B4359

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

B435923233

FACILITY: BASF CORP		**SRN / ID:** B4359
LOCATION: 1609 BIDDLE AVE, WYANDOTTE		**DISTRICT:** Detroit
CITY: WYANDOTTE		**COUNTY:** WAYNE
CONTACT: Jordan Thompson , Senior EHS Specialist		**ACTIVITY DATE:** 09/27/2013
STAFF: Jeffrey Korniski	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

SCHEDULED INVESTIGATION REPORT
(PCE for an FCE source)

Dates of Investigation: September 26 & 27, 2013
Date of Report: February 12, 2014
Source: BASF Corporation, Chemical Plants
SRN: B4359
Address: 1609 Biddle Ave., Wyandotte, Michigan 48192
Subject: Scheduled Investigation
Author: Jeff Korniski, Air Quality Division, Detroit Office

Safety Equipment/Safety Training/Security:
Hard hat, steel-toed boots, and goggles or safety glasses are required in process areas of the plant; hearing protection is required in specific process areas. Visitors must sign in at the administration building and at each specific process area in the plant. A visitor will be issued a Visitor's Badge which must be worn at all times. A visitor is required to observe an orientation and safety video; an orientation card is then issued to the visitor which remains valid for one year. The administration building is a red-colored structure just to the north of Alkali Street (the street on which the main gatehouse is located). Turning east onto Alkali off Biddle, the administration building is to the immediate left across the railroad tracks with the visitors' parking lot adjacent to and south of the building.

Facility Background:
BASF Corporation (BASF) specializes in the manufacture of various chemicals and plastics products. BASF's Wyandotte operations at 1609 Biddle Ave. 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. Polytech Moulding (SRN N7238) and Abbott Laboratories (P0164) also operate manufacturing plants at this site.

BASF's chemical plant operations comprise the Polyols plant, the Analytical Chemistry & Chemical Engineering (ACCE) plant, the Thermoplastic Urethane (TPU) plant, the Joncryl Polymers plant, and the Steam Generating Facility. BASF Chemicals was issued Renewable Operating Permit No. MI-ROP-B4359-2003 on 12/1/2003. The ROP has since been amended to incorporate subsequent permits to install.

Process Description and Summary of Facility Visit:
I arrived at BASF on 9/26/2013, signed in at 1:15 PM, and watched the safety video. I met with Mr. Jordan Thompson, Senior EHS Specialist, and Mr. Bryan Hughes, EHS Team Leader, of BASF's environmental staff and indicated my intention to perform annual inspections of BASF's Chemical Plants (B4359), Plastics Plants (M4777), and Labs and Application Centers (M4808) that day and the next. Mr. Thompson had a conflict on the 27th but Mr. Hughes was available and agreed to escort me through the site the following day. Mr. Dan Hannewald, lately of BASF's environmental staff and now with the process staff, also assisted on the inspection along with various plant personnel at each individual manufacturing location. The site visit lasted until about 3:00 PM on 9/26/2013 and then extended from about 8:40 AM until 2:00 PM on 9/27/2013. On both days the sky was mostly sunny with a temperature in the low-70s°F and a light wind generally from the east at 5 to 10 miles per hour. The inspection documented here is for the B4359 Chemical Plants stationary source.

Steam Facility and Ancillary Operations
The steam generating facility comprises four natural gas-fired boilers, each with burners capable of combusting #6 fuel oil as a backup. The steam generating facility has been shut down since 3/15/2006. All steam at the plant is now provided by the City of Wyandotte's municipal power plant located approximately a half-mile south of BASF. Currently, there are no plans to restart the boilers though the equipment remains installed on-site. The steam facility and a groundwater treatment facility, subject to Rule 290, were not visited during the 9/2013 inspection. The two emergency generators installed at the site were observed. The steam facility, groundwater treatment operations, and generators are all associated with the general administration of the site and therefore under the umbrella of the B4359 stationary source because the Chemical Plants are the dominant SIC footprint at the Wyandotte operations.

Polyols Plant
The Polyols plant produces conventional and graft polyols in four reactor trains. Polyols are sold to customers as an ingredient in the production of urethane foams for application in the automotive and housing industries. The reactor systems comprise raw material storage tanks (including tanks for ethylene oxide, propylene oxide, acrylonitrile, and styrene), blending and reaction and process vessels, and finished product storage tanks. VOC emissions from storage and process areas vent to a common duct and then through a thermal oxidizer. Emissions from solid raw materials transported to, and added to, reactors are controlled with fabric filters.

The Polyols plant was visited from 1:45 PM to 2:15 PM on 9/26/2013. Conventional polyol reactor train nos. 8 and 9 were in operation; train no. 7 was not in operation. The graft polyol reactor train no. 10 was in operation. At about 2:00 PM in the Polyols plant control room, the T-152/153 oxide scrubbers registered a combined flow of 185 gallons per minute and pH readings of 13.0 and 13.1. A water scrubber controls emissions from various ancillary vents at the conventional side of the process; the water flowrate measured 97 gallons per minute. Filters for the conventional reactors capture magnesol, a solid particle used to recover catalysts from the product; particulate emissions and fabric filter controls from the magnesol conveying and charging system are independent of the thermal oxidizer control system; the filters actively collect particulate for brief periods in time and where not in use when observed. The dual thermal oxidizer combustion temperature gauges read 1821°F and 1822°F and the waste gas valves for the processes were positioned open to the oxidizer on the plant process control screen; at about 2:05 PM the temperature gauges located at the thermal oxidizer registered 1814.6°F and 1814.8°F. The thermal oxidizer controls the majority of volatile organic compound vent streams for each of the four reactor trains.

Raw materials are delivered by railcar along tracks entering the plant from Alkali Street and ending to the north of the polyol area. Ethylene oxide, propylene oxide, acrylonitrile, and styrene are either equalized (vapor balanced) during unloading to storage tanks lining the railroad tracks; if not equalized then the emissions are vented to the thermal oxidizer. Water sprays are observable along the railcar path. BASF samples air near the railcars for oxides; any two sequences of unacceptable concentrations presume a leak in the railcar or its associated pipes and hoses and trip a water deluge. The BASF Polyols plant also serves as a TDI and MDI transfer station. TDI/MDI transfers are vapor balanced to and from TDI tank TK-536 and MDI tank TK-122. Breathing losses are emitted out the top of the storage tanks through carbon canisters. Nitrogen blankets are also employed during storage and transfer to suppress working and breathing losses. The TDI carbon canister was observed atop TK-536 on 9/26/2013. No loading or unloading operations were observed during the inspection.

The Polyols plant maintenance area cold cleaner was observed. The lid was closed and a sign was posted instructing users to keep the cleaner closed when not in use. The lid to this cleaner is mechanically assisted and requires the toggling of a switch to open and to close.

ACCE Plant
The ACCE plant mixes pilot-scale research activities with small-scale chemical manufacturing operations. Polyols are a commercial product from this plant. The research and development activities are covered under SRN M4808 and manufacturing activities are covered under SRN B4359.

The ACCE plant was visited from 11:30 AM to 12:10 PM on 9/27/2013. Three reactors are installed. The smaller 60 gallon R-20 and 250 gallon R-100 reactors are more often utilized for R&D while the larger 2,000 gallon R-30 reactor is more often utilized for commercial manufacture. A wet scrubber and vacuum jet condenser controls are applied for emissions control under either scenario. The wet scrubber located in Building 55R and controls emissions from reactor vents and raw material tank air displacements. The N/S vacuum jet or the E/W vacuum jet condensers located in Building 53Z control emissions from oxide stripping. At about 11:40

AM, the oxide scrubber control panel in Building 55R showed a T-110 wet scrubber pH of 1.9 and a pump outlet pressure of 0.95 bar. The operations log entry for 9/4/2013 showed a scrubber water concentration of 100% and a pH of 0.92. The north/south vacuum jet was in operation at the time of the inspection and registered a temperature of 25.8°C (or 78.4°F).

The permitted Poly-THF (ROP), the CheGraft (PTI 84-07), and the Organic Activator (PTI 80-11) processes at ACCE were not in operation.

TPU Plant

The TPU plant produces a thermoplastic polyurethane elastomer from diols, methylene diisocyanate (MDI), and solid materials. Raw materials are mixed together and conveyed by belt through an oven. Upon release from the oven the solid product is cut, stored, and packaged. Carbon adsorbers and water scrubbers are employed for VOC emissions control; dust collectors are used for particulate emissions control. Two process lines are currently installed at the plant.

The TPU plant was visited from 2:23 PM to 2:50 PM on 9/26/2013. Two MDI storage tanks are installed inside the plant with a carbon adsorption control located on the top of the tank. 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 brown, indicating that the carbon was near spent and required replacement soon.

Both Line 1 and Line 2 were in operation at the time of the inspection. Particulates escaping the mixing pot are drawn into the F-4185 baghouse which registered a differential pressure of 7.2 inches water column; the baghouse serves both lines. Emissions from each oven's hot zone are vented to a water scrubber. The older Line 1 is equipped with a two-stage scrubber that registered flows of 40 gallons per minute and 42 gallons per minute in the respective stages at 2:34 PM; the newer Line 2 registered a flow of 175 gallons per minute.

The mix pots are cleaned in a Rule 290 burnoff oven located to the northeast of the TPU plant; the oven was in use at the time of the inspection and registered a temperature of 1543°F at 2:40 PM. No smoke was observed emitting from the burn-off oven exhaust stack.

Joncryl Polymers Plant

The Joncryl Polymers plant manufactures polymers and resins for inks, varnishes, and industrial coatings utilized in the printing and packaging industries. Raw material monomers, surfactants, initiators, and water are reacted to form emulsion polymers and solid and liquid grade resins. Resin cutting, product drumming and storage, and a product warehouse are sited at the plant. This is a relatively new facility and designed such that the majority of emissions points throughout the plant are ducted to a regenerative thermal oxidizer (RTO) for the control of VOC emissions. A fabric filter controls particulates from other ancillary emissions points not exhausting through the RTO.

The Joncryl plant was visited from 10:10 AM to 11:20 AM on 9/27/2013. According to BASF the solid grade oligomer reactor trains, potentially subject to NSPS DDD, have not produced and will not be producing polystyrene (and thus will not be subject to the standard). At 10:45 AM the pressure across the F-1091 fabric filter measured 4 inches water column; the range for proper operation is set at 1 to 7 inches water column. The F-1091 fabric filter stack vents horizontally out the north side of the main Joncryl process building. At 11:12 AM the RTO temperature measured 1564°F. A bypass stack is installed prior to the RTO and its exhaust stack.

The addition of the Joncryl plant prompted the construction of a new warehouse at the southern end of the site. The warehouse was visited from 1:15 PM to 1:35 PM on 9/27/2013 to observe a bagging line installed for the packaging of solid grade resin. The bagging line was not in operation at the time of the visit; a baghouse controls particulate emissions from the process.

Compliance Status:

Stationary source B4359 is currently covered under MI-ROP-B4359-2003b, issued 12/1/2003 and last amended 1/8/2007. The Steam Facility is covered in Section 1, the Polyols Plant in Section 2, the ACCE Plant in Section 3, and the TPU Plant in Section 4. The Joncryl Plant is not yet incorporated into the ROP. In addition, certain equipment is covered under Permit to Install Nos. 272-04 (issued 1/19/2005), 84-07 (issued 7/6/2007), 113-07 (issued 5/23/2007), 174-08 (issued 6/30/2008), 143-09 (issued 7/31/2009), and 80-11 (issued 9/1/2011); these permits will be incorporated into the ROP during renewal.

Prior to the inspection of 9/26/2013 to 9/27/2013 the last site inspection was conducted on 9/14/2011, with the last full compliance evaluation covering compliance activities reviewed through approximately 9/30/2011. In general, this report covers compliance activities that have occurred since 10/1/2011 through approximately 9/30/2013. A request for information from BASF was received on 9/25/2013. BASF claims certain selected data within the submittal as "Confidential Business Information". This requires further follow-up as a portion of the information discloses pollutant emissions, which is not eligible for confidentiality, and another portion of the information discloses production information that is already reported within the annual emissions inventory for the source. Therefore, AQD does not necessarily agree with BASF's assertions. However, for the purpose of processing this report the information will be treated as confidential until a final determination is reached.

MI-ROP-B4359-2003b, Sections 1 through 4, General Conditions
These general conditions are repeated at the beginning of each ROP section and are addressed here in total.

9, 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 9/2013 inspection.

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 – I did not observe visible emissions exceeding 20% opacity during the 9/2013 inspection.

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.

19 through 23, 25 (and under individual EU/FG tables at SCs III.B.IV.1 through 3) – Compliance – Certification of reports and prompt reporting of deviations – Annual certifications and semiannual deviation reports were received or postmarked 9/13/2013, 3/14/2013, 9/12/2012, and 3/13/2012. Please see reports B435922973, B435921796, B435919436, and B435917771.

24 – Compliance – Submissions to the Emissions Inventory – The AQD received this facility's 2012 and 2011 MAERS databases on (or postmarked) 3/14/2013 and 3/13/2012. Please see reports B435921096 and B435917482.

MI-ROP-B4359-2003b, Sections 1 through 4, SOURCE-WIDE
These plant-wide special conditions are repeated at the beginning of each ROP section and are addressed here in total.

II.B.1.1 and 2.2, III.A.3.2 and 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 provides site-wide HAP emissions totals for the period 8/2012 through 7/2013 in the 9/25/2013 submittal. Monthly total HAP emissions range between 1.13 and 1.24 tons. For the 12-month period ending 7/2013, acrylic acid registered the highest total of any single HAP at 2.64 tons. BASF reports 12 tons for the 12-month total HAP calculation. AQD tabulates the 12-month total at 13.89 tons. The difference appears to result from BASF's truncation of the monthly totals to calculate to the annual value (e.g. 1.1 to 1.2 tons is expressed as 1 in the column used to tabulate to the 12-month total). The difference does not represent an issue of non-compliance.

III.A.3.1, IV.4, VI.1 and 2 – Undetermined – Compliance with certain requirements within 40 CFR 61, Subparts A, M: National Emission Standard for Asbestos, and FF: National Emission Standard for Benzene Waste Operations – Records were not reviewed for these standards during the 9/2013 inspection or records request. Further follow-up is needed on these conditions during the upcoming FCE cycle.

MI-ROP-B4359-2003b, Sections 1 through 4, Rule 290 Flexible Groups
Multiple sections of the ROP contain flexible group and/or emission units relating to Rule 290 subject equipment installed in each area (section) of the ROP. 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.

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 2012 MAERS with their reported annual emissions in pounds:

2012 MAERS emissions reported (in pounds)

Section	Emission Unit	VOC	PM10
1	EUSTENWORKGROUN	1	------
2	EUPOLGRAFTINDEX	212	------
2	EUPolSugarPent	------	2
2	RGPOLTANKS	10,024	------
3	EUCheBlends	27	------
3	EUCheEpilmine	0	------
3	EUCheGraftedPoly	4,051	------
3	EUCHEGRAFTINDEX	0	------
3	EUCheHalfEster	5	------
3	EUCheMacromer	0	------
3	EUCheNMP	10	------
3	EUCHEHardlen	3	------
4	EUTPUFURNACE	------	142
4	EUTPUSYNTHESIS	4,478.5	72

The emission unit EUTPUFURNACE is also reported to have emitted 313 pounds of CO, 146 pounds of NOx, and 10 pounds of SO2 during the 2012 calendar year. In addition, four Rule 290 emission units are listed (EULuwBatch, EULuwCont, EULuwWW, EULuwFug) that relate to the now shut down Amino Resins Plant.

While not conclusive, as Rule 290 data is evaluated for compliance month-by-month, the annual emissions data largely suggests compliance with the Rule 290 emission limits because they are well beneath the controlled limit extrapolated for a calendar year (6,000 pounds). RGPOLTANKS, the exception, consists of 23 storage tanks (containing polyol and MDI) so the average annual emission from any single tank is likely less than a ton. Monthly Rule 290 records are provided for ACCE and TPU in the 9/25/2013 submittal.

MI-ROP-B4359-2003b, Sections 1 through 4, Cold Cleaner Flexible Groups

Currently, one cold cleaner is installed at the Polyols plant. A second cold cleaner is installed at the Joncryl plant, which is not yet incorporated into the ROP. Both are "new" cold cleaners subject to the requirements of Rule 707.

II.A.1.1 – Compliance – Less than 5% of any combination of methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, and chloroform – The MSDS for the cleaning solvent, "Safety-Kleen Premium Solvent", is provided in the 9/25/2013 submittal and indicates the solvent is composed of 100% petroleum distillates (CAS #64742-47-8).

I.C.1 through 3, III.A.3.1 through 5, V.1 through 5, VI.1 – 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.

The Polyols plant and the Joncryl Plant house one cold cleaner each; based on the information supplied for the Joncryl cleaner, it appears this unit was previously installed at the former Amino Resins plant. The Polyols cold

cleaner was observed during the 9/26/2013 inspection and information on the four cold cleaners currently installed at the Wyandotte site is provided in the 9/25/2013 submittal. The vapor pressure of the solvent is reported at 0.2 mmHg (0.004 psia). The cover 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 is judged in compliance with SCs I.C.1 and VI.1. I judged the air/vapor interface to be less than 10 square feet and therefore in compliance with SC V.1.a. The solvent in the Polyols cold cleaner is agitated and its lid motorized, in compliance with SC I.C.2.

MI-ROP-B4359-2003b, Sections 1-4, NSPS Tanks Flexible Groups
NSPS Subpart Kb – Compliance – This subpart regulates volatile organic compound storage tanks that commenced construction or modification after 7/23/1984. The affected facility is defined at 40 CFR 60.110b as storage vessels containing volatile organic liquids (as defined in the subpart) and with capacities greater than or equal to 75 cubic meters (19813 gallons).

Multiple sections of the ROP contain either a general flexible group or specific conditions to encompass requirements applicable to all NSPS subject storage tanks installed in each area (section) of the ROP. References to NSPS Kb in the ROP are as follows:

FGPOLNSPSKBTANKS (Section 2 – emission unit table – contains list of tanks)
FGPOLFACILITY, SC V.3 (Section 2)
EUCHEPOLYOL, SC V.1 (Section 3)
EUCHETK-43 (Section 3)

Please see the submittal of 9/25/2013 for tanks subject to this subpart at the stationary source and how they comply with NSPS Kb. Not all tanks listed in the ROP as NSPS Kb subject remain so because after the 10/2003 revision to NSPS Kb, those tanks sized less than 75 cubic meters but greater than 40 cubic meters, formerly subject to NSPS Kb, are no longer subject to the regulation.

MI-ROP-B4359-2003b, Section 1, FGSTEFACILITY
The steam facility shut down on 3/15/2006. Steam is now received from the Wyandotte municipal power plant via an overland steam line. In the 2010 and 2009 MAERS submittals BASF reports zero emissions of air contaminants and zero throughput of oil and gas through the boilers. The steam facility is in compliance with all emissions, throughput, and process specifications for the fact that the equipment was not operated in the FCE period.

MI-ROP-B4359-2003b, Section 2, EUPOLCONV
This emission unit covers the conventional polyol manufacturing process (reactor trains 7, 8, and 9).

I.B.1 through 3 – Compliance – Maximum stack height and diameters for SVPOLSUGARFEED (24 inches and 32 feet), SVPOLT-408 (3 inches and 55 feet), and SVPolMagSil7 (9.75 inches by 11.5 inches and 30 feet) – Compliance is based on visual observation during previous inspections; measurements were not conducted.

II.A.1.1, III.A.3.8 – Compliance – Magnesium silicate use limited to 2,500 tons per 12-month rolling time period; records – BASF reports monthly and 12-month rolling totals for the period 8/2012 through 7/2013; each 12-month rolling total is less than 2,500 tons (9/25/2013 submittal). BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 31 tons of "magnesium silicate (solid)" was processed in the EUPOLConv bulk material conveyors during the calendar year.

II.B.1.1 and 2, III.A.3.5 – Compliance – Aggregate volatile organic compound (VOC) emissions from reactor trains 7, 8, 9 sugar feed shall not exceed 1.27 pounds per hour based on a daily average nor 2.24 tons per 12-month rolling time period; aggregate propylene oxide (PO) emissions from reactor trains 7, 8, 9 sugar feed shall not exceed 0.18 tons per 12-month rolling time period; records.

Compliance with the pound per hour limit is to be determined through stack testing in GC 13, if requested; BASF has not been requested to perform a stack test on sugar feed emissions. BASF reports monthly and 12-month rolling totals of VOC and PO emissions for the period 8/2012 through 7/2013; each 12-month rolling total for VOC is less than 2.24 tons and each 12-month rolling total for PO is less than 0.18 tons (9/25/2013 submittal). BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports aggregate VOC emissions from EUPolConv at 18 pounds (0.009 tons).

II.B.3.1 and 2, III.A.3.6 – Compliance – Particulate matter (PM) emissions from each solid raw material conveying system servicing reactor trains 7, 8, 9 shall not exceed 0.10 pounds per 1000 pounds of exhaust gases; aggregate PM emissions from all solid raw material conveying systems shall not exceed 1 ton per 12-month rolling time period; records.

Compliance with the pound per thousand pound limit is to be determined through stack testing in GC 13, if requested; BASF has not been requested to perform a stack test on particulate emissions. BASF reports monthly and 12-month rolling totals of PM emissions for the period 8/2012 through 7/2013; each 12-month rolling total for PM is less than 1.0 ton (9/25/2013 submittal). BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports aggregate PM emissions from EUPolConv at 138 pounds (0.069 tons).

II.B.4 through 6, III.A.3.7 – Compliance – Aggregate VOC emissions from reactor trains 7, 8, 9 equipment venting to the water scrubber shall not exceed 2.4 pounds per hour based on a daily average; aggregate emissions from reactor trains 7, 8, 9 equipment venting to the water scrubber shall not exceed 0.13 tons (260 pounds) PO per 12-month rolling time period and 0.02 tons (40 pounds) EO per 12-month rolling time period; records.

Compliance with the VOC pounds per hour value is to be determined through stack testing in GC 13, if requested; BASF has not been requested to perform a VOC stack test on the water scrubber, however, testing for EO and PO was conducted 3/18/2009 through 3/20/2009 pursuant to an EPA administrative order. Oxide emissions were measured at less than 0.1 pounds per batch and it is likely VOC emissions are of a similar order of magnitude because oxide emissions are the predominant VOC expected at the water scrubber emission point; please see report B435907772.

BASF reports monthly and 12-month rolling totals of EO, PO and VOC for the period 8/2012 through 7/2013; monthly VOC emissions indicate compliance with the daily VOC limit and each 12-month rolling total for EO and PO is less than 0.13 tons and 0.02 tons, respectively (9/25/2013 submittal). In the 2012 MAERS, BASF reports aggregate VOC emissions from EUPolConv at 18 pounds (0.009 tons).

III.A.3.1, V.1 through 3 – Compliance – Polyol production rates for reactor trains 7, 8, 9 shall not exceed the following, each in units of pounds per 12-month rolling time period: 100,000,000 for reactor train 7; 72,000,000 for reactor train 8; 191,000,000 for reactor train 9; records.

BASF reports monthly and 12-month rolling throughputs in each reactor the period 8/2012 through 7/2013; each 12-month rolling total show compliance with the 100,000,000 pounds limit for reactor train 7, the 72,000,000 pound limit for reactor train 8, and the 191,000,000 pound limit for reactor train 9 (9/25/2013 submittal). BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 4,658 tons (9,316,000 pounds) of product through EUPOLConv and 9,247 tons (18,494,000 pounds) of product through EUPOLFugConv.

V.4 – Compliance – Conventional equipment to be vented to the thermal oxidizer shall not be operated unless the oxidizer is installed and operating properly, including achieving a minimum temperature of 1700°F, a minimum residence time of 0.8 seconds, and maximum emission rates of 1.3 pounds per hour EO and 0.96 pounds per hour PO; exceptions are given in SCs V.6 through 8.

Testing conducted on 12/6/2010 through 12/9/2010 measured EO and PO beneath their respective detection limits of 0.006 pound per hour EO and 0.008 pounds per hour PO. Please see report B435915927. A graph of the continuous thermal oxidizer temperatures for 6/20/2013 is provided in the 9/25/2013 submittal; the temperature measures fluctuate within a range from about 1775°F to about 1895°F. During the inspection on 9/26/2013 the thermal oxidizer temperature was observed operating within a range from 1814°F to 1822°F.

V.5 – Compliance – Vacuum jets for the conventional processes shall not be operated unless they vent to the thermal oxidizer – Based on observations of the process flow scheme on the computer consoles at the Polyol plant during various site visits, the vacuum jets vent to the thermal oxidizer when the conventional process is in operation. Records of waste gas valve positions are provided for 6/20/2013 in the 9/25/2013 submittal.

III.A.3.2, V.6 – Compliance – TK-405B, TK-405C, and TK-505 pressure releases to add solid materials shall not exceed, in the aggregate, 24 times per day nor 800 times per 12-month rolling time period; records – BASF reports monthly and 12-month rolling total reactor depressurizations for the period 8/2012 through 7/2013; each

monthly total demonstrates compliance with the daily limit of 24 and each 12-month rolling total is less than 800 (9/25/2013 submittal). BASF claims this data as "Confidential Business Information".

V.7 – Compliance – The following may vent to the water scrubber: TK-410A, TK-408C except during filling and transfer operations, TK-534 after unreacted materials have been removed, the filter press, TK-532 – Based on the test conducted 3/18/2009 through 3/20/2009, each of these vents to the water scrubber; please see report B435907772.

V.8 – Compliance – EO (TK-101B) and PO storage tanks (TK-101C, TK-102) shall be filled with satisfactory vapor balance in place or venting to thermal oxidizer. Satisfactory vapor balance includes: vapor-tight collection line before transfer, nitrogen purge of vapor line after transfer, hatches and openings closed, nitrogen purge of liquid line after transfer, device to minimize liquid drainage. Procedures shall be developed incorporating the listed requirements.

Based on 9/25/2003 observations of the process flow scheme on the computer consoles at the Polyol plant, this equipment is connected to the thermal oxidizer; the equipment is also equipped with a vapor balance during transfers, but I did not witness a transfer during the inspection on 9/26/2013. Non-confidential procedures for EO and PO transfers are given in the 9/27/2007 submittal. Confidential procedures were received with the 9/25/2013 submittal.

III.A.1, III.A.3.3, V.9 – Compliance – Conventional process equipment venting to the water scrubber shall not do so unless the scrubber is operating properly; satisfactory operation includes maintaining the water scrubber flowrate specified in the water scrubber operating procedures; the liquid flowrate shall be monitored daily with an acceptable device; records.

A graph of the continuous water scrubber flowrate for 6/20/2013 is provided in the 9/25/2013 submittal; the flowrate measures within the range of about 100 to 120 gallons per minute. Confidential water scrubber procedures are provided in the 9/25/2013 submittal. Non-confidential procedures are given in the 9/26/2011 submittal. From the non-confidential procedures, the water scrubber is designed to operate down to 25 gallons per minute; an alarm is triggered should the flowrate drop to 35 gallons per minute and the vent lines are shut down should the flowrate drop to 30 gallons per minute.

III.A.2.2 and 3, III.A.3.4, V.10, Appendix 2-3.1 through 3 – Compliance – Solid raw material conveying systems shall not be operated unless the fabric filter is installed and operating properly; satisfactory operation includes maintaining the pressure drop specified in the fabric filter operating procedures; the pressure drop across each fabric filter shall be monitored with an acceptable device; periodic inspections of the baghouses to be conducted; records.

Pressure drop data for 6/20/2013 is provided in the 9/25/2013 submittal. From data provided for 6/15/2009 in the 9/25/2009 submittal; the pressure drop appears to spike during magnesol addition to levels in excess of 5 inches water. Magnesol appears to have been added at the beginning of 6/20/2013 in reactor train #8 where the pressure drop spikes to greater than 2 inches water for a brief period of time across the filter F410C; otherwise the pressure drop continually registers near 0 inches water. From the 2007 inspection, a fabric filter is flagged as not operating properly if the pressure drop falls below 1 inch water during magnesol addition.

VI.1 – Compliance – Permittee shall comply with applicable requirements of MACT A and PPP – Though not stated explicitly in the condition, as the emission unit EUPOLCONV covers the non-fugitive aspects of conventional polyols production, this condition covers compliance with those aspects of MACT PPP addressing process vents, wastewater provisions, etc. and not those aspects of the MACT PPP that relate to leak detection and repair, which are covered under a similar condition within the flexible group FGPOLFUG.

Based on information obtained during an inspection from 3/17/2008 through 3/20/2008 and from subsequent 114 (a) requests, U.S. EPA Region 5 found BASF in violation of MACT PPP as detailed in a Finding of Violation (FOV) issued 9/29/2008 and an FOV issued 9/25/2009. On 6/15/2012, EPA and BASF entered into an Administrative Consent Order (ACO), and on 6/19/2012, a Consent Agreement and Final Order (CAFO) between EPA and BASF was filed which resolved the MACT PPP violations.

Since the end of the last FCE period (9/30/2011), pursuant to 63.1439(e)(6), MACT PPP semiannual reports have been received on 9/6/2013, 2/28/2013, 8/29/2012, and 3/2/2012. Please see reports B435923196, B435921771, B435918973, and B435917762.

MI-ROP-B4359-2003b, Section 2, EUPOLGRAFT
This emission unit covers the graft polyol manufacturing process (reactor train 10).

I.B.1 – Compliance – Maximum stack height and diameters for SVPOL115 are 24 inches and 23 feet, respectively, and exhaust gases discharged unobstructed vertically upwards – Compliance is based on visual observation during previous inspections; measurements were not conducted.

II.A.1, II.B.1.1 and 2, III.A.3.2 and 3 – Compliance – Styrene emissions from storage tank TK-500 shall not exceed 9.8 pounds per hour based on a daily average nor 0.24 tons per year on a 12-month rolling time period; the styrene charge to TK-500 shall not exceed 60,300,000 pounds per 12-month rolling time period; styrene monthly/12-month emissions calculations and production records kept for five years.

BASF reports the monthly and 12-month rolling total styrene throughput for the period 8/2012 through 7/2013 (9/25/2013 submittal); each of the 12-month totals is less than the 60,300,000 pound limit. BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports the annual throughput of styrene at 2,095,000 gallons. At a density of about 7.56 pounds per gallon, this equates to an annual throughput of 15,838,200 pounds styrene. Styrene emissions (combined working and breathing losses) are reported at 247 pounds (0.12 tons).

III.A.3.1, V.5 – Compliance – Polyol production rates for reactor trains 10 shall not exceed 150,000,000 pounds per 12-month rolling time period; records.

BASF reports monthly and 12-month rolling throughputs for reactor no. 10 in the period 8/2012 through 7/2013; each 12-month rolling total shows compliance with the 150,000,000 pound limit (9/25/2013 submittal). BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 28,974 tons (57,948,000 pounds) of product through EUPOLConv and 13,331 tons (26,662,000 pounds) of product through EUPOLFugGraft.

V.1 – Compliance – Graft equipment to be vented to the thermal oxidizer shall not be operated unless the oxidizer is installed and operating properly, including achieving a minimum temperature of 1700°F, a minimum residence time of 0.8 seconds, and maximum emission rates of 0.88 pounds per hour acrylonitrile (ACN) and 0.74 pounds per hour styrene; exceptions are given in V.3 and 4.

Testing conducted on 12/6/2010 through 12/9/2010 measured ACN and styrene beneath their respective detection limits of 0.004 pound per hour ACN and 0.023 pounds per hour styrene. Please see report B435915927. A graph of the continuous thermal oxidizer temperatures for 6/20/2013 is provided in the 9/25/2013 submittal; the temperature measures fluctuate within a range from about 1775°F to about 1895°F. During the inspection on 9/26/2013 the thermal oxidizer temperature was observed operating within a range from 1814°F to 1822°F.

V.2 – Compliance – The vacuum system for the graft process shall not be operated unless it vents to the thermal oxidizer – Based on observations of the process flow scheme on the computer consoles at the Polyol plant during various site visits, the vacuum jets vent to the thermal oxidizer when the graft process is in operation. Records of waste gas valve positions are provided for 6/20/2013 in the 9/25/2013 submittal.

V.3 – Compliance – Styrene shall not be charged to TK-500 unless the unloading system is satisfactorily operated; satisfactory operation includes blowing back lines to the railcar and system shutdown after use, hatches and openings closed, device or procedure to minimize liquid drainage; procedures shall be developed incorporating the listed requirements – Non-confidential styrene procedures are in the 9/27/2007 submittal; confidential styrene procedures are in the 9/25/2013 submittal. I did not witness a styrene transfer during the 9/26/2013 inspection.

V.4 – Compliance – ACN storage tank (TK-524) shall be filled with satisfactory vapor balance or venting to thermal oxidizer; satisfactory vapor balance includes: vapor-tight collection line before transfer, nitrogen purge of vapor line after transfer, hatches and openings closed, nitrogen purge of liquid line after transfer, device to minimize liquid drainage; procedures shall be developed incorporating the listed requirements – Non-confidential ACN procedures are in the 9/27/2007 submittal; confidential ACN procedures are in the 9/25/2013 submittal. I did not witness an ACN transfer during the 9/26/2013 inspection.

MI-ROP-B4359-2003b, Section 2, EUPOLTKFARM
This emission unit covers the toluene diisocyanate (TDI) storage tank TK-536.

I.B.1 – Compliance – Exhaust gases from the carbon canister on TK-536 shall discharge unobstructed vertically upwards with maximum diameter of 3 inches and height of not less than 35 feet above ground – Compliance is based on visual observation during the inspection of 9/26/2013; measurements were not conducted.

II.1, III.A.3.3 – Compliance – TDI throughput in TK-536 shall not exceed 5,000,000 gallons per 12-month rolling time period; records – BASF reports the monthly and 12-month TDI throughput for the period 8/2012 through 7/2013; each 12-month total is less than the 5,000,000 gallon limit. BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports the annual throughput of TDI at 1,845,000 gallons through RGPOLTANKS; TK-536 is not listed as a member of this reporting group, but that may be an oversight.

II.B.1.1 and 2, III.B.1 through 3 – Compliance – TDI emissions from TK-536 shall not exceed 0.0031 pounds per hour nor 0.18 pounds per year; TDI test to be performed on TK-536 upon request – AQD has not requested a test of BASF. Compliance with the annual limit is determined by the throughput limit and the control maintenance requirement. As the annual throughput limit is in compliance and the control system appears in compliance, the facility is presumed in compliance with the annual emission limit as well. It is noted that in MAERS 2012, for RGPOLTANKS BASF lists combined working and breathing losses at 4.1 pounds TDI, however, no control efficiency is applied.

III.A.1, V.1, 6, and 7 – Compliance – TK-536 shall not be operated unless the carbon canister is installed and operating properly; TDI shall not be transferred to delivery vessels unless emissions from the delivery vessels are controlled by installed carbon adsorption canisters operating properly; TK-536 carbon canisters shall be replaced every five years; a written record shall be maintained of the replacements – During the inspection of 9/26/2013, I observed the activated carbon canister installed on the top of TK-536. According to the 9/25/2013 submittal, the carbon canister was last replaced on 6/14/2013.

III.A.3.2, V.5, VI.1 – Compliance – Records shall be maintained of the dimensions and capacity of the storage tank TK-536, per NSPS Kb; no more than 50,000 gallons stored in TK-536 at any given time – Please see submittal of 9/27/2007, where the tank capacity is listed at 50,000 gallons, the diameter at 20.2 feet, and the height at 22 feet.

V.2 – Compliance – TDI storage and transfer facilities shall incorporate a dry air or nitrogen gas pad for moisture control – TK-536 employs a nitrogen blanket.

V.3 and 4 – Compliance – Residual or spilled materials shall be stored in closed containers preventing TDI release to the ambient air; spilled material shall be immediately contained, neutralized and stored – During previous inspections, I have observed 55 gallon drums, seated on concrete platforms with chain link barriers, next to MDI and TDI tanks for the storage of collected MDI/TDI waste. I have not observed spillage in these areas during any of the site inspections.

<u>MI-ROP-B4359-2003b, Section 2, FGPOLEMCON</u>
This flexible group contains requirements for the thermal oxidizer that controls both conventional and graft polyol systems.

I.B.1 – Compliance – Maximum stack height and diameter for SVPOL80 are 30 inches and 100 feet, respectively, and exhaust gases discharged unobstructed vertically upwards – Compliance is based on visual observation during the inspection of 9/26/2013; measurements were not conducted.

II.B.1.1 – Compliance – VOCs from equipment venting through the thermal oxidizer shall not exceed 6.4 pounds per hour on a daily average.

Testing conducted 12/4/2001 through 12/7/2001 measured an emission rate of 1.71 pounds per hour VOC. Testing conducted 12/6/2010 through 12/9/2010 measured an emission rate less than 0.03 pounds per hour VOC. The tests are not dispositive for the VOC emission limit because the sampling periods were less than the 24 hours of a calendar day. However, in the case of the 2010 test, as BASF organized process operations so as to direct the greatest amount of VOC loading to the thermal oxidizer during the 8-hour test period, and as the VOC emissions measured during the 8-hour test period represent less than 1% of the allowed daily amount, AQD concludes the test serves as a successful compliance demonstration unless future information should suggest the maximum VOC loading rate from the process was not measured during the test. Please see report B435915927.

II.B.1.2, II.B.2 through 6, Appendix 2-4.2 and 3 – Compliance – Emissions from equipment venting through the thermal oxidizer and from the thermal oxidizer itself shall not exceed the following on a 12-month rolling time period basis: 16 tons VOC; 2.2 tons PO; 0.89 tons EO; 0.72 tons ACN; 0.41 tons styrene; 15.3 tons NOx. VOC, PO, EO, ACN, styrene, and NOx monthly/12-month calculations kept for five years.

The 9/25/2013 submittal lists monthly and 12-month rolling emissions for the period from 8/2012 through 7/2013; each 12-month total is less than the annual emissions limitation. BASF claims this data as "Confidential Business Information". In MAERS 2012, BASF reports emissions of 882 pounds (0.44 tons) VOC and 6604 pounds (3.3 tons) NOx for EUPOLEmCon. In addition, extrapolating the worst-case hourly emissions from the stack testing performed in 12/2010 (see next set of conditions below) to annual emissions results in worst-case totals of 0.044 tons EO, 0.057 tons PO, 0.026 tons ACN, and 0.162 tons styrene.

III.B.1 through 3 – Compliance – Testing of EO, PO, ACN, and styrene between 6/1/2008 and 12/1/2008 unless demonstrated last tests remain valid.

In a letter dated 7/3/2008, BASF asserted the testing conducted in 12/2001 remained valid. In an email of 7/21/2008 and a letter dated 7/23/2008, AQD agreed the 12/2001 remained valid and stated testing for EO, PO, ACN, and styrene was not required in the referenced time period. Tests were conducted from 12/6/2010 through 12/9/2010 and based on the FTIR limits of quantification and the average stack flow data, the hourly emission rates are reported to be less than 0.006 pounds per hour EO, 0.008 pounds per hour PO, 0.004 pounds per hour ACN, and 0.023 pounds per hour styrene. The calculated emission rates for each pollutant are consistent across the four runs. As an overestimation, were the maximum flow extrapolated from one minute to an hour (and thus a factor of 1.6 greater), the emission rates would calculate to 0.010 pounds per hour EO, 0.013 pounds per hour PO, 0.006 pounds per hour ACN, and 0.037 pounds per hour styrene; these emission rates remain beneath the hourly rates established to indicate satisfactory operation. Please see report B435915927.

V.1 and 2, Appendix 2-4.1 – Compliance – Thermal oxidizer temperature shall be continuously (at least once every 15 minutes) monitored with an acceptable device; the position of the waste gas inlet control values to the thermal oxidizer shall be continuously monitored with an acceptable device; records of temperature and waste gas inlet control valve position – Please see discussions above under Condition V.4 of EUPOLCONV and Condition V.1 of EUPOLGRAFT.

VI.1 – Compliance – Permittee shall comply with applicable requirements of MACT A and PPP – Please see discussion above under Condition VI.1 of EUPOLCONV as it relates to the MACT PPP.

VI.2 and 3 – Compliance – Instrument for measuring liquid flowrate of water scrubber shall be calibrated, maintained, and operated according to manufacturer's specifications – Please see discussion above under Conditions III.A.1, III.A.3.3, and V.9 of EUPOLCONV.

Appendix 2-3.1 through 3 – Compliance – Regular inspection of thermal oxidizer; records of inspection; records of malfunctions or failures and corrective actions – In the submittal of 9/25/2013, BASF reports the last inspection of the oxidizer occurred on 9/21/2012. BASF reports the replacement of nozzle tips, the natural gas deflector, the stack cap, and some refractory; no other problems are noted.

PTI 143-09 and MI-ROP-B4359-2003b, Section 2, FGPOLFUG
This flexible group contains fugitive emissions requirements for the conventional and graft polyol systems. Per PTI 143-09, the individual emission limits for EO, PO, ACN, and styrene have been removed.

III.A.2.1 and 2, III.A.3.1, V.1 and 2 – Compliance – Leak detection and repair (LDAR) shall be performed on reactor trains 7, 8, 9 as per MACT PPP; LDAR program shall be instituted for reactor train 10 equivalent to the program in Rule 628 with noted exceptions; records maintained.

Based on information obtained during an inspection from 3/17/2008 through 3/20/2008 and from subsequent 114 (a) requests, U.S. EPA Region 5 found BASF in violation of MACT PPP as detailed in a Finding of Violation (FOV) issued 9/29/2008 and an FOV issued 9/25/2009. AQD followed with Violation Notices dated 10/28/2009 and 5/9/2012 concerning MACT PPP deficiencies, similar deficiencies for NSPS VV predating the MACT, and also for failing to conduct visual inspections for pumps subject to the Rule 629 (now Rule 628) equivalent LDAR program at the graft plant. These Violation Notices were forwarded to EPA. Please see reports B435908007 and B435917762. On 6/15/2012, EPA and BASF entered into an Administrative Consent Order (ACO), and on 6/19/2012, a Consent Agreement and Final Order (CAFO) between EPA and BASF was filed which resolved the MACT PPP violations. AQD considers the agreement sufficient to resolve the Violation Notices.

Since the end of the last FCE period (9/30/2011), pursuant to 63.1439(e)(6), MACT PPP semiannual reports have been received on 9/6/2013, 2/28/2013, 8/29/2012, and 3/2/2012. Please see reports B435923196, B435921771, B435918973, and B435917762. These reports include summaries of MACT PPP LDAR activities. Rule 628 LDAR semiannual reports have been received on 9/6/2013, 2/28/2013, 8/29/2012, and 3/2/2012. Please see reports B435923187, B435921154, B435918966, and B435917280.

PTI 143-09 and MI-ROP-B4359-2003b, Section 2, FGPOLFACILITY
This flexible group aggregates permitted, exempt, and grandfathered equipment at the polyol plant and total emissions limitations. Under PTI 143-09 the individual emission limits for EO, PO, ACN, styrene, and HAPs have been removed.

V.1 – Compliance – Requirement to comply with 40 CFR 63, Subpart PPP – Please see discussion above under EUPOLCONV and FGPOLFUG.

V.2 – Not Applicable – Requirement to comply with 40 CFR 60, Subpart YYY – This subpart was proposed as Standards of Performance for VOC emissions from the synthetic organic chemical manufacturing industry (SOCMI) wastewater. To be located beginning at 40 CFR 60.770, the regulation has yet to pass beyond the proposal stage.

V.3 – Compliance – Requirement to comply with 40 CFR 60, Subpart Kb – Please see above under NSPS Tanks Flexible Groups.

MI-ROP-B4359-2003b, Section 3, EUCHEPOLYTHF
This emission unit covers production of poly-THF in reactors R-30, R-62, and R-63. From site inspections and reports, Poly-THF appears to not have been produced since early 2003. The emission unit is in compliance with all emissions, throughput, and process specifications for the fact that the process has not been in operation.

PTI 272-04 and MI-ROP-B4359-2003b, Section 3, EUCHEPOLYOL
This emission unit covers production of conventional polyether polyols in reactors R-20, R-30, and R-100. The emission unit in the ROP was modified in Permit to Install No. 272-04, issued 1/19/2005. The conditions below are from the permit to install.

I.B.1 through 8 – Compliance – Stack maximum diameters (given first in inches) and minimum heights (given second in feet) above ground level for the following stacks, all of which are required to vent vertically unobstructed upwards except SVCHE527: 1.5/50 for SVCHE054; 36/53 for SVCHE057; 2/50 for SVCHE525; 1.5/27.7 for SVCHE526; 6/31 for SVCHE527; 1.61/55 for SVCHE528; 2.1/41 for SVCHET-110; 3.1/52 for SVCHEWJET – Compliance is based on visual observations during site inspections; measurements have not been conducted.

II.B.1 through 4, III.B.1 through 3, Appendix 3-4.2j through m – Compliance – Emissions from the polyether polyol process shall not exceed the following on a 12-month rolling time period basis: 7.22 tons VOC; 0.8 tons EO; 3.5 tons PO; 0.89 tons BO. VOC, EO, PO, and BO monthly/12-month calculations kept for five years – In the 9/25/2013 submittal, BASF reports emissions of 8.37 pounds (0.004 tons) EO, 121.03 pounds (0.06 tons) PO, and zero pounds BO (no production) in the period from 6/2012 through 7/2013. From MAERS 2012, annual emissions of VOC for the emission unit are reported at 68 pounds (0.034 tons).

V.1 and 2, Appendix 3-4.2a and b – Compliance – Polyether polyol production shall not exceed 220 batches per 12-month rolling time period nor 3,300,000 pounds per 12-month rolling time period; records – From the 9/25/2013 submittal, for the period 6/2012 through 7/2013 BASF's production logs document 15 total batches and total 144,269 pounds of reactants.

III.A.2.5, V.3 and 4, Appendix 3-4.2g and h – Compliance – Equipment shall not vent out of the north or south vacuum jet unless the associated vacuum jet condenser system is installed and operating properly and with a condenser exhaust gas temperature of 113°F or less; equipment shall not vent out of the east or west vacuum jet unless the associated vacuum jet condenser system is installed and operating properly and with a condenser exhaust gas temperature of 140°F or less; device installed to monitor temperature continually; temperature records – Jet temperatures are provided, in graph form, in the 9/25/2013 submittal for 6/6/2013, 6/11/2013, and 6/12/2013. Jet temperatures continually register less than 40°C (104°F). The north/south vacuum jet was in operation at the time of the inspection and registered a temperature of 25.8°C (or 78.4°F).

III.A.2.1 and 3 through 4 and 6, V.5, Appendix 3-4.2d through f and i – Compliance – Process steps involving the release of EO, PO, and/or BO shall not be operated unless the T-110 wet scrubber is installed and operating properly. Proper operation of the T-110 wet scrubber includes: (a) maintaining the scrubber solution pH to 3.0 or less; (b) maintaining the pump outlet pressure at 2.0 bar gauge or less; (c) maintaining the water concentration in the scrubber solution to 60 percent by weight or more. The scrubber solution shall be verified at the beginning of each month and whenever the scrubber solution is replaced. At the beginning of each month, the percent water by weight of the scrubber solution shall be determined and the theoretical number of batches that can be completed before 60% by weight is reached shall be calculated; the scrubber solution shall be replaced before the 60% limit is reached. A device shall be installed to monitor the pump outlet pressure. Records of the above maintained. The T-110 wet scrubber pump shall be maintained with a flow alarm. Records of alarm conditions and steps taken in response shall be kept.

Monitoring data for 6/6/2013, 6/11/2013, and 6/12/2013 and monthly production logs for 6/2012 through 7/2013 are included in the 9/25/2013 submittal. The daily monitoring data records the scrubber pump outlet pressure continually at 1.0 bar. The logs indicate a maximum pH of 2.1 on 2/5/2013, a maximum scrubber pump outlet pressure of 0.98 on 6/3/2013, and a minimum water concentration in the scrubber solution of 62.55% on 3/5/2013, after which the scrubber solution was changed prior to the next batch. The number of theoretical batches has been calculated after each measure of the water concentration. During the inspection on 9/27/2013, the oxide scrubber control panel in Building 55R showed a T-110 wet scrubber pH of 1.9 and a pump outlet pressure of 0.95 bar. The operations log entry for 9/4/2013 showed a scrubber water concentration of 100% and a pH of 0.92. Included in the 9/25/2013 submittal are the corrective actions taken in response to scrubber equipment faults.

III.A.2.2, Appendix 3-4.2c – Compliance – A visual inspection of all equipment in EO, PO, and BO service will be performed at the beginning of every month to ensure that there are no leaks; any leaking equipment shall be repaired or replaced prior to the start of any subsequent batch. Records to be kept – LDAR activities are summarized on the monthly production sheets for 6/2012 through 7/2013 (9/25/2013 submittal). No record of a leak check is noted on the monthly log for 8/2012, however, there was no production performed during the month.

V.6, Appendix 3-4.2n – Compliance – Magnesium silicate use limited to 77,000 pounds per 12-month rolling time period; records kept – In the 9/25/2013 submittal, BASF reports total magnesium silicate usage at 240 pounds in the period from 8/2012 through 7/2013.

VI.1 – Compliance – Permittee shall comply with NSPS A and Kb as they apply to storage tanks as ACCE. Please see above under NSPS Tanks Flexible Groups.

PTI 84-07, EU-CheGraft and EU-CheGraftFug

Permit to Install No. 84-07 was issued 7/6/2007. Emission units EU-CheGraft and EU-CheGraftFug cover the production of grafted polyether polyols in reactor R-3. The emission unit is also used for research and development; the permit to install enables the unit to be utilized for both purposes, similar to the manner in which EUCHEPOLYOL is utilized for research and for the production of conventional polyether polyols. The process was not in operation during the site inspection on 9/27/2013. From the information submittal of 9/25/2013, BASF reports no graft polyol was produced in 7/2013 or for the prior year. The emission units are in compliance with all emissions, throughput, and process specifications for the fact that the equipment has not been in operation.

PTI 80-11, EUCHEORGACT

Permit to Install No. 80-11 was issued 9/1/2011. Emission unit EUCHEORGACT covers production of organic activator in reactor R-803. The emission unit is also used for research and development. The process was not in operation during the site inspection on 9/27/2013 and appears not to have operated recently. In MAERS 2012, BASF reports 1 ton of product produced in the emission unit and 14 pounds of VOC emitted, or 0.007 tons; the annual VOC emission limit at SC I.1 is 0.3 tons.

MI-ROP-B4359-2003b, Section 4

Section 4 of the ROP contains emission units and flexible groups composing the Thermoplastic Urethane (TPU) plant. Emission units EUTPUSYNTHESIS and EUTPUFURNACE are Rule 290 emission units, addressed above. Emission unit EUTPUEXTRUSION comprises plastics extrusion equipment and associated plastic resin handling and storage equipment exempt under Rule 286(a).

PTI 113-07, Joncryl Polymers Plant

Permit to Install No. 113-07 was issued 5/23/2007 for the construction of the Joncryl Polymers Plant.

FG-RAWMATLS, SCs 1.1, 1.4 – Compliance – Ethyl acrylate throughput limited to 379,000 gallons per 12-month rolling time period; records – Monthly and 12-month rolling total ethyl acrylate throughput records are provided for the period 8/2012 through 7/2013 in the 9/25/2013 submittal. Each 12-month total is less than 379,000 gallons. BASF claims this data as "Confidential Business Information".

FG-RAWMATLS, SCs 1.2, 1.3, 1.5 – Compliance – Comply with NSPS Kb as applicable to storage tanks EUJONTK-0001, EUJONTK-0002, EUJONTK-0003, EUJONTK-0004, EUJONTK-0005, EUJONTK-0006, EUJONTK-0007, and EUJONTK-0008.

At 40 CFR 60.110b(b), the following volatile organic liquid storage tanks constructed after 7/23/1984 are subject to NSPS Kb: (i) those with capacity of 151 cubic meters or greater (about 40,000 gallons) storing a liquid with a vapor pressure of 3.5 kilopascals or greater, or; (ii) those with capacity of 75 cubic meters or greater (about 20,000 gallons) storing a liquid with a vapor pressure of 15.0 kilopascals or greater. From Appendix F of the permit application for PTI 113-07, only EUJONTK-0004 meets the criteria (e.g. it has a capacity of 80,000 gallons and stores a liquid with vapor pressure of 5.8 kilopascals). Under 60.110b(a), (b), and (c) of the pre-10/15/2003 requirements of NSPS Kb, tanks greater than 40 cubic meters (about 10,500 gallons) that were not subject to control standards were still subject to the recordkeeping standards at 60.116b(b) and (c). With the 10/15/2003 revision to the standard the formerly "recordkeeping only" subject tanks are no longer subject to the standard at all. Excepting EUJONTK-0004, all of the tanks are reported to store liquids with vapor pressures less than 1.1 kilopascals. Although SCs 1.2 and 1.5 infer that these tanks are subject to the recordkeeping provisions of NSPS Kb the known information about these tanks determine otherwise. BASF complies with 60.112b(a) by operating EUJONTK-0004 with a closed vent system that exhausts through the RTO (60.112b(a)(3)).

FG-EMULSIONS, SCs 2.1, 2.2 – Compliance – Production of emulsion polymer limited to 241,000,000 pounds per 12-month rolling time period; records – Monthly and 12-month rolling total production records of emulsion polymer are provided for the period 8/2012 through 7/2013 in the 9/25/2013 submittal. Each 12-month total is less than 241,000,000 pounds. BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 70,479 tons (140,958,000 pounds) of product through RGJonEmulsions.

FG-SGO, SCs 3.1a, 3.6, 3.7, 3.13 – Compliance – Particulate emissions from the grinder not to exceed 0.10 pounds per thousand pounds of exhaust gases; test upon request of AQD; fabric filter F-1091 installed and operating properly, including the operation of the filter within the proper pressure drop operating range; pressure drop measured and recorded on a daily basis – A test has not been requested by AQD. The fabric filter operating procedures and daily pressure drop records for 7/2013 are provided in the 9/25/2013 submittal. The pressure drop range given in the procedures is 1 to 7 psi. The pressure drop measures in 7/2011 range from 3 psi to 6 psi.

FG-SGO, SCs 3.1b, 3.3, 3.4, 3.5, 3.9, 3.11 – Not Applicable – BASF's permit application anticipated the production of polystyrene in the solid/liquid grade resin reactors. Therefore, PTI 113-07 was issued with conditions incorporated from NSPS DDD, Rule 628 (by Rule 702(d)) and Rule 631 (by Rule 702(d)) applicable to the production of polystyrene. According to the 9/25/2013 information submittal and previous submittals, polystyrene has not been produced in the FG-SGO reactor trains. Based on conversations with BASF during the 9/27/2013 inspection and during other site visits, there are no plans for BASF to produce polystyrene at the Joncryl plant. These permit conditions apply to the facility only under polystyrene production.

FG-SGO, SCs 3.2, 3.8, 3.10 – Compliance – Production of solid/liquid grade resin limited to 142,000,000 pounds per 12-month rolling time period; records – Monthly and 12-month rolling total production records of solid/liquid grade resin are provided for the period 8/2012 through 7/2013 in the 9/25/2013 submittal. Each 12-month total is less than 142,000,000 pounds. BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 42,544 tons (85,088,000 pounds) of product through RGJonResins.

FG-RESINCUT, SCs 4.1, 4.2 – Compliance – Production of cut resin limited to 143,000,000 pounds per 12-month rolling time period; records – Monthly and 12-month rolling total production records of cut resin are provided for the period 8/2012 through 7/2013 in the 9/25/2013 submittal. Each 12-month total is less than 143,000,000 pounds. BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 39,359 tons (78,718,000 pounds) of product through RGJonResinCut.

FG-PRODUCTS, SCs 5.1a, 5.4, 5.6 – Compliance – Ethyl acrylate from FG-PRODUCTS equipment not vented to the RTO limited to 0.0144 pounds per hour; test upon request of AQD; throughput records and other records

maintained as necessary to determine compliance with limit, which may be prorated from monthly records to an hourly rate – A test has not been requested by AQD. Prorated pound per hour ethyl acrylate emissions data is provided in the 9/25/2013 submittal for each month in the period 8/2012 through 7/2013. Each monthly pound per hour ethyl acrylate emission rate is less than 0.0144. BASF claims this data as "Confidential Business Information".

FG-PRODUCTS, SCs 5.1b, 5.2, 5.3, 5.5 – Compliance – Particulate emissions from FG-PRODSILOS not to exceed 0.10 pounds per thousand pounds of exhaust gases; test upon request of AQD; fabric filter F-1091 installed and operating properly, including the operation of the filter within the proper pressure drop operating range; pressure drop measured and recorded on a daily basis – Please see discussion for fabric filter F-1091 under FG-SGO.

FG-PRODUCTS, SC 5.7 – Undetermined – The stack for FG-PRODUCTS shall discharge unobstructed vertically and not have a diameter greater than 24 inches or a discharge height less than 58 feet – A stack of this nature is installed near the entrance to the main process building, but I did not confirm if product tanks pipe to this stack or to another.

FG-DRUMMING, SCs 6.1a, 6.3, 6.4 – Compliance – Ethyl acrylate from FG-DRUMMING equipment not vented to the RTO limited to 0.0144 pounds per hour; test upon request of AQD; throughput records and other records maintained as necessary to determine compliance with limit, which may be prorated from monthly records to an hourly rate – A test has not been requested by AQD. Prorated pound per hour ethyl acrylate emissions data is provided in the 9/25/2013 submittal for each month in the period 8/2012 through 7/2013. Each monthly pound per hour ethyl acrylate emission rate is less than 0.0144. BASF claims this data as "Confidential Business Information".

FG-DRUMMING, SCs 6.2, 6.5 – Compliance – Loading of organic compounds with a vapor pressure greater than 1.5 psia limited to 5,000,000 gallons per 12-month rolling time period; records – Monthly and 12-month rolling total loading records are provided for the period 8/2012 through 7/2013 in the 9/25/2013 submittal. Each 12-month total is less than 5,000,000 gallons. BASF claims this data as "Confidential Business Information".

FG-DRUMMING, SC 6.6 – Undetermined – The stack for FG-DRUMMING shall discharge unobstructed vertically and not have a diameter greater than 24 inches or a discharge height less than 42 feet – The stack was not observed during the 9/27/2013 inspection.

FG-RTO, SCs 7.1a, 7.6 – Compliance – Ethyl acrylate emissions limited to 0.21 pounds per hour; test required – A performance test was conducted on 4/23/2010. On 6/23/2010, AQD received BASF's test report with a letter dated 6/22/2010. BASF reports the ethyl acrylate emission rate was less than the minimum detection limit of 0.009 pound per hour, and therefore in compliance with the SC 7.1a emission limit of 0.21 pounds per hour. Please see report B435912836.

FG-RTO, SCs 7.2, 7.7, 7.9, 7.10 – Compliance – An operating plan to be submitted pursuant to 60.113b(c)(1) to be submitted; facility to monitor the closed vent system and RTO in accordance with the operating plan; maintain a copy of operating plan and records of monitoring conducted for compliance with the operating plan.

AQD received the operating plan from BASF on 7/26/2007. The operating plan is required under NSPS Kb for the affected storage tank EUJONTK-0004. Please see report B435901112. Pursuant to 60.113b(c)(1)(i), flow and VOC constituent loading rates are provided and manufacturer's design specifications are given. The operating plan is to document the control device will meet the minimum destruction efficiency of 95% required under 60.112b(a)(3)(ii). Meeting a minimum residence time of 0.75 seconds and a minimum temperature of 816°C (1500°F) presumes compliance with the destruction efficiency without the necessity of a compliance test.

According to BASF, the RTO manufacturer specifies an average residence time of 0.93 seconds, a minimum combustion temperature of 790°C (1454°F), a maximum combustion temperature of 980°C (1796°F), and a destruction efficiency of 99%. The manufacturer's average residence time exceeds the minimum required, although a manufacturer's minimum is not provided. The manufacturer's minimum temperature does not meet the required presumptive minimum in the NSPS. Regardless, the specifications in the operating plan were accepted because of the performance test to be conducted (for the permit) to verify the destruction efficiency, which would provide superior documentation to the presumptive compliance method allowed by the regulation.

Pursuant to 60.113b(c)(1)(ii) BASF indicates the RTO system will be equipped with inlet, outlet, and combustion chamber temperatures monitors, airflow monitors, and burner flame management monitors. These monitors

were to be observed during the performance test to determine appropriate parametric monitoring ranges for continued compliance.

The performance test conducted on 4/23/2010 demonstrated a destruction efficiency of 98%. The firebox temperature averaged 1557°F across the test. SC 7.3 sets the minimum 3-hour average firebox temperature to 50°F less than the average exhibited during a compliant performance test: the 3-hour minimum average is therefore 1507°F. Thus, in addition to the test result, the presumptive minimum of the NSPS Kb is met.

FG-RTO, SCs 7.3, 7.4, 7.6, 7.8, 7.11, 7.12 – Compliance – Equipment vented to the RTO shall not be operated unless the RTO is installed, maintained, and operated in a satisfactory manner, including maintaining a 3-hour average temperature not less than 50°F less than the average during a performance test where a TOC (minus methane and ethane) destruction efficiency of 98% is demonstrated; TOC destruction efficiency performance test required and reported to AQD; continuously monitor and record firebox temperature; record time periods when the 3-hour average is below the minimum; regular inspections to be performed to determine operating status of RTO and process emissions to oxidizer to be discontinued within one hour in the event of an RTO malfunction; temperature monitor to be calibrated.

The TOC destruction efficiency test was conducted on 4/23/2010. On 6/23/2010, AQD received BASF's test report with a letter dated 6/22/2010. BASF reports the average total hydrocarbon (minus methane and ethane) destruction efficiency at 98%, and therefore in compliance with the SC 7.3 destruction efficiency standard of 98%. AQD and BASF agree the firebox temperature averaged 1557°F across the test and therefore the 3-hour minimum average is 1507°F; please see report B435912836 and submittal of 9/26/2011.

In the submittal of 9/25/2013, BASF supplies for 7/20/2011 the continuous temperature measures in graphical form and the corresponding 3-hour averages, calculated each hour, for the 24-hour day. The lowest 3-hour average recorded is 1558°F; from the continuous graph, the lowest instantaneous temperature recorded is about 1545°F. During the inspection on 9/27/2014, the RTO was observed to be operating with a temperature of 1564° F. BASF reports the RTO temperature has remained above the minimum during process operations (i.e. the RTO temperature may be less than the minimum during periods of process downtime) except during RTO malfunctions, when interlocks are activated to shut down the process within an hour (in accordance with SC 7.8c). BASF reports the most recent malfunction occurred in 5/2012.

The RTO was last inspected in 7/2012 by the manufacturer (Durr Environmental), during which time the temperature thermocouple was recalibrated.

FG-RTO, SC 7.5 – Not in Compliance – Shall not install bypass valves that could divert a vent stream from the RTO.

On 11/5/2009 AQD received a Rule 912 malfunction report dated 11/3/2009 from BASF indicating that from 21:33 on 10/26/2009 to 12:15 on 10/27/2009 the RTO at the Joncryl Polymers Plant shut down. During this period emission units which normally vent to the RTO vented uncontrolled to atmosphere through a bypass stack. According to BASF, the introduction of flammable liquids into the RTO risks a fire. The RTO manufacturer, Durr Environmental, has equipped the RTO with a knockout pot upstream of the combustion chambers to collect liquids entrained in the vent stream. A high liquid level in the knockout pot closes the inlet damper to the RTO to prevent liquids from entering the combustion chamber and directs flow to a bypass stack; the bypass and stack were provided by the manufacturer as a part of the RTO system. BASF speculated that on 10/26/2009 debris activated the high level switch in the knockout pot and caused the RTO to shut down. The alarm that was triggered was not observed until the morning of 10/27/2009 at which time process operations were gradually brought to a halt until the RTO was operational again at 12:15. From 21:33 on 10/26 until process operations were halted on the morning of 10/27, any vents that normally would pass through the RTO were blocked from doing so by the closure of the inlet damper and instead directed out an emergency bypass stack. BASF committed to redesign the alarm system to promote its visibility and to install an interlock to prevent the commencement of the process scale tanks when the RTO shuts down.

On 5/14/2012 AQD received an email notification from BASF of an RTO malfunction on 5/10/2012. BASF reports that from 03:54 on 5/10/2012 to 06:22 on 5/10/2012 the RTO shut down, except for a brief restart and subsequent return to shutdown status at 05:44. During this period all four of the emulsion trains and all four of the resin trains were in various stages of operation. Emissions exhausts from this equipment that occurred during this time frame, which normally vent to the RTO, were instead vented uncontrolled to atmosphere through the emergency bypass stack. According to BASF, the cause of the initial RTO malfunction at 03:54 was a high temperature reading in the unit. The RTO briefly restarted at 05:44 but a faulty valve positioner caused the unit

to immediately shut down again. At 06:22 the RTO was restarted a second time and remained operational thereafter. At the time of the initial malfunction, interlocks within the process were activated so as to discontinue certain non-reactive processes, such as the filling of storage tanks, and so as to prohibit the commencement of any new production batches. Batches that were currently in production at the time of the RTO malfunction continued to run until their reactions were complete because of the unpredictable consequences of trying to halt a batch in mid-reaction.

SC 7.5 to PTI 113-07 states: "The permittee shall not install bypass valves that could divert a vent stream from the RTO." As a result of the installation of bypass valves prohibited under SC 7.5, the vents associated with FG-RTO did not pass through the RTO prior to exhaust during the malfunction events on 10/26/2009 to 10/27/2009 and on 5/10/2012; therefore, BASF is in violation of SC 7.5 of PTI 113-07. On 1/5/2010 and on 5/21/2012 AQD issued Violation Notices concerning these events.

BASF has informed the AQD that Durr Environmental supplied the emergency bypass stack as part of the purchase package of the RTO. As indicated above, certain inlet conditions present an explosion hazard to the RTO and the emergency bypass stack is provided to prevent a catastrophic failure of the system which may harm the health of employees in the plant and the surrounding community. AQD does not dispute the necessity of the bypass stack. However, SC 7.5 does not provide for the installation of this device and therefore the PTI must be modified to allow for its operation. As of the date of this report, BASF has yet to submit a permit modification to apply for this change.

FG-RTO, SCs 7.13 through 7.16 – Not Applicable – Various notifications and records associated with NSPS DDD – BASF's permit application anticipated the production of polystyrene in the solid/liquid grade resin reactors which would qualify elements of the process as affected facilities under NSPS DDD. AQD received BASF's notice of the commencement of construction on 7/26/2007 and notice of initial startup on 11/16/2009. Please see reports B435901112 and B435908755. As of the 9/27/2013 inspection, BASF reports polystyrene has not yet been produced at the plant (submittal of 9/25/2013) and there are no future plans to produce polystyrene. Therefore, future recordkeeping and reporting required by these conditions are not applicable unless polystyrene production commences.

FG-RTO, SC 7.17 – Compliance – The RTO stack shall discharge unobstructed vertically and not have a diameter greater than 24 inches or a discharge height less than 36 feet – Based on visual observations during the performance test on 4/23/2010 and the inspection of 9/27/2013, the stack is judged to be in compliance with these requirements, though measurements were not conducted.

FG-JONFACILITY, SCs 8.1, 8.3, 8.4 – Compliance – VOC emissions from the Joncryl plant not to exceed 36 tons per 12-month rolling time period; records maintained – Monthly and 12-month rolling total VOC emissions for the Joncryl plant are reported in the 9/25/2013 submittal for each month in the period 8/2012 through 7/2013. Each 12-month rolling total is less than 36 tons of VOC. BASF claims this data as "Confidential Business Information". In the 2012 MAERS, BASF reports 22,335 pounds (11.2 tons) of VOC were emitted from the various Joncryl Plant processes in calendar year 2012.

FG-JONFACILITY, SCs 8.2, 8.5 – Compliance – Implement and maintain a leak detection and repair (LDAR) program equivalent to Rule 628 with some alterations, including the submittal of semiannual (instead of quarterly) reports; records required.

The Joncryl plant is not subject to Rule 628, however, an LDAR program is necessary to provide a mechanism to quantify fugitive emissions; otherwise, a 12-month total for the plant cannot be obtained as needed to determine compliance with the 12-month rolling VOC limit. AQD and BASF agreed to model an LDAR program after an existing program (Rule 628) with some minor alterations. Rule 628 LDAR semiannual reports have been received on 9/6/2013, 2/28/2013, 8/29/2012, and 3/2/2012. Please see reports B435923187, B435921154, B435918966, and B435917280. Examples of weekly LDAR visual observations are provided in the 9/25/2013 submittal for 7/2013.

PTI 174-08, Warehouse Bagging Line

Permit to Install No. 174-08 was issued 6/30/2008 was issued for the installation of a bagging line in a new warehouse constructed at the site.

EU-JONBagging, SCs I.1, IV.1, IV.2, V.1, VI.1 – Compliance – Particulate emissions from the bagging line not to exceed 0.10 pounds per thousand pounds of exhaust gases; test upon request of AQD; baghouse installed and operating properly, including the operation of the baghouse within the proper pressure drop operating range;

pressure drop measured and recorded on a daily basis – A test has not been requested by AQD. The bagging line was observed during the 9/27/2013 inspection and the unit was not in operation at the time of the visit. During the 9/14/2011 inspection the pressure drop log sheet was viewed and the most recent pressure drop, 2.4 inches water column, noted. The pressure drop is recorded each day of operation.

EU-JONBagging, SC VII.1 – Compliance – AQD to be notified of completion of installation within 30 days – On 1/20/2010 AQD received written notice from BASF dated 1/11/2010 that the installation of the bagging line was completed 12/17/2009.

EU-JONBagging, SC VIII.1 – Compliance – The bagging line exhaust stack shall discharge unobstructed vertically and not have a diameter greater than 18 inches or a discharge height less than 40 feet – Based on visual observations during site inspections, the stack is judged to be in compliance with these requirements, though measurements were not conducted.

NESHAP for Chemical Manufacturing Area Sources, 40 CFR Subparts A and VVVVVV
On 5/28/2013, the AQD received from BASF Corporation, dated 5/21/2013, an Initial Notice of Compliance Status report for Chemical Manufacturing Area Source MACT at 40 CFR 63 Subpart VVVVVV. Please see B435923198. According to BASF, MACT VVVVVV applies to certain equipment at the ACCE plant associated with the EUCHEHARDELEN and EUCHEORGACT emission units.
Currently, the AQD does not have delegation from the U.S. EPA to enforce MACT VVVVVV.

Conclusion:
At the completion of this investigation the facility, though in compliance with the majority, is not in compliance with all of its applicable requirements. An emergency bypass stack is installed prior to the regenerative thermal oxidizer (RTO) at the Joncryl Polymers Plant in contravention of Special Condition 7.5 of Permit to Install No. 113-07; the AQD Violation Notices dated 1/5/2010 and 5/21/2012 concerning the installation of the bypass stack remain unresolved.

NAME Jeff Kmiec DATE 2/12/2014 SUPERVISOR W.M