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

N565639555

FACILITY: NYLOK LLC		**SRN / ID:** N5656
LOCATION: 15260 HALLMARK Court, MACOMB		**DISTRICT:** Southeast Michigan
CITY: MACOMB		**COUNTY:** MACOMB
CONTACT: Martin Lewis , Business Unit Manager		**ACTIVITY DATE:** 03/30/2017
STAFF: Samuel Liveson	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled inspection of a Title V source.		
RESOLVED COMPLAINTS:		

On March 30, 2017, I conducted an unannounced, scheduled, level 2 inspection of Nylok LLC (Nylok), located at 15260 Hallmark Court in Macomb, Michigan. The purpose of this inspection was to determine the facility's compliance with the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the Air Pollution Control Rules; Renewable Operating Permit (ROP) No. MI-ROP-N5656-2015a; Consent Order (CO) AQD No. 44-2014; CO AQD No. 28-2015; and 40 CFR Part 63 Subpart MMMM – National Emissions Standard for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR Part 63 Subpart MMMM).

I arrived on site around 8:50 AM. I met with Mr. Martin Lewis, Business Unit Manager, and with Mr. Faraz Mirza, Manufacturing Process Engineer. Mr. Lewis provided a walkthrough of facility and Mr. Mirza explained facility recordkeeping. On April 10, I received additional records via email.

History

Nylok is a Title V major source because the facility exceeded the major source threshold of 10 tons per year (TPY) for a single hazardous air pollutant (HAP) in August of 2012 for toluene. The facility received its ROP on May 4, 2015. The facility received consent order (CO) AQD No. 28-2015 on October 13, 2015 because the facility exceed the emission rate of 2.6 pounds (lbs) HAP per gallon of coating solids for its initial compliance period per §63.3890(b)(1). As a result of the exceedance, the facility agreed to a Schedule of Compliance in its ROP which included construction of a regenerative thermal oxidizer (RTO) to limit HAP emissions. According to Ms. Rachel McLeod of the Air Quality Division (MDEQ-AQD) Enforcement Unit, both COs appear to be active. Page 1 of CO No. 28-2015 states, "In the event that there is a conflict in the terms of Consent Order No. 44-2014 and Consent Order No. 28-2015, the terms of Consent Order No. 28-2015 apply."

The facility conducted stack testing on its RTO and permanent total enclosure (PTE) on January 19, 2016. 12-month rolling records appear to show the facility below its emission limit of 2.6 lbs HAP per gallon of coating solids based on a 12-month rolling time period as required in FG-MACT MMMM Special Condition (S.C.) I.1 beginning in January of 2017.

Opening Meeting

Nylok is involved in the coating of fasteners for anti-galvanic corrosion and to enhance fastener lockability. The company operates two 12-hour shifts Monday through Friday with overflow Saturday. The facility coats externally threaded fasteners (bolts) and internally threaded fasteners (nuts). Coatings can be solvent or powder. Powder coating provides a nylon layer that prevents galvanic corrosion. Solvent coating provides a locking mechanism to keep bolts in place during vibration.

Facility Changes

- EU-DS1, the dip spin coating line, has been removed.
- On April 20, 2017, the MDEQ-AQD received a Permit-to-Install (PTI) application from Nylok for a new coating line.

Facility Walk-Through

EU-MIXING

This mixing unit is on site but not used. Mixing occurs at an offsite facility. EU-MIXING serves as backup if the offsite facility were unable to provide services. The room is explosion-proof, and outside of the facility PTE. Unopened, sealed chemicals and drums of toluene are stored in the room. A red spill container is stored in this room for spill cleanup. According to Mr. Lewis, spills are reported and minimized.

Because no mixing containers are in use, S.C. IV.1 and IV.2 do not apply. I did not ask for monthly volatile organic compound (VOC) emission records per S.C. VI.1 through VI.3 because mixing has not occurred in approximately four years.

From outside, Mr. Lewis pointed out stack SV-03 for the mixing room. The stack appeared to have a no-loss rain sleeve to discharge unobstructed vertically, and it appeared to have a diameter less than 16 inches per S.C. VIII.1. We did not observe stacks SV-01 and SV-02 while outside the facility.

FGCOATINGLINE

This flexible group consists of fourteen coating lines that may use HAP-containing coatings. Most of these coating lines apply a strip of solvent coating to bolts to provide a locking mechanism. Solvent is dried using electric induction. EUDS1 is no longer on site.

Mr. Lewis pointed out several coating containers in use along several coating lines. The containers were several gallons in size, each with a closed lid. Additionally, Mr. Lewis showed me a storage container for waste which was closed per §63.3893(b)(1). On site I reviewed a Manifest of Disposal which appeared to indicate that waste is disposed in an acceptable manner per FGCOATINGLINE S.C. III.1.

Per S.C. V.1, if Nylok receives notification from the MDEQ, the facility shall use federal Reference Test Method 24 to determine VOC content. At this time, MDEQ has not notified Nylok to determine VOC content for all coatings using Method 24. According to Ms. Mello, the facility has determined the VOC content of Precote-80 and Precote-85 via Method 24. For other coatings, VOC is determined from material safety datasheets (MSDS). The VOC emissions from all coating lines are limited to 30 tons per year. Therefore the facility is not subject to the requirements of Rule 621.

FG-MACT MMMM

The fourteen liquid coating lines in MI-ROP-N5656-2015a are subject to 40 CFR Part 63 Subpart MMMM. The facility appears to be an existing source per §63.3981 because it commenced construction before August 13, 2002. Since May of 2016, Nylok has determined its emission rate via the Emission Rate With Add-On Controls Option per S.C. I.2.c.

The facility RTO has two chambers and is natural gas fired. The average inlet flowrate during stack testing was 16,347 scfm (standard cubic feet per minute). I observed that the RTO was operating on site per FG-MACT MMMM S.C. IV.1. I noted the following data from the RTO during my facility inspection per S.C. VI.4(a) for the thermal oxidizer, and S.C. VI.4(c) for the PTE.

RTO/PTE Instantaneous Parameters	
Temperature	1621 °F
Pressure	-0.01 inches WC

Mr. Lewis showed me that the RTO temperature set point is 1600 °F. During the facility stack test, the temperature set point was 1550 °F. Mr. Lewis explained that the facility increased the RTO temperature set point in order to maintain a 3-hour average at or above the established temperature limit per FG-MACT MMMM S.C. VI.4.iii.

The following liquid coating lines were verified inside the facility permanent total enclosure (PTE): EUPR5, EUPR6, EUPR7, EUPR8, EUPR9, EUPR10, EUPRB1, and EUPRN3. The following liquid coating lines are outside the PTE: EUNTQ1, EUPB3, EUWN3, EUWN9, and EUHDN1. Lines outside the PTE appear to use either Nytorq or a water-based coating. Nytorq is a wax-based lubricant diluted with water, and does not contain HAPs per its safety datasheet and facility records. Per §63.3961(a), it appears that a facility may include both controlled and uncontrolled coating operations in a group for which they use the Emission Rate With Add-On Controls Option. According to facility records, no liquid coatings containing HAPs have been used on coating lines outside of the facility PTE since the facility began taking credit for the add-on control in May of 2016. Looking at facility records, 97.7% of HAPs have been controlled, which equals the RTO destruction efficiency. MDEQ-AQD also observed powder coating lines NYBLT3, PB1, and PB4 outside the facility PTE. In 2016, MDEQ-AQD collected the MSDS of the most-used powder coating on site, which contains no HAPs. These coating lines where the facility uses no HAPs appear to be exempt from 40 CFR Part 63 Subpart MMMM per §63.3881(c)(1).

At this time, the RTO does not have a bypass line per §63.3968(b) according to Mr. Lewis.

According to Mr. Lewis, thermocouple accuracy is audited semi-annually. I asked Mr. Lewis to audit thermocouple accuracy quarterly per §63.3968(c)(3)(iv).

Recordkeeping

VOC Emissions

On April 10, Mr. Lewis provided monthly and 12-month rolling VOC emission records via email from January of 2016 through February of 2017 per FGCOATINGLINE S.C. VI.1 and 3. Emissions calculations were provided in protected Microsoft Excel spreadsheets. Nylok does not take RTO control credit for VOC emissions.

The highest 12-month rolling VOC emissions were 21.17 tons in January of 2017, which is below the facility limit of 30.0 tons per 12-month rolling time period per FGCOATINGLINE S.C. I.3. The highest 12-month rolling VOC emissions from an individual coating line were 4.89 tons VOC in February of 2017. This is below the facility limit of 10 tons per 12-month rolling time period per FGCOATINGLINE S.C. I.2. The most pounds of VOC used per month was 1,110.79 on line EUPR8 in October of 2016, which is below the emission limit of 2000 lb/month per FGCOATINGLINE S.C. I.1.

Mr. Mirza discussed the facility recordkeeping process with me for VOC emissions per coating line. To track VOC lbs/month and tons per year for each coating line in FGCOATINGLINE, Nylok keeps inventory of what parts are coated on what coating line, and the diameter of those parts. Nylok then takes inventory of coating usage for all coating lines monthly. Based on part diameter and coating used for each coating line, Nylok determines how much coating was used at each coating line. Mr. Mirza provided a handwritten example inventory count sheet for the end of February 2017.

HAP Emissions
On April 10, Mr. Lewis provided 12-month rolling HAP emission calculations via email from January of 2016 through February of 2017 per FG-MACT MMMM S.C. VI.2 and VI.3.f. HAP emissions calculations were provided in protected Microsoft Excel spreadsheets.

Since May of 2016, Nylok has calculated HAP emissions for 40 CFR Part 63 Subpart MMMM using the add-on controls method per §63.3891(c), as shown in facility records per S.C. VI.3.c. Since then, the facility 12-month rolling HAP emissions have decreased each month as controlled months are added to their 12-month rolling time period, and uncontrolled months are removed. In January of 2017, 12-month rolling HAP emissions were 2.34 lbs organic hazardous air pollutant (HAP) per gallon of coating solids, which is in compliance with the facility HAP emission limit of 2.6 lbs organic HAP per gallon of coating solids used per 12-month rolling time period per S.C. VI.7. January of 2017 was the first month Nylok was in compliance with emission limit S.C. I.1 in FG-MACT MMMM since Nylok began tracking HAP emissions. February 2017 HAP emissions were 1.58 lbs organic HAP per gallon of coating solids per 12 month rolling time period.

HAP emissions spreadsheets include mass fraction of organic HAP in each material per FG-MACT MMMM S.C. VI.3.h, the volume fraction of coating solids per S.C. VI.3.i, and the coating density per S.C. VI.3.j. 2016 and 2017 records indicate the facility does not take an allowance for organic HAP contained in waste materials sent to a treatment, storage, and disposal facility per S.C. VI.3.k.

SDS
Mr. Lewis provided the facility safety datasheet (SDS) for a common liquid coating (3M Fastener Adhesive 2353 Blue), and the SDS for Nytorq and Nytorq Yellow per FG-COATINGLINE S.C. VI.1 and FG-MACT MMMM S.C. VI.3(b). The 2353 Blue HAP content of 38% by weight is reflected in facility HAP records per FG-MACTMMMM S.C. VI.3(h). The VOC content for 2353 Blue is based upon this 38% HAP content by weight, which appears conservative because the SDS states that 2353 Blue is 37% volatile by weight. VOC contents of Nytorq and Nytorq Yellow are calculated based on the weight percentage of isopropyl alcohol in each coating, which is up to 5%. These VOC contents are reflected in facility records.

Continuous Parameter Monitoring Records
Sample temperature records provided by Nylok for March 28 through March 30 appear to show average temperatures around 1600 °F per FG-MACT MMMM S.C. VI.4(iii). I did not request records of PTE negative pressure besides observing the instantaneous pressure of -0.01 inches W.C. during the facility inspection.

Work Practice Plan and Startup, Shutdown, and Malfunction Abatement Plan
The facility provided its Work Practice Plan per FG-MACT MMMM S.C. III.2, which appears to address practices and procedures identified in S.C. III.2(a)-(e). The facility also provided its Startup, Shutdown, and Malfunction Abatement Plan (SSMP) per S.C. III.3. The SSMP appears to address startup, shutdown and corrective actions in the event of a malfunction of the emission capture system and add-on control device. According to the facility deviation report for 2016, the facility has remained in compliance with these plans per S.C. III.4 and 5.

FG-COLD CLEANERS
According to Mr. Lewis and from the site walkthrough, there are no cold cleaners at the facility. The one cold cleaner that was previously on site has been removed.

Parts Washer

The facility has one natural-gas heated conveyorized parts washer on site. The parts washer has a stack leading to ambient air. In 2016, Mr. Lewis provided the MSDS of the two solutions used in the parts washer. This parts washer appears to be exempt from obtaining a Permit to Install per R 290(2)(a)(i). Because the parts washer contains no organic HAPs, it appears to be exempt from 40 CFR Part 63 Subpart MMMM per §63.3881(c)(1). I did not request cleaning solvent usage records during the 2017 facility inspection.

Conclusion

Based on the AQD inspection and records review, it appears that Nylok is in compliance with the federal Clean Air Act; Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended; the Air Pollution Control Rules; Renewable Operating Permit (ROP) No. MI-ROP-N5656-2015a; Consent Order (CO) AQD No. 44-2014; CO AQD No. 28-2015; and 40 CFR Part 63 Subpart MMMM.

NAME _____ DATE 5/12/17 SUPERVISOR SK