M4777
MANUAL

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

M477738418

FACILITY: BASF CORP		**SRN / ID:** M4777
LOCATION: 1609 BIDDLE AVE, WYANDOTTE		**DISTRICT:** Detroit
CITY: WYANDOTTE		**COUNTY:** WAYNE
CONTACT: Tom Wharton , EHS Specialist		**ACTIVITY DATE:** 01/17/2017
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Scheduled Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: Bryan Hughes, EHS Team Leader; Tom Wharton, EHS Specialist; Nick Martin, EPC EHS; Barry Kish, EPC Engineering Technician; Ken Slowik, Cellasto Plant EHS
FACILITY PHONE NUMBER: (734) 324-5042
FACILITY WEBSITE: www.basf.com

FACILITY BACKGROUND

BASF Corporation (BASF) is located in Wyandotte, Michigan on the east side of Biddle Avenue, along the Detroit River, between Goddard Road and Ford Road in a primarily industrial setting. A mixture of commercial and residential areas is located immediately to the west across Biddle Avenue.

BASF's Wyandotte operations comprise three separate stationary sources: (1) chemical production plants with a Standard Industrial Classification (SIC) major grouping of 28 and identified as State Registration Number (SRN) B4359; (2) plastics production plants with an SIC major grouping of 30 and identified as SRN M4777; (3) laboratory and research operations with an SIC major grouping of 87 and identified as SRN M4808.

The Plastics Plants stationary source, M4777, the subject of this report, comprises the Engineering Plastics Compounding (EPC) Operations and the Cellasto Plant.

PROCESS OVERVIEW

The EPC Operations produces plastic pellets from seven extruder lines. Solid raw materials (filler, fiberglass, nylon, pigment) are poured from supersacs into mixing vessels which are then fed into the extruder hoppers. The solids are melted into semi-solids under heat and extruded into thin wires which are cooled to harden, cut into pellets, and packaged. Material handling and hopper charging operations are controlled by dust collectors. Vapors from the extruders are controlled by water scrubbers. EPC is divided into two sub-plants, EPC II and EPC III, each operating with its own extruders, dust collectors, and scrubber.

The Cellasto plant manufactures automobile suspension parts by curing a mixture of polyol and diisocyanate with catalysts/inhibitors. Polyol and diisocyanate are initially reacted under heat into a prepolymer in one of five reactors. The prepolymer is dosed with an initiator into a heated mold and a urethane plastic is produced. The plastics are cured in ovens and shaken ("deburred") to remove imperfections. Storage vessels and reactor vessels are controlled by carbon adsorption units. Curing oven emissions are controlled by demisters (called scrubbers by the plant). Deburring machines are controlled with knock out boxes and mesh filters (filter socks).

COMPLAINT/COMPLIANCE HISTORY

There have been no recent complaints for this facility.

On June 17, 2014 a violation notice was issued to BASF Plastics for failure to submit a renewal application to MI -ROP-M4777-2009 by the June 10, 2014 deadline. As a result, Consent Order No. 47-2014 (effective date October 2, 2014) was issued.

INSPECTION NARRATIVE

On January 17, 2017 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted an inspection of BASF Plastics Plants at 1609 Biddle Avenue, Wyandotte, Michigan. During the inspection, Mr. Brian Hughes, EHS Team Leader, Mr. Tom Wharton, EHS Specialist, Nick Martin, EPC EHS, Barry Kish, EPC Engineering Technician, Ken Slowik, Cellasto Plant EHS, and provided information and a tour of facility operations relating to air quality permits. The inspection was conducted to determine the facility's compliance with the Natural Resources and Environmental Protection Act (NREPA), Act 451, Part 55, and ROP No. MI-ROP-M4777-2015.

At 8:30 AM, Mr. Todd Zynda (AQD) arrived onsite and was greeted by Mr. Wharton. Prior to the inspection a visitor pass was obtained at the administration building.

During the opening meeting the BASF operations and MI-ROP-M4777-2015 conditions were discussed. Mr. Wharton had previously provided inspection records on December 6, 2016. It was requested that updated records be provided through December 2016. Records were provided via email on January 26, 2017.

Following the opening meeting, inspection of the EPC Plant and Cellasto Plant was conducted. The inspection of the Plastics Plants was conducted in conjunction with inspection of Thermoplastic Urethane Synthesis Manufacturing Plant (B4359), Labs and Application Centers (M4808), and the Steam Plant emergency generator (B4359).

EPC Plant

The EPC Plant was visited from approximately 1:40 PM to 2:30 PM. During the inspection, Mr. Nick Martin and Mr. Barry Kish provided information and a tour of the EPC Plant. The inspection began with observation of EPC II. According to previous inspections, EPC II was installed in 1992, while EPC III was installed in 1999. EPC II operates extruder lines 4, 5, and 6, while EPC III operates extruder lines 7, 8, 9, and 10.

During the inspection, the EPC material staging area, extruder lines, and pollution control equipment was observed. The EPC II water scrubber, which controls vapors from the extruding lines, was operating at 245 liters per minute. The extruders within EPC II use material that is mixed prior to entering the extruder. EPC II's dust collectors filter particulate emissions when raw materials are blown in to the mixers from the hopper (filler) and storage silos (nylon). Mixed material also includes copper, fiberglass, talcum powder, and coloring. EPC II dust collectors are located on the roof of the building and were observed during the inspection. Dust collector F-1040Z-3 services line 4, F-1040Z-4 services line 5, and F-1040Z-2 services line 6. The fourth dust collector (F-405Z-1) draws on the mixers to filter a combined flue. In addition, the four dust collectors are also equipped with secondary filter after the exhaust from the primary dust collector. This secondary filter provides a backup control in case of a dust collector malfunction. During the inspection none of the collectors registered an identifiable pressure drop.

Following observation of the EPC II, EPC III was observed. In EPC III, dust collectors are housed in a single room on the ground floor. These pulse-jet baghouses with circular filters are not equipped with pressure drop gauges; the casings are opened and the filters cleaned and inspected according to a schedule. These filters were observed during the inspection. The filter room and the filters themselves were clean; there is no other visual gauge to determine if the filters are operating properly. The stacks for the filters, are directed into a rectangular structure equipped with baffles. The structure is designed to reduce the noise generated from the exhaust; emissions are now exhausted at the bottom of the rectangular structure near to ground level.

The venturi water scrubber servicing EPC III is located in a room on the ground floor. The scrubber continually runs at a set flow and there are not any gauges observable measuring the flowrate. The EPC III stack vents out the east wall of the EPC building. No odors were observed from the EPC III venturi scrubber area during the inspection. According to past inspection reports, the EPC III scrubber was the cause of a confirmed odor event in 2002.

Storage silos are located outside along the southern end of the plant. Fabric filters are installed on the top of each silo to filter particulate entrained in air displaced when filling. The filters on top of these silos were not inspected during the site visit. According to Mr. Kish, the filters on each silo are inspected once a year.

The EPC oven was also observed during the inspection. The natural gas oven, which operates at 1600 degrees Fahrenheit (°F) and is equipped with an afterburner, is operated approximately once a week. The oven is used

to clean die plates for extruders and other equipment associated with the extruders. The oven was not in use during the inspection.

During the inspection, the cold cleaner located in the "oil storage shed" was observed. The cold cleaner is equipped with a manual lid. Operation instructions were posted in a conspicuous location near the cold cleaner. The solvent is not heated or agitated.

Cellasto Plant

The Cellasto Plant was visited from approximately 12:30 PM to 1:30 PM. During the inspection, Mr. Ken Slowik, Cellasto EHS, and Mr. Tom Wharton, EHS Specialist provided information and a tour of the Cellasto Plant.

The inspection of the Cellasto Plant began in the north and south reactor rooms. The north reactor room contains three reactors (EUELAREACTOR210, 220, and 230), while the south reactor room contains two reactors (EUELAREACTOR240 and 250). The plant operates the five reactors for the combination of polyol, diisocyanate, and catalysts/inhibitors. Each reactor is operated with a vacuum pump and a carbon adsorption unit for volatile organic compound (VOC) control.

During the previous inspection on February 25, 2015 (see MACES report CA_M477728626), there was an issue with naphthalene diisocyanate (NDI) levels being greater than the permissible exposure limit (PEL) in the reactor rooms. As a result, the facility installed a glove box for NDI transfer and also installed a ventilation system to control the addition of NDI to the reactors. Any potential dust created during NDI transfer or addition to the reactors is vented to two dust collectors located on the north side of the Cellasto building. Previously any dust generated during NDI transfer/addition activities were released to the general in-plant environment. According to Mr. Slowik, the ventilation control system and dust collectors were installed during late 2015. The facility claims the dry material handling of NDI which is controlled by the new dust collectors is exempt from PTI requirements per Rule 290.

During the inspection the carbon adsorption units in the reactor rooms were inspected. Transparent carbon-filled sleeves are installed on the top of each adsorption unit as a color gauge. The carbon is initially purple in color and turns brown as the carbon in the drum is exhausted. These sleeves were inspected and observed colored purple, indicating that the carbon was newer.

During the inspection, Mr. Slowik explained the transfer of the reacted material to the mold lines. Liquid product is drawn from the bottom of the reactor and piped to transport vessels; air displaced during filling is vented uncontrolled to atmosphere through a flexible hood. The transport vessels are wheeled across the room and fitted to the metering machine, programmed to mix the proper amounts of prepolymer with component B, the catalyst/inhibitor mixture received in drums and also fitted to the machine. The metered dose of prepolymer/component B is poured into the dose machine feeding each individual mold at a line. According to BASF from a previous inspection, no blowing agent is used; when in the mixhead of the dosing machine the prepolymer/component B mix foams, creating the pressure necessary to push it out of the mixhead and into the mold.

During the inspection the eleven mold lines were observed. Each line contains space for approximately 250 of the numerous molds employed for the various automobile suspension parts produced. At the time of inspection most mold lines were producing "joynce bumpers". The heated mold cures the part approximately 70%. The part is ejected from the mold and the mold is ready to be refilled.

Parts released from the molds are cured to completion in one of nine ovens, which were observed during the inspection. Oven exhaust gas is approximately 108°C and vents to one of two mist eliminators ("de-mister") which drops out particulates and condensable VOCs; one demister controls ovens 101 through 106 and the second ovens 107 through 109. Both de-misters are located on the upper "mezzanine" level. The two demisters were observed during the inspection and the pressure drop ranged from at 0.25 inch to 0.5 inch of water for each; the demisters require servicing at 2 inches of water.

According to Mr. Slowik, the Cellasto Plant plans to install three additional ovens during 2017. According to Mr. Slowik, additional demisters will not be required as one demister can service 6 ovens (a total of 12 ovens after the installation takes place during 2017).

Cured parts are tumbled together in one of three "deburring" machines to remove chaff (extraneous folds and ridges on the parts). Exhaust from the two older machines is blown through a drop-out box and the remainder is

collected in filter socks, one for each deburring machine. The deburring machines were in operation during inspection and no visible emissions were observed from the filter socks. The filter socks did not have any holes or tears in the fabric and appeared to be in good condition.

In addition to the deburring machines, an automated "cutting" machine used to cut molds in half was observed. Emissions from the cutting machines are released uncontrolled to the general in-plant environment.

Storage tanks 111 and 112 for NMP (N-methyl-2-pyrrolidone) are located outside the north face of the Cellasto building. NMP is used to clean miscellaneous equipment (there is a 200 gallon tank in the plant filled from the east tank as needed) and for the cleaning of reactors and pumps (NMP in the west tank recirculates to the reactors and back and the solvent is periodically changed). Emissions from each tank are controlled by a carbon adsorption unit. The carbon cannisters are used to capture VOCs due to tank breathing losses. Indicator "sleeves" on top of each carbon bed change color from purple to brown as carbon saturates. Viewed during the inspection, the indicators showed nearing 100% purple for both tanks. Working losses during the filling of tanks 111 and 112 are controlled by vapor balance.

The cold cleaner at the Cellasto Plant was not observed during the inspection. The previous inspection identified that the cold cleaner is equipped with an agitator and the lid is motorized.

Polytech Moulding Industries, Inc.

At conclusion of the inspection, a meeting was held with Mr. Brian Hughes and Mr. Tom Wharton. During the meeting, Mr. Hughes explained that BASF has acquired Polytech Moulding Industriies (SRN N7238), also known as Concepp. BASF plans to make some modifications to the plant to coincide with BASF business.

An email was sent to the facility (see attached) on January 18, 2017 regarding the current N72378 ROP application. Polytech Moulding Industries will ultimately be incorporated into the Plastic Plants ROP (M4777).

APPLICABLE RULES/PERMIT CONDITIONS

ROP No. MI-ROP-M4777-2015
MI-ROP-M4777-2015 general conditions (GC) and special conditions (SC) are listed as appropriate. For brevity, permit conditions and the language of federal and state rules have been paraphrased.

General Conditions

These general conditions (GC) are repeated at the beginning of each ROP section and are addressed here in total.

GC 9, GC 10 – **COMPLIANCE** – Collected air contaminants shall be removed to maintain controls at required collection efficiency; air cleaning devices installed and operated in a satisfactory manner. Controls were installed and operating as directed by the ROP during the January 17, 2017 inspection.

GC 11 – **COMPLIANCE** – Visible emissions limited to 20% over a six-minute average, with the exception of one 27% opacity per hour unless otherwise specified in the ROP or in a federal new source performance standard. This limit applies to point source (non-fugitive) emission units at the plant. Visible emissions exceeding 20% opacity were not observed during the January 17, 2017 inspection.

GC 12 – **COMPLIANCE** – Nuisance emissions prohibited – No citizen complaints has been received by the AQD's Detroit Office for the BASF Wyandotte operations in the period since the last inspection.

GC 19 through GC 23, GC 25 (and under individual EU/FG tables at SCs VII.1 through 3) – **COMPLIANCE** – Certification of reports and prompt reporting of deviations – Annual certifications and semiannual deviation reports were received or postmarked August 30, 2016, March 9, 2016, August 29, 2015, and March 4, 2015.

GC 24 – **COMPLIANCE** – Submissions to the Emissions Inventory – The AQD received this facility's 2015 and 2014 MAERS databases on (or postmarked) March 14, 2016 and March 16, 2015.

Source-Wide Conditions

These general conditions are repeated at the beginning of each ROP section and are addressed here in total.

SC I.1 and 2, VI.1 through 3 – **COMPLIANCE** – Hazardous Air Pollutant (HAP) emissions limited to less than 9.0 tons per 12-month rolling time period for each individual HAP and 22.5 tons per 12-month time period for combined HAPs; records; these requirements apply to the three stationary sources B4359, M4777, and M4808 combined.

BASF provided site-wide HAP emissions totals for the period December 2014 through December 2016 in the January 26, 2017 submittal. Monthly total HAP emissions range between 0.857 and 0.991 tons. Acrylic acid registered the highest total of any single HAP for a 12-month rolling period at 2.641 tons. BASF reported that the highest 12-month rolling total HAPs occurred at the end of December 2016 at 11.58 tons.

Section 1 - FGEPCCOLDCLEANERS and Section 2 - FGELACOLDCLEANERS
SC II.1 – **COMPLIANCE** – Less than 5% of any combination of methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, and chloroform – The material safety data sheet (MSDS) for the cleaning solvent, "Extreme Simple Green Aircraft & Precision Cleaner", was provided in the December 6, 2016 submittal and indicates the solvent is water based and contains triethanolamine (<10%), ethoxylated alcohol (<5%), propylene glycol butyl ether (<5%), tetrapotassium pyrophosphate (<1%), and potassium silicate (<1%).

SC III.1 and 2, SC IV.1 through 5, SC VI.1 through 4 – **COMPLIANCE** – Cold cleaner operational requirements, including draining parts, closing cover when not in use, posting operating procedures near the cleaner, and storing waste solvents in closed containers; cold cleaner operational requirements are based on the type of cleaner and the vapor pressure of the solvent; information on each cold cleaner to be maintained on file.

In the December 6, 2016 submittal, BASF provided cold cleaner information, MSDS, cold cleaner dimensions, locations, and air/vapor interface area. The vapor pressure of the solvent used in cold cleaners located at EPC and Cellasto is reported at 20 mmHg (0.386 psia). During the inspection, the cover on the EPC cold cleaner was observed to be closed and signs posted near or on the cleaner with proper procedures (keep cover closed when not in use, etc.). Therefore, the cold cleaner was judged in compliance with SCs IV.3 and VI.3. The air/vapor interfaces appeared to be less than 10 square feet, which demonstrated compliance with SC IV.1.a. The cold cleaner in the Cellasto Plant was not observed. However, the previous inspection identified that the solvent in the Cellasto cold cleaner is agitated and its lid motorized, in compliance with SC IV.4.

Section 1 - FGEPCRULE290
EPC contains two emission units (EUEPCFILLERHNDLG, EUEPCOVEN) relating to Rule 290 subject equipment. R 336.1290 exempts from R 336.1201 those sources with limited emissions. The rule is divided into three general sections and further divided into subsections, depending on the type of emission (VOC, particulate, etc.), the carcinogenicity of the emissions, and the health-based screening level(s) of the emissions. Only those rules applicable to the Rule 290 emission units at the stationary source will be addressed. Rule 290 was recently revised on December 20, 2016. The citations listed below coincide with the existing ROP conditions and the former Rule 290 (prior to Rule revision).

R 336.1290(a) through (d) – **COMPLIANCE** – Emissions less than 1000 lbs. uncontrolled and 500 lbs. controlled with more restrictive limits for certain initial threshold screening levels (ITSL) and initial risk screening levels (IRSL); particulates limited to emissions of 0.01 lbs. particulate per 1000 lbs. gas, controlled by dust collector or equivalent installed and maintained, 5% opacity limit and monthly visible emission observation; description on file and records maintained. Required records are as follows for each emission unit: written description of the emission unit and control device, including the design control efficiency and exhaust gas flowrate; identify air contaminants emitted, carcinogenicity, screening level, and level of control; monthly emissions calculations; record of monthly visible emission readings.

The following emission units are listed as Rule 290 subject in the 2015 MAERS with their reported annual emissions in pounds:

2015 MAERS emissions reported (in pounds)

Section	Emission Unit	VOC	PM10	NOx	SO2
1	EUEPCFillerHndlg	------	227.00	------	------
1	EUEPCOven	56.00	43.00	804	4.8

According the MAERS submittal, the above reported emission units operate 12 months of the year. Fabric filters control particulate emissions from EUEPCFillerHndlg. Reported emissions for EUEPCFillerHndlg total to less than 500 pounds per year and therefore meet the monthly limit. Reported emissions for EUEPCOven are less than 500 pounds per year for both VOCs and PM10 combined.

In the January 26, 2017 submittal, the facility also submitted EPC monthly emission calculations. BASF reports PM emissions from EPC for 2014, 2015 and 2016. The reported emissions are significantly less than 500 pounds per month. In addition, BASF provided the December 2016 visible emission records for EPC.

Exemptions are not applicable to emission units that represent a PSD major source or major modification nor an ROP significant or minor modification. None of the emission units cited as Rule 290 sources in Section 1 of the ROP are excluded from the classification. As reported in the 2015 MAERS, the annual emission from each Rule 290 source is less than the significance levels in Rule 119(e).

Rule 286(a)
Rule 286(a) excludes from the requirement to obtain a Permit to Install "[p]lastic extrusion . . . and associated plastic resin handling, storage, and drying equipment." This exemption applies to the EPC extruding lines and plastic storage silos. This equipment is still required to comply with Rules 301, 331, 901, and 910. Observations during the inspection on January 17, 2017 suggest compliance with these requirements, as visible emissions and off-site odors were not noted during the site visit. There is also no evidence suggesting this equipment is excluded from exemption under Rule 278. In MAERS 2015, BASF reports VOC emissions at approximately four tons for all emission units within EUEPCEXTRUSION combined.

Section 2 - EUELAREACTOR
This emission unit covers the reactors used to generate the prepolymer for polyurethane molding operations.

SC I.1, SC III.1, SC VI.1 – **COMPLIANCE** – VOC emissions from the reactors, thinning tanks, and blending tanks, requires a maximum emission rate of 0.5 pounds per 1000 pounds of completed organic resin; requires records be kept to demonstrate compliance.

In the January 26, 2017 submittal, BASF calculates monthly emissions per reactor for each month in the period. The monthly VOC emissions from each reactor, and the combined monthly VOC emissions from all reactors, calculate to less than 0.5 pounds per 1,000 pounds of product. Additionally, in the 2015 MAERS submittal BASF reports 2,939 pounds VOCs (1,287 pounds of VOCs from the reactors and molds, 1,652 pounds fugitive VOC emissions) with a total production of 3,972 tons of product (or 7,944,000 pounds), calculating to 0.37 pounds VOC per 1,000 pounds of product.

SC IV.1 – **COMPLIANCE** – Carbon units on each reactor to be installed and operating properly.
During the inspection the carbon units on each reactor appear to be installed and operating properly.

Section 2 - EUELAMACTS
The equipment constituting EUELAMACTS at the stationary source is subject to the National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production promulgated in Title 40 of the Code of Federal Regulations (CFR), Part 63, Subparts A and III. On 10/8/2001, the first compliance date of the standard for an existing source, the stationary source M4777 was a part of a group of stationary sources (B4359, M4777, and M4808) that met the definition of a "major source" as defined at paragraph (a)(1), section 112, title I, of the Clean Air Act.

SC III.1, SC VI.1 –**COMPLIANCE** – Under MACT III at 63.1300(a), HAPs and HAP-based materials cannot be used to flush the mixhead or clean other equipment, with the exception of diisocyanate, which may be used to flush the mixhead and piping during startup or maintenance as long as the diisocyanates are used in a closed-loop system and re-used in production.

According to the December 6, 2016 submittal, the material used to flush the mixhead and lines is "CHEVRON Superla White Oil". The MSDS lists the chemical component as 100% white mineral oil with a CAS #8042-47-5. No HAPs are listed on the MSDS.

SC III.2, SC VI.2 – **COMPLIANCE** – Under 63.1300(b), a HAP cannot be used as a mold release agent.

According to the December 6, 2016 submittal, the mold release agent is "münch chemie international Release Agent 621/E7 special". The Technical Data Sheet indicates this is an aqueous emulsion and does not contain organic solvents.

SC VII.1 through 4 – **COMPLIANCE** – Semiannual deviation reports, Rule 912 reports, compliance certifications and report certifications, including certifications for compliance with MACT III - There have not been deviations reported for this flexible group in the semiannual reports.

SC IX.1 – **COMPLIANCE** – Comply with all applicable provisions of 40 CFR 63, Subparts A, III – Applicable requirements are included in the flexible group table.

Section 2 - FGELARULE290
The Cellasto Plant contains the following emission units relating to Rule 290 subject equipment listed in MI-ROP-M4777-2015: EUELAREACTOR210, EUELAREACTOR220, EUELAREACTOR230, EUELAREACTOR240, EUELAREACTOR250, EUELAOVEN101, EUELAOVEN102, EUELAOVEN103, EUELAOVEN104, EUELAOVEN105, EUELAOVEN106, EUELAOVEN107, EUELAOVEN108, EUELAOVEN109, EUELADEBURRING, and EUELAMOLDING. The facility is also claiming the dry material handling of NDI which is controlled by two dust collectors is exempt from PTI requirements per Rule 290.

As described above in FGEPCRULE290, R 336.1290 exempts from R 336.1201 those sources with limited emissions.

R 336.1290(a) through (d) – **COMPLIANCE** – Emissions less than 1000 lbs. uncontrolled and 500 lbs. controlled with more restrictive limits for certain ITSL/IRSLs; particulates limited to emissions of 0.01 lbs. particulate per 1000 lbs. gas, controlled by dust collector or equivalent installed and maintained, 5% opacity limit and monthly visible emission observation; description on file and records maintained. Required records are as follows for each emission unit: written description of the emission unit and control device, including the design control efficiency and exhaust gas flowrate; identify air contaminants emitted, carcinogenicity, screening level, and level of control; monthly emissions calculations; record of monthly visible emission readings.

The following emission units are listed as Rule 290 subject in the 2015 MAERS with their reported annual emissions in pounds:

2015 MAERS emissions reported (in pounds)

Section	Emission Unit	VOC	PM10
2	RGElaReacs&Molds	2,939	---------
2	RGElaCuringOvens	3,834	2,357
2	EUELADEBURRING	------	30

According the MAERS submittal, the above reported emission unit or reporting group operates 12 months of the year. Carbon adsorption units control volatile organic compound emissions from RGElaReacs&Molds. Demisters control particulate and volatile organic compound emissions from RGElaCuringOvens. Filter socks and/or knock out boxes control PM emissions from deburring lines.

The January 26, 2017 submittal contains records demonstrating that emissions are less than 500 pounds per month. On February 13, 2017, Mr. Wharton provided revised emissions for EUElaCuringOvens that included PM emissions (see attached). According to Mr. Wharton, the emissions reported for EUElaCuringOvens are "worst case scenario" emissions for the ovens operating 24 hours a day, seven days a week. For EUElaCuringOvens the highest reported VOC emissions were 319 pounds per month (for all 12 months) and the highest reported PM emissions were 182 pounds. While the reported monthly emissions from all nine ovens is greater than 500 lbs (combined VOC and PM = 501 lbs), the combined VOC and PM emissions from each individual oven in EUElaCuringOvens are less than 500 lbs (assume 501 pounds divided by 9). EUELADEBURRING emissions are significantly less than 500 pounds per month with reported emissions of 2.1 pounds per month during 2016. During 2015 and 2016, the highest reported VOC emissions for EUELAMOLDING occurred in March 2015 at 232 pounds. In addition, the January 26, 2017 submittal included

Cellasto Environmental Inspection Records for December 8, 2016 which contains records of inspection of control equipment and visible emissions records.

The facility submitted Rule 290 calculations for the dry NDI material handling (transfer and addition to reactors as described above) on February 1, 2017. The facility claims monthly PM10 emissions are 0.435 lb/month and annual emissions are 0.003 ton/year.

Emissions include MDI (CAS #101-68-8, 24-hr ITSL of 0.6 micrograms per cubic meter), NDI (CAS #3173-72-6, no current screening level), DIPPI (CAS #28178-42-9, no current screening level), NMP (CAS #872-50-4, 24-hr ITSL of 700 micrograms per cubic meter), and DIPA (CAS #110-97-4, annual ITSL of 4 micrograms per cubic meter). NDI (1,5-naphthylene diisocyanate) and DIPPI (2,6-diisopropylphenyl isocyanate), do not have an associated screening level. During the inspection on September 27, 2013 (MACES report , the 12th Report on Carcinogens was consulted, published by the National Toxicity Program of the U.S. Department of Health and Human Services. Searching on-line under the two categories in the report, the "Known to be Human Carcinogens" and the "Reasonably Anticipated to be Human Carcinogens", the only chemical with the term "cyanate" found in its name is toluene diisocyanate (TDI). Therefore, it appears the current pollutant (aggregate of VOC, PM10, etc.) threshold for the emission units is 500 pounds per month controlled.

Exemptions are not applicable to emission units that represent a PSD major source or major modification nor an ROP significant or minor modification. None of the emission units cited as Rule 290 sources in Section 2 of the ROP are excluded from the classification. As reported in the 2015 MAERS, the annual emission from each Rule 290 source is less than the significance levels in Rule 119(e).

NSPS Subpart Kb

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) does not apply to storage tanks that have a capacity less than 75 cubic meters (m^3). The storage tanks at BASF Plastics Plants have a capacity less than 75 cubic meters (m^3), with the exception of EUELATK-103 which has a capacity of 25,000 gallons or 94.63 m^3. Subpart Kb (§60.110b(b)) also states that "the subpart does not apply to storage vessels...with a capacity greater than equal to 75 m^3 but less than 151 m^3 storing a liquid with a maximum true vapor pressure less than 15.0 kilopascals (kPa)." Currently, storage tanks located at BASF Plastics Plants store liquids having a true vapor pressure less than 1.5 pounds per square inch absolute (psia) or 10.34 kPa. Therefore the BASF Plastics Plants storage tanks (including EUELATK-103) are not subject to 40 CFR Part 60, Subpart Kb.

FINAL COMPLIANCE DETERMINATION:

At this time, this facility appears to be in compliance with MI-ROP-M4777-2015 and federal and state regulations.

NAME _____ DATE 2/15/17 SUPERVISOR JK