M4777
MANUAL

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

M477728626

FACILITY: BASF CORP		**SRN / ID:** M4777
LOCATION: 1609 BIDDLE AVE, WYANDOTTE		**DISTRICT:** Detroit
CITY: WYANDOTTE		**COUNTY:** WAYNE
CONTACT: Bryan Hughes , EHS Team Leader		**ACTIVITY DATE:** 02/25/2015
STAFF: Todd Zynda	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: FY 2015 Targeted Inspection		
RESOLVED COMPLAINTS:		

REASON FOR INSPECTION: Targeted Inspection
INSPECTED BY: Todd Zynda, AQD
PERSONNEL PRESENT: Bryan Hughes, EHS Team Leader; Brad Palmatier, EPC Plant Engineer; Ken Slowik, Cellasto Plant EHS; Tom Wharton, EHS Specialist
FACILITY PHONE NUMBER: (734) 324-6523
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 result, Consent Order No. 47-2014 (effective date October 2, 2014) was issued.

INSPECTION NARRATIVE

On February 25, 2015 the Michigan Department of Environmental Quality (MDEQ) Air Quality Division (AQD) inspector, Mr. Todd Zynda, conducted a level 2 unannounced inspection of BASF Plastics Plants at 1609 Biddle Avenue, Wyandotte, Michigan. During the inspection, Mr. Bryan Hughes, EHS Team Leader, Brad Palmatier, EPC Plant Engineer Ken Slowik, Cellasto Plant EHS, and Mr. Tom Wharton, EHS Specialist 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-M4777-2009.

At 10:00 AM, Mr. Todd Zynda (AQD) arrived onsite and performed outside observations. Prior to entering the facility observations were made (limited to the facility property boundary along Biddle Avenue). No visible emissions were observed. Odors were not detected at the property boundary. At 10:20 AM Mr. Zynda entered the facility, stated the purpose for the inspection, and was greeted by Mr. Hughes. Prior to the inspection a visitor pass was obtained at the administration building. In addition, a safety and orientation video was viewed at the administration building.

During the opening meeting the BASF operations and MI-ROP-M4777-2009 conditions were discussed. Mr. Hughes was informed that the visit for the day would include an inspection of the EPC plant and Cellasto plant (M4777) and a portion of the BASF Lab's and Application Centers (M4808). During the opening meeting an inspection checklist outlining ROP requirements (Attachment A), was discussed. Additionally, the BASF operations site layout was discussed. Mr. Hughes requested additional time to compile the requested records for M4777 as BASF was in the middle of the reporting season (Michigan Air Emissions Reporting System [MAERS], ROP reporting, etc). It was agreed that records would be submitted to AQD by March 27, 2015. Records were provided via email on March 27, 2015 (Attachment B).

Following the opening meeting, inspection of the EPC Plant and Cellasto Plant was conducted.

EPC Plant

The EPC Plant was visited from approximately 11:35 AM to 12:35 PM. During the inspection, Mr. Brad Palmatier provided information and a tour of the EPC Plant. The inspection began with observation of EPC II. According to Mr. Palmatier, 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 194 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 forth 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. Palmatier, 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.

According to Mr. Palmatier, the cold cleaner at EPC has been removed. The former cold cleaner was "rarely used", and therefore was removed from the facility. However, follow up correspondence indicates that the cold cleaner at EPC is still in operation in the "oil storage shed". The cold cleaner was not observed during the inspection.

Cellasto Plant

The Cellasto Plant was visited from approximately 1:30 PM to 3:30 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 inspection the carbon adsorption units in the reactor rooms were not inspected. Mr. Slowik stated that personnel cannot go up to the second floor where the carbon canisters are located due to a recent issue with naphthalene diisocyanate (NDI) levels being greater than the permissible exposure limit (PEL). Currently, employees maintain the reactors and equipment on the second floor wearing the appropriate respirator. According to Mr. Slowik, this has not been the case the past, and the carbon canisters are still in place to control VOC emissions from the reactors. According to BASF, the exceedance of the NDI PEL was first identified during February 2014. BASF believes the source of NDI PEL exceedance is the result of loading the NDI into feeding system to the reactors. NDI as a flake form is transferred from a 15 gallon drum to a hopper/screw feeder which feeds the reactors. BASF believes that the transfer of the material from drum to hopper/screw feeder is the source of the PEL exceedance. BASF also believes that the exceedance of the PEL may be the result of residual NDI in the plastic bags used in shipment of the raw material. According to Mr. Slowik, BASF is investing over 2 million dollars to address the NDI PEL exceedance. The capital investment will include a glove box for the transfer of NDI to the feed system, and a dust collection system.

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 0.5 inches to one inch of water for each; the range of proper operation appeared to be from 0.5 to 2.0 inches water.

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 (1-methyl-2-pyrrolidinone) 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 ¾ brown and ¼ 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 observed to have its lid closed and to have proper operating procedures posted. This cold cleaner is equipped with an agitator and the lid is motorized.

APPLICABLE RULES/PERMIT CONDITIONS

ROP No. MI-ROP-M4777-2009
MI-ROP-M4777-2009 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 – **IN 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 February 25, 2015 inspection.

GC 11 – **IN 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 February 25, 2015 inspection.

GC 12 – **IN 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) – **IN COMPLIANCE** – Certification of reports and prompt reporting of deviations – Annual certifications and semiannual deviation reports were received or postmarked March 4, 2015, September 11, 2014, and March 17, 2014.

GC 24 – **IN COMPLIANCE** – Submissions to the Emissions Inventory – The AQD received this facility's 2013 and 2014 MAERS databases on (or postmarked) March 17, 2014 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 – **IN 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 February 2013 through February 2015 in the March 27, 2015 submittal. Monthly total HAP emissions range between 0.936 and 0.998 tons. Acrylic acid registered

the highest total of any single HAP for a 12-month rolling period at 2.64 tons. BASF reported that the highest 12-month rolling total HAPs occurred during March 2013 at 11.9 tons.

Section 1 - FGEPCCOLDCLEANERS and Section 2 - FGELACOLDCLEANERS
SC II.1 – **IN 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, "Safety-Kleen Premium Solvent", was provided in the March 27, 2015 submittal and indicates the solvent is composed of 100% petroleum distillates (CAS #64742-47-8).

SC III.1 and 2, SC IV.1 through 5, SC VI.1 through 4 – **IN 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 March 27, 2015 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 0.2 mmHg (0.004 psia). During the inspection, the cover on the Cellasto 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 solvent in the Cellasto cold cleaner is agitated and its lid motorized, in compliance with SC IV.4.

During the inspection the cold cleaner at EPC was not observed. According to the previous inspection, the solvent in the EPC cold cleaner is neither heated nor agitated.

Section 1 - FGEPCRULE290
EPC contains two emission units (EUEPCFILLERHNDLG, EUEPCOVEN) relating to Rule 290 subject equipment. R 336.1290 exempts from R 336.1201 for 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.

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 2014 MAERS with their reported annual emissions in pounds:

2014 MAERS emissions reported (in pounds)

Section	Emission Unit	VOC	PM10	NOx	SO2
1	EUEPCFillerHndlg	------	88.00	------	------
1	EUEPCOven	56.00	43.00	899	5.4

According the MAERS submittal, the above reported emission units operate 12 months of the year. Fabric filters control particulate emissions from EGEPCFillerHndlg. Reported emissions for EGEPCFillerHndlg 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.

In the March 27, 2015 submittal, the facility also submitted EPC monthly emission calculations.
BASF reports PM emissions from EPC from January 1, 2014 through December 31, 2014 totaled 219 pounds, versus 131 pounds reported in the MAERS submittal (88 pounds plus 43 pounds). Because the emissions are estimated well below 500 pounds per month, BASF has been notified of the discrepancy for the correction in future submittals. In addition, BASF provided monthly 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 2014 MAERS, the annual emission from each Rule 290 source is less than the significance levels in Rule 119(e).

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 – **IN COMPLIANCE** – VOC emissions from the reactors, thinning tanks, and blending tanks, requires either a reduction in VOC emissions by 95% or a maximum emission rate of 0.5 pounds per 1000 pounds of completed organic resin; requires records be kept to demonstrate compliance.

In the March 27, 2015 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 2014 MAERS submittal BASF reports 2,994 pounds VOCs (1,342 pounds of VOCs from the reactors and molds, 1,652 pounds fugitive VOC emissions) with a total production of 3,986 tons of product (or 7,972,000 pounds), calculating to 0.38 pounds VOC per 1,000 pounds of product.

SC IV.1 – **UNKNOWN** – Carbon units on each reactor to be installed and operating properly.
As described above, the carbon cannisters were not observed during the inspection due to a recent issue of the PEL exceedance for NDI on the second floor of the reactor room.

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.

With the current ROP, the equipment constituting EUELAMACTS at the stationary source is listed as subject to the National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources promulgated in Title 40 of the Code of Federal Regulations (CFR), Part 63, Subparts A and OOOOOO. However, recent AQD review of the Subpart OOOOOO finds that the regulation does not apply due to the EPA's once in always in" (OIAI) policy and because the stationary source M4777 remains a "major source" for the flexible polyurethane foam production source category (40 CFR Part 63, Subpart III). The OIAI policy is explained within a May 16, 1995 memorandum authored by John S. Seitz, then Director, USEPA Office of Air Quality Planning and Standards (OAQPS), and a March 23, 2000 memorandum authored by William T. Harnett, then Acting Director, Information Transfer and Program Integration Division, USEPA OAQPS.

During review of the special conditions, Subpart OOOOOO was not evaluated.

SC III.1, SC VI.1 – **IN 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; under MACT OOOOOO at 63.11416(c)(1) and (2), methylene chloride cannot be used to flush the mixhead, clean other equipment, or employed as a mold release agent.

According to the March 27, 2015 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 – **IN COMPLIANCE** – Under 63.1300(b), a HAP cannot be used as a mold release agent.

According to the March 27, 2015 submittal, the mold release agent is "münch chemie international Release Agent 621/E7 special". The Technical Data Sheet indicates this is an aqueous emulsion of different waxes with 0% organic solvents.

SC VII.1 through 4 – **IN 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 – **IN 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: EUELAREACTOR210, EUELAREACTOR220, EUELAREACTOR230, EUELAREACTOR240, EUELAREACTOR250, EUELAOVEN101, EUELAOVEN102, EUELAOVEN103, EUELAOVEN104, EUELAOVEN105, EUELAOVEN106, EUELAOVEN107, EUELAOVEN108, EUELAOVEN109, EUELADEBURRING, and EUELAMOLDING.

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 2014 MAERS with their reported annual emissions in pounds:

2014 MAERS emissions reported (in pounds)

Section	Emission Unit	VOC	PM10
2	RGElaReacs&Molds	2,994	---------
2	RGElaCuringOvens	3,173	1,804
2	EUELADEBURRING	------	19

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 March 27, 2015 submittal contains records demonstrating that emissions are less than 500 pounds per month. For EUElaCuringOvens the highest reported VOC emissions were 264 pounds per month (for all 12 months). EUELADEBURRING emissions are significantly less than 500 pounds per month with reported emissions of 1.5 pounds per month. During 2013 and 2014, the highest reported VOC emissions for EUELAMOLDING occurred in August 2014 at 228 pounds. In addition, the March 27, 2015 submittal included the Cellasto Environmental Inspection Records which contain records of inspection of control equipment and visible emissions records.

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 previous inspection report (M477723230), 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 2014 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 February 25, 2014 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 2014, BASF reports VOC emissions at approximately four tons for all emission units within EUEPCEXTRUSION combined.

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-M4777-2009 and federal and state regulations.

NAME _____ DATE 4/9/15 SUPERVISOR JK