N8308
MAW12

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

N830830118

FACILITY: ALCO-NVC INC		**SRN / ID:** N8308
LOCATION: 580 SAINT JEAN ST, DETROIT		**DISTRICT:** Detroit
CITY: DETROIT		**COUNTY:** WAYNE
CONTACT: Jack Preston , Plant Manager		**ACTIVITY DATE:** 07/08/2015
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MINOR
SUBJECT: Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: Jack Preston, Plant Manager
FACILITY PHONE NUMBER: (313) 823-7500
FACILITY FAX NUMBER: (313) 331-4726
FACILITY WEBSITE: www.alco-products.com

FACILITY BACKGROUND

ALCO Products, LLC (ALCO), a manufacturer of commercial roof coatings and ice/water protectors, is located in a 100,000 square foot (ft^2) facility at 580 St. Jean, Detroit, Michigan. The facility is surrounded by industrial and commercial property on all sides. The nearest residential properties are located approximately 900 feet to the west. The facility currently has 20 full time employees, and operates two 10 hour shifts (8 PM to 7 AM and 7 AM to 5:30 PM), 5 days a week.

The facility is subject to 40 Code of Federal Regulations (CFR) Part 60 Subpart UU - Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture. Facility operations are exempt from State of Michigan Permit to Install (PTI) requirements.

PROCESS OVERVIEW

ALCO produces roofing materials (roof coatings, cements, SBS adhesives, aluminum coatings, below-grad damp proofings, concrete sealers, ice and water protectors, and expansion joints). The primary production at the facility consists of production of "peel and stick" rubberized roof coating sheets (for use in ice and water protectors). The peel and stick rubberized roof membrane is applied to a roofing surface beneath shingles to prevent moisture movement and penetration. Within the "sheeting line" a 36 inch fiberglass mat is pulled through a series of rollers and into an asphalt dip tank where an asphalt coating is applied. As the mat progresses over a cooling roller, a polypropylene release film is applied as a backing material. The mat progresses to a mineral application station where black granules (sand) are applied to provide surface composition. The sand is stored in a roof mounted silo from which the sand flows down into a distribution hopper. The product is then pulled over a series of cooling rollers to cure the asphalt and through a looper and cutting machine. Employees remove the product, which is approximately 55 millimeters thick, from the looper machine and package the product into boxes for delivery.

In addition to the "sheeting line" the facility operates on a limited basis up to 5 mixers that are used to make various asphalt coatings, cements, mastics, primers, and adhesives. Material is hand fed into the mixers. Each mixer is equipped with a small baghouse, which is vented to the general in-plant environment. Mixed asphalt coatings are hand fed into 5 gallon buckets for shipment.

Equipment associated with the manufacturing process includes the following.

- Eight 20,000 gallon asphalt or solvent storage tanks
- One 20,000 gallon heated asphalt storage tank equipped with a 1 million British thermal unit (MMBtu) fired tube heater
- Two 5,000 gallon asphalt emulsion storage tanks
- 1.3 MMBtu oil heater
- 2.5 MMBtu oil heater
- Five mixing stations, each with associated baghouse that vents to the general in-plant environment.

COMPLAINT/COMPLIANCE HISTORY

On August 9, 2013 a complaint was received for this facility regarding opacity and a strong sulfur type odor. As result a complaint investigation was conducted later the same day. During the complaint investigation, odors and opacity were not observed.

On September 2, 2009, an inspection was conducted in conjunction with a stack test. At that time, the facility was found to be in compliance.

OUTSTANDING CONSENT ORDERS

None

OUTSTANDING VIOLATION NOTICES

None

INSPECTION NARRATIVE

On July 8, 2015 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted a level 2 unannounced inspection of ALCO at 580 St. Jean, Detroit, Michigan. During the inspection, Mr. Jack Preston, Plant Manager provided information and a tour of facility operations relating to air quality permits and regulations. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55.

At 1:30 PM, AQD arrived onsite and performed outside observations. No visible emissions were observed at the facility. A light level 1 asphalt odor was detected in the court of Old St. Jean, on the west side of the facility. In the southern parking lot, a light intermittent (level 1) chemical odor was detected. At 1:45 PM AQD entered the facility, stated the purpose for the inspection, and was greeted by Mr. Preston. During the opening meeting the facility operations and PTI exemptions, 40 CFR Part 60, Subpart UU, Michigan Air Emissions Reporting System (MAERS), and record keeping requirements were discussed. During the meeting, Mr. Preston was informed that ALCO is subject to Category II fees because the facility is subject to 40 CFR Part 60, Subpart UU. Mr. Preston was provided with a copy of the MAERS User Guide and Workbook, Rule 290 Permit Exemption Guidance, and a copy of the 40 CFR Part 60, Subpart UU.

Following the opening meeting, a tour of the facility was conducted. The tour began with observation of the eight, 20,000 gallon vertical asphalt or solvent storage tanks located on the south side of the facility. According to Mr. Preston, the tanks have the capability to be heated through oil heated coils in the bottom of each tank. The oil is heated by an oil heater located inside the facility building. The asphalt storage tanks are usually only heated during winter months. During that time the asphalt can be heated to up to 390 degrees Fahrenheit (°F) Additionally according to Mr. Preston, one of the tanks used to store a solvent/mineral spirit. The safety data sheet (SDS) for the mineral spirit was provided in an email submittal on July 20, 2015. Additionally, two 5,000 gallon asphalt emulsion storage tanks were observed. According to Mr. Preston, both types of storage tanks (20,000 gallons and 5,000 gallons) do not have any control (e.g. vapor condensation and recovery system or equivalent).

In addition to the vertical storage tanks, a 20,000 gallon horizontal fire tube asphalt storage tank was observed. During the inspection the plate on the fire tube heater indicated 1,000,000 Btu per hour capacity and was manufactured by Eclipse. The heater in the tank heats using indirect heat. Emissions from the heated asphalt tank are vented through a short stack adjacent to the storage tank (see stack test report dated October 1, 2009).

The inspection continued to inside the facility where the sheeting line was observed. The sheeting line was in operation at the time of inspection. See "process overview" above for a description of the sheeting line. During the inspection, the ductwork controlling dust was in place, but the working area appeared very dusty (a slight haze in the worker area). During the inspection the cartridge type dust collector (United Air Specialist, Inc. SCF8-2) servicing the sheeting line was observed. The magnehelic gauge for the dust collector was "pegged out" indicating that servicing was required. Mr. Preston stated that the cartridges needed to be changed out. It was recommended that the cartridges be changed as soon as possible. This will allow the system to operate with an increased negative pressure (draw) and therefore minimizing dust in the worker area.

The inspection concluded with observation of the warehousing and storage areas, and mixing stations. The facility has five mixing stations that are used to mix different asphalt coating products. During the inspection the mixers were not in operation. According to Mr. Preston, the materials are hand feed into the mixers. After the material is mixed, the mixture is hand feed into 5 gallon buckets for shipment. According to Mr. Preston, this portion of the business is used maybe once per week. The primary operations at ALCO is the sheeting line described above.

Following the inspection a closing meeting was held. Mr. Zynda stated that Rule 290 permit to install exemption records were required for the sheeting line. An email was sent to the Mr. Preston on July 10, 2015 requesting several items to demonstrate compliance with Michigan air quality Rules.

On July 13, 2015, Mr. Weimar King, Chemist, contacted AQD to notify that he would be the point of contact for all records required to demonstrate compliance and for future MAERS submittals. Mr. King provided an email from AQD (Mr. Lee Varner, now retired) indicating that the company is not subject to 40 CFR Part 60, Subpart UU as the equipment was installed prior to November 18, 1980. However, upon further review, Mr. King could not provide documentation on the installation date of the sheeting line. Mr. King believes that based on the installation dates of the storage tanks at the facility, that the sheeting line was installed sometime after November 19, 1980. In correspondence dated July 20, 2015, Mr. King states that the sheeting line was installed during the fall of 1997. On July 17, 2015, Mr. King provided the Rule 290 records. The correspondence is attached to this report.

APPLICABLE RULES/PERMIT CONDITIONS

40 CFR Part 60, Subpart UU – Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture – **COMPLIANCE** – The "sheeting line" is subject to Subpart UU.

- §60.472(a)(1) – **IN COMPLIANCE** – Shall not discharge particulate matter (PM) in excess of 0.04 kg/Mg (0.08 pound per ton [lb/ton]). Testing conducted on September 2, 2009 indicates that PM emissions are 0.01 lb/ton.
- §60.472(a)(2) – **IN COMPLIANCE** – Exhaust gases shall not be greater than 20% opacity. Testing conducted on September 2, 2009 indicate an opacity from the SFC8-2 dust collector of 0%. During the inspection on July 8, 2015 opacity was 0%.
- §60.472(a)(3) – **IN COMPLIANCE** - Any visible emissions from a saturator capture system for more than 20% of any period of consecutive valid observations totaling 60 minutes. Testing conducted on September 2, 2009 indicate an opacity from the SFC8-2 dust collector of 0%. During the inspection on July 8, 2015 opacity was 0%.
- §60.472(c) – **IN COMPLIANCE** – Opacity shall not be greater than 0 % from asphalt storage tanks. Testing conducted on September 2, 2009 indicate an opacity from the horizontal heated asphalt storage tank of 0%. During the inspection on July 8, 2015 opacity was 0% from all asphalt storage tanks.
- §60.472(d) – **IN COMPLIANCE** – Opacity shall not be greater than 1% from mineral handling and storage. During the inspection on July 8, 2015 opacity was 0%.
- §60.473(c) – **IN COMPLIANCE** – Using a device not mentioned in this subpart, shall indicate process parameters which indicate proper operation and maintenance of the device. The facility monitors proper operation of the dust collector SCF8-2 through a magnehelic gauge. However during the in the inspection the gauge was "pegged out" indicating that the cartridges need to be replaced. At the time of inspection, Mr. Preston stated that the cartridges will be replaced. It was recommended that the cartridges be changed as soon as possible. This will allow the system to operate with an increased negative pressure (draw) and therefore minimizing dust in the worker area. The result of the cartridges needing replacement, does not appear to impact emissions to ambient air, but is rather a worker safety issue of not moving dust material from a worker breathing zone.

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 - **NOT APPLICABLE** - 40 CFR Part 60, Subpart Kb does not apply to "storage vessels with a capacity greater than or equal to 75 cubic meter (m^3) [19812.9 gallons] but less than 151 m^3 [39,890 gallons] storing a liquid with a maximum true vapor pressure less than 15.0 kPa". According to information provided by ALCO (see SDS attached to this report), the vapor pressure of the solvent (Distillates [Petroleum] Hydrotreated Light) stored in a 20,000 gallon storage tank is 0.03 to 0.06 kPa. The other solvent stored at the facility (Solvent S100) has a vapor pressure of approximately 0.8 kPa. The facility was not able to provide the actual vapor

pressure of asphalt stored onsite. The SDS provided for ACI Asphalts (see attached), indicate a vapor pressure of 0.0 millimeters of mercury (mmHg) at 20 degrees Celsius (°C). It assumed that the vapor pressure is less than 15.0 kPa at actual heated storage conditions because the vapor pressure at 20°C is negligible. Additionally, a United States Environmental Protection Agency (USEPA) Applicability Determination Index (Control Number 9700029) indicates that it is more than likely that an asphalt storage tank would not be subject to Subpart Kb as the vapor pressure is "very low" (see attached documentation). Additionally, the calculated vapor pressure using storage temperature of 390 °F and regression relationships from "Estimates of Air Emissions from Asphalt Storage Tanks and Truck Loading" (Trumbore, David C., Winter 1999. Environmental Progress, Vol. 18 No. 4, 250-259) indicate a vapor pressure of 3.83 kPa or 0.56 psi (see attached calculations).

40 CFR Part 63, Subpart AAAAAAA – National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing – **NOT EVALUATED** - ALCO appears to be subject to this regulation. However, the AQD currently is not the delegated authority for this regulation. Therefore, Subpart AAAAAAA was not evaluated for compliance. On July 15, 2015, ALCO was emailed a copy of Subpart AAAAAAA, and was informed that operations may be subject to this regulation (see attached correspondence).

Permit to Install Exempt Equipment

Oil Heaters (1.3 and 2.5 MMBtu) and Heated Asphalt Storage Tank Heater (1 MMBtu)
The oil heaters and heated asphalt storage tank heater are exempt from permit to install (PTI) requirements under the following Rule.

R336.1282(b)(i): "Permit to install does not apply to...fuel-burning equipment which is used for...indirect heating and which only burns the following fuels: sweet natural gas and equipment has a rated heat input capacity of not more than 50,000,000 Btu per hour."

Asphalt and Solvent Storage Tanks
The asphalt and solvent storage at the facility are exempt from PTI requirements under the following Rule.

R336.1284(i): "The requirement to obtain a PTI does not apply to... Storage or transfer operations of volatile organic compounds or noncarcinogenic liquids in a vessel that has a capacity of not more than 40,000 gallons where the contents have a true vapor pressure of not more than 1.5 psia at the actual storage conditions".

According to information provided by ALCO (see SDS attached to this report), the vapor pressure of the solvent (Distillates [Petroleum] Hydrotreated Light) stored in a 20,000 gallon storage tank is 0.03 to 0.06 kPa (0.004 to 0.009 psi). Solvent S100 used at the facility has a vapor pressure of approximately 0.8 kPa (0.116 psi).

The facility was not able to provide the vapor pressure of asphalt stored onsite. However, it assumed that the vapor pressure is less than 1.5 psia at actual storage conditions. The SDS provided for ACI Asphalts (see attached), indicate a vapor pressure of 0.0 mmHg at 20°C. The calculated vapor pressure using storage temperature of 390 °F and regression relationships from "Estimates of Air Emissions from Asphalt Storage Tanks and Truck Loading" (Trumbore, David C., Winter 1999. Environmental Progress, Vol. 18 No. 4, 250-259) indicate a vapor pressure of 3.83 kPa or 0.56 psi (see attached calculations).

Sheeting Line and Mixing Stations
The sheeting line and mixing stations at the facility appear to be exempt from PTI requirement under Rule 290. The facility provided Rule 290 records, however, it is unknown if all constituents of asphalt are properly reported. According to the SDS provided, asphalt used at the facility contains trace components (less than 0.1%) of potential carcinogens, reproductive toxins, respiratory mutagens, and sensitizers. If the asphalt used at the facility contains benzo[a]pyrene (IRSL – 0.0005 µg/m^3), Rule 290 as currently written would not be applicable to either the sheeting line or mixing stations. It is unknown which additional components are contained in the asphalt used. The facility and manufacturer of the asphalt (A.C.I. – Asphalt Cutbacks Inc.) could not identify the additional components that make up the 0.1%.

The Michigan Administrative Code is currently under proposed revision. Within the revision, it is believed that the sheeting line and mixing stations will be exempt under the Rule 284(i) revision below.

> "Storage, **mixing, blending,** or transfer operations of volatile organic compounds or noncarcinogenic liquids in a vessel that has a capacity of not more than 40,000 gallons where the contents have a true vapor pressure of not more than 1.5 psia at the actual storage conditions."

At this time, AQD accepts the Rule 290 exemption, with the consideration that Rule 284(i) may apply in the future.

APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:

Not applicable.

MAERS REPORT REVIEW:

The facility has not previously reported emissions to MAERS. ALCO has been notified that going forward the company will be required to report emissions to MAERS and are also subject to Category II fees.

FINAL COMPLIANCE DETERMINATION:

At this time, this facility appears to be in compliance with applicable federal and state air quality regulations. The company has been notified that going forward they are required to report emissions and are also subject to Category II fees. Additionally, the facility has been notified that operations appear to be subject to 40 CFR Part 63, Subpart AAAAAAA. It is recommended that the company properly document the components of asphalt to demonstrate compliance with Rule 290. Future evaluation of Rule 290 applicability should be conducted after the Rule revision is made final.

NAME _____ DATE 8/17/15 SUPERVISOR JK