems. Particulate emissions from the addition of paint solids are controlled by dust collectors.

Special Condition 3.1: Limits the particulate emissions from FGPAINT to 0.1 lbs/1,000 lbs exhaust gas. Compliance with this condition is verified through proper operation of the baghouses. The dust collectors in the main plant were not operating during this inspection because no material was being charged. The dust collectors appeared to be in good working order and I did not observe any particulate scattered near any of them.

Special Condition 3.2 (a, b, c, d): Establishes 12-month rolling production volume limits for the small batch, large batch, color blending unit, and waterborne paint manufacturing. Compliance with this condition is demonstrated through recordkeeping. Each time a batch is produced, the volume is entered into a database that tracks the total production volume. 12-month rolling records of production volumes from July 2019 to June 2020 were provided to me during my inspection. Based on the records I reviewed the production volume limits have not been exceeded (see table below for 12-month period ending in June 2020).

Batch Type	12-month Rolling Production Volume (gallons)	Limit (gallons)
Small Batch	**621,511**	**2,200,000**
Large Batch	**2,557,349**	**5,086,764**
Waterborne	**141,376**	**1,256,000**
CBU	**83,017**	**300,000**

Special Condition 3.3: Requires AkzoNobel to clean paint manufacturing and paint shipping containers using methods that minimize the emission of VOCs. Organic solvent is used for tank/equipment cleaning. Tanks are completely closed during cleaning cycles.

Special Condition 3.4: Requires AkzoNobel to store wash solvent in closed containers. Wash solvent is stored in closed drums.

Special Condition 3.5: Requires that all stationary mixing tanks, portable mixing tanks, and high-speed dispersion mills to be equipped with covers that cover all openings except openings that are no larger than necessary to allow safe clearance for the mixer shaft. All tanks were equipped with covers. There is a circular cutout in the middle of the metal covers that is just large enough for the mixer shaft.

Special Condition 3.6: States that AkzoNobel shall not load solids into any equipment unless the associated dust collectors are installed, maintained, and operated in a satisfactory manner. Based on my inspection and record review the dust collectors are operated and maintained correctly. Dust collectors are only operated when charging (loading) tanks with solids. There is a preventative maintenance checklist for the dust collectors that is filled out weekly. I did not notice any fugitive paint solids outside or in the plant.

Special Condition 3.7: Requires AkzoNobel to replace all flexible plastic covers with tight fitting covers. Flexible plastic covers are still allowed on empty tanks. All tanks that contain materials are equipped with stainless steel, tight fitting, covers. Flexible covering is still used on empty tanks.

Special Condition 3.8: Requires that dust collectors DC-1, DC-2, WB, and prestage be equipped with a device to measure pressure drop on a continuous basis. All dust collectors are equipped with a device to measure the pressure drop.

Special Condition 3.9: Requires AkzoNobel to keep monthly and 12-month rolling time period records of the gallons of each paint type produced. These records are maintained. Based on the records I reviewed, there are no reported exceedances of production volumes.

Special Condition 3.10: Requires AkzoNobel to keep weekly records of the pressure drop for the DC-1, DC-2, WB, and prestage dust collectors. These weekly records are maintained.

Special Condition 3.11: Requires AkzoNobel to keep a written record of emission factors used to calculate VOC and HAP emission rates from FGPAINT. These records are maintained in the Pirnie Air database and were made available to me during my previous inspection. These factors are also maintained in the EGLE-AQD AkzoNobel facility file.

Special Condition 3.12: Requires AkzoNobel to keep monthly and 12-month rolling time period calculations of VOC and HAP emission rates for FGPAINT. These records are maintained as part of the Pirnie Air database. Based on the records I reviewed, AkzoNobel has not exceeded permit or major source thresholds.

Special Condition 3.13: Specifies stack requirements. I did not climb to the roof to verify stack dimensions. Some stacks are not required to be discharged vertically upwards. Stacks appeared to meet permit requirements.

FGFACILITY

Special Condition 4.1 (a, b, c, d): Establishes facility-wide emission limits for VOC, individual HAP, and total HAP emissions of 60 tons/year, 9 tons/year, and 22.5 tons/year, respectively. Based on the records I reviewed, AkzoNobel appears to be under these emission limits. Facility-wide emissions for the 12-month rolling period ending in June 2020 are reported at 7.57 tons of VOCs and 3.22 tons of total HAPs.

Since the total HAP emissions are less than 9 tons/year there is no practical reason to calculate individual HAP emissions. If total HAP emissions rise above 9 tons/year, then it may become necessary for AkzoNobel to determine individual HAP emissions.

Emergency Generator

AkzoNobel operates one Kohler 100RZG natural gas fired emergency generator with a maximum power rating of 121 kW (162 hp). The unit was installed on-site in December 2006. The purchase order for this unit was also made in December 2006. AQD considers the date the purchase order was made to be the date that AkzoNobel

"commenced construction" of the emergency generator. This generator is run for 30 minutes weekly for preventative maintenance purposes. See Attachment 5 for the technical data sheet.

This generator is not certified by the EPA for compliance with 40 CFR Part 60 – Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines (Subpart JJJJ). Additionally, Akzo Nobel Coatings Inc. failed to conduct a performance test on the emergency generator within the time period specified in Subpart JJJJ. In order to continue operating this emergency generator, Akzo Nobel Coatings Inc. must conduct a performance test on the emergency generator demonstrating that emissions from the generator meet the standards outlined in Subpart JJJJ. Additionally, Akzo Nobel Coatings Inc. must comply with all applicable regulations in Subpart JJJJ. A violation notice was sent to Akzo Nobel Coatings Inc. in February 2019 seeking compliance with Subpart JJJJ.

To resolve this violation notice, AkzoNobel has decided to disconnect the natural gas line to the generator. Mr. Poniewierski provided me with pictures showing that the gas line has been disconnected. Additionally, the inlet line has been locked such that nobody could re-connect the gas line without a key. The emergency generator has been rendered inoperable. This violation notice may be resolved.

Laboratory Operations

Akzonobel operates a pilot laboratory where small batches of new formulations are tested before going into full-scale production. Emissions from the pilot lab are estimated using the PirnieAir small batch emission factor.

In addition to the pilot laboratory, there is a research and development laboratory where paint/coatings are tested for various parameters. There are three spray booths in this lab that are used to spray small rectangular panels for testing purposes. All three booths are exhausted outdoors and are equipped with dry filters. I did not observe any gaps in the dry filters. These booths are not used for production. Only a small amount of paint is used in these booths. These paint booths appear to be exempt from Rule 201 requirements pursuant to Rule 287 (2)(c).

Acetone is used for paint gun cleaning and washing solvent cans. About 50 gallons of acetone is ordered for laboratory operations each month. Of these 50 gallons, around 90% is used to wash solvent cans. The other 10% is used to wash paint guns. Only a small amount of paint is used. The laboratory sprays approximately 300 small sample panels per week. I asked Mr. Poniewierski to begin recording the amount of coatings used in the laboratory booths. I will request to see coating use data from AkzoNobel for the month of August 2020 in September 2020.

There are 8 storage tanks at the tank farm used to store raw batch materials. A vapor balance system is installed to capture emissions during filling. These tanks appear to be exempt from Rule 201 requirements pursuant to Rule 284 (2)(i). These tanks are not subject to Rule 336.1604 or 336.1605 because they are all smaller than 40,000 gallons. The largest storage tanks are 12,000 gallons. These tanks do not appear to be subject to Rule 336.1706 because the facilities total annual coating output is less than 5,000,000 gallons.

Permit to Install No. 165-19
Permit to install No. 165-19 was issued on March 13, 2020 for equipment to prepare specialty marine and protective coatings, consisting of ten mixing stations and related equipment, a container filling area, and a shared baghouse dust collector.

FG-Marine
Section I – SC 1: Limits particulate matter (PM) emissions to 0.20 lb per ton of solids charged. Compliance with this emission limit is demonstrated by monitoring and recording the pressure drop across the dust collector, DC-Marine, once each week. Based on the records I reviewed, pressure drop is monitored on DC-Marine. Mr. Poniewierski provided me with a checklist indicating that PM/checks were performed on DC-Marine on July 6, 2020.

Section I – SC 2: Limits VOC emissions to 5.9 tons per year based on a 12-month rolling time period. AkzoNobel maintains a spreadsheet that shows each batch processed, the amount of VOC in that batch, and the resulting VOC emissions based on the emission factors established in this permit to install. This flexible group has only been operating since April 2020. VOC emission records from April 2020 through June 2020 show a total of 145 lbs VOC emitted.

Section II – SC 1: Limits the amount of coatings produced to 3,000,000 gallons per year. This equipment has

not been operated for one year. Records from April 2020 through June 2020 show a total of 37,656 gallons produced.

Section II – SC 2: Limits the VOC content of batches to 3,600 lbs per batch. AkzoNobel calculates and records the VOC content of each batch. The highest reported single batch VOC content was 1434.8 lbs for the "ENVIROLINE 71C THINNER NGA201".

Section II – SC 3: Limits the VOC content of every 10 batches processed concurrently to 17,938 per production cycle. The facility has not ever produced 10 batches concurrently, nor do they anticipate the need for that high of production. This was added as a permit condition because AkzoNobel was unsure of the capacity they would need and they wanted their permit issued quickly.

Section II – SC 4 through 38: These conditions specify material usage limits for 35 different air toxics. Not all 35 toxics have been used since operations began. Mr. Poniewierski believes that some of these compounds may never be used at this location. Each air toxic has a compound specific material use limit and a specific averaging time.
Since operations began in April 2020, the following air toxics have been used: Styrene (100-42-5), Benzene (71-43-2), Cumene (98-82-8), Chlorinated paraffins (63449-39-8), Siloxanes and silicones (67762-90-7), Chromium (7440-47-3), Nickel (7440-02-0), Arsenic (7440-38-2), and Cadmium (7440-43-9). Compliance with these material usage limits is demonstrated by calculating a worst-case scenario. AkzoNobel maintains a spreadsheet for each air toxic that lists every possible coating formulation that a particular air toxic is used in. The material usage limit and the minimum batch time are used to calculate the maximum batch size for each formulation. AkzoNobel maintains compliance with these material usage limits by limiting batch sizes to below the calculated "maximum batch size".

For example: Styrene has a material usage limit of 1,030 lbs per hour. AkzoNobel set a more conservative maximum Styrene usage per hour of 1,000 lbs. The minimum batch time is 1.5 hours for every styrene formulation. Combining these two numbers yields the maximum ingredient usage per batch of 1,500 lbs. The maximum batch size, in pounds, is calculated by dividing the maximum styrene usage, 1500 lbs, by the percent styrene in the mixture. This calculation yields a maximum batch size of 5,188 lbs. The maximum batch size, in pounds, and the batch density are used to calculate the maximum batch size in gallons. The maximum batch size for styrene is 478.2 gallons. So long as the batch size is maintained below 478.2 gallons, AkzoNobel appears to be in compliance with the styrene material usage limit. Maximum batch sizes are calculated in this manner for each regulated air toxic.

Section IV – SC 1: Requires AkzoNobel to equip all stationary and portable mixing tanks, and high-speed dispersion mills with covers that cover all openings except for what is needed to allow safe clearance for the mixing shaft. These tank types were covered during my inspection. Stainless steel covers are used in cases where the tank contains solvents. On clean tanks, sometimes a flexible plastic cover is used to prevent the introduction of dust.

Section IV – SC 2: States that the permittee shall not charge solids to any equipment in FG-Marine unless the dust collector is installed, maintained, and operated in a satisfactory manner. I observed that this dust collector was turned on during my inspection. The pressure gauge read 3.1" H_2O.

Section IV – SC 3: States that the permittee shall equip the dust collector with a device to indicate the pressure drop across the dust collector. DC-Marine is equipped with a pressure gauge.

Section VI – SC 1: States that the permittee shall complete all required calculations and records in a format acceptable to the AQD district supervisor by the last day of the calendar month, for the previous calendar month. These records are maintained.

Section VI – SC 2: States that the permittee shall monitor and record the pressure drop across DC-Marine once each week during operations exhausting to DC-Marine. These records are maintained. The pressure drop on DC-Marine on July 6, 2020 was 4.2" on the main filter and 0.2" on the secondary filter.

Section VI – SC 3: States that the permittee shall calculate the VOC emission rate from FG-Marine on a monthly and 12-month rolling basis. These records are maintained. Only monthly records are currently maintained since FG-Marine has not been in operation for 12 months.

Section VI – SC 4: States that the permittee shall record the quantity of coatings produced in FG-Marine during each month and 12-month rolling period. These records are maintained. In May 2020 a total of 20,383 gallons

of coatings were produced.

Section VI – SC 5: States that the permittee shall maintain a record of VOC content of each batch produced in FG-Marine. These records are maintained.

Section VI – SC 6: States that the permittee shall maintain a record of the amount of VOC used in each ten batches processed concurrently in FG-Marine during each calendar day. AkzoNobel does not anticipate that they will ever run 10 batches concurrently. They do not maintain these records. In the event that AkzoNobel begins processing 10 batches concurrently, these records will need to be maintained.

Section VI – SC 7: States that the permittee shall maintain records of the total weight of material charged in FG-Marine. These records are maintained. The total weight of each batch is recorded in a spreadsheet.

Section VI – SC 8 (a through ee): States that the permittee shall maintain records, in each batch, of the maximum concentration by weight of 31 different air toxics. These records are maintained. AkzoNobel maintains a spreadsheet tab for each air toxic. In these spreadsheets, each air toxic is broken down into every possible formulation that particular air toxic is used in. The maximum concentration of each air toxic is listed next to the corresponding coating formulation.

Section VI – SC 9 (a through ii): Specifies recordkeeping requirements for 35 different air toxics. Each toxic has its own specific averaging time. Averaging times range from 1 hour, 8 hours, to 12-month rolling limits. AkzoNobel maintains the 1 hour and 8 hour averages for the applicable air toxics. 12-month rolling records will be evaluated after FG-Marine has operated for 12-months.

Section VIII – Specifies required stack dimensions. I did not verify stack dimensions during this inspection. Stacks appeared to be discharged unobstructed vertically upwards to the ambient air.

Compliance Determination

This facility appears to be in compliance with the requirements of the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451); Michigan Department of Environment, Great Lakes, and Energy-Air Quality Division (EGLE-AQD) Administrative Rules; and Permit to Install Nos. 184-06 and 165-19.

NAME Adam Bognar DATE 9/25/2020 SUPERVISOR Sebastian Kallemkal