N1336
FY 2017 Insp-
ROP CMS

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Self Initiated Inspection

N133641070

FACILITY: BASF CORPORATION		**SRN / ID:** N1336
LOCATION: 26701 Telegraph Road, SOUTHFIELD		**DISTRICT:** Southeast Michigan
CITY: SOUTHFIELD		**COUNTY:** OAKLAND
CONTACT:		**ACTIVITY DATE:** 07/28/2017
STAFF: Iranna Konanahalli	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: FY 2017 ROP CMS inspection of BASF Corporation ("BASF")		
RESOLVED COMPLAINTS:		

N1336_SAR_2017 07 28

BASF Corporation (N1336)
26701 Telegraph Road
Southfield, Michigan 48034-2442

ROP No.: MI-ROP-N1336-2015 dated August 26, 2015 (2015 revision incorporated natural gas only Boiler MACT 5D and CI RICE MACT 4Z)

Subject to: New Source Performance Standards (NSPS), 40 CFR, Part 60, Subparts Dc and A.

Subject to (initial notification only, originally [2004] promulgated MACT): 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (Federal Register / Vol. 69, No. 176 / Monday, September 13, 2004 / Page 55218 / Rules and Regulations). Federal Appeals Court has vacated this rule resulting in 112(j) MACT. See reconsideration NESHAP / MACT 5D Rule of January 31, 2013.

Subject to (reconsidered [2011] MACT: Annual Tune-up, one time Energy Assessment (EA) or ISO 50001): Major Source Boiler NESHAP / MACT 5D, 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, Page 7138, Federal Register / Vol. 78, No. 21 / Thursday, January 31, 2013 / Rules and Regulations / Final rule; notice of final action on reconsideration. The December 23, 2011 proposed rule addressed specific issues and provisions the EPA identified for reconsideration. This summary of the final rule reflects the changes to 40 CFR, Part 63, subpart DDDDD (March 21, 2011 final rule) in regards to those provisions identified for reconsideration and on other discrete matters identified in response to comments or data received during the comment period. Neither boiler (2) is equipped with Oxygen Trim System. An Oxygen Trim System is system of monitors that is used to maintain excess air (EA) at the desired level in a combustion device. A typical system consists of a flue gas analyzer for oxygen (O2) and / or carbon monoxide (CO) and a feedback signal to the combustion controller. In other words, an Oxygen Trim System is designed to continuously measure and maintain optimum air-to-fuel ratio in the combustion zone. If such system exists, annual tune-up is not required; however, pentennial tune-up is required. BASF does not follow ISO 50001, Energy Management System for continuous improvement of energy performance, energy efficiency, energy consumption and for reduction of energy use, energy costs, greenhouse gas emissions (GHG), etc. If ISO 50001 is followed properly, one-time energy assessment (EA) is not required.

Subject to: Major Source NESHAP / RICE MACT 4Z, 40 CFR Parts 60 and 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating

Health and Safety Team Leader, separated from the company in CY 2009. About 2003, Mr. Anderson and Mr. Ozimek replaced Mr. Marc Lillemoen (248-948-2006), industrial hygienist.

The company's Southfield facility is a research and development facility for automotive body coatings. At this facility, R& D work for automotive body e-coat, basecoat and clearcoat is conducted. There was also an application research center (ARC) where paint application problems of an automotive assembly plant are studied. ARC building was mostly idle since 2011 until all assembly-plant-size booths and ovens were removed. Other business units moved, as a part of consolidation, into the Southfield buildings. At ARC, all booths and equipment have been removed and labs for EDN (Inks and resins, etc.) were installed. Catalyst business (ProCat Testing, which certifies muffler catalysts [platinum, rhodium, palladium mixture] and ages [50,000, 100,000, 150,000 miles] catalysts using US EPA prescribed methods, for automotive customers is still in Wixom to afford separation and independence) also moved to Southfield. Application research can now be performed using small scale pilot paint facilities. ARC building is now known as PACE due to consolidation of SEM! BASF coating business operations.

Per FY 2017 inspection, the BASF Southfield building names have changed:

1. Coating Research Center (CRC) building, 2671 Telegraph Road
2. Pigments and Coatings Excellence (PACE) Group building, 24600 West 11 Mile Road. PACE building was known as ARC (Applications Research Center) building.
3. CATALYST building, 24700 West 11 Mile Road
4. EDN (Inks and resins, etc.) building, 24710 West 11 Mile Road

At the site, there is no manufacturing activity.

Custom software for spray logs is used for tracking paint & solvent usage and VOC emissions. Although exempt from Part 6 and 7 Rules, VOC emissions from R&D coating operations are reported via MAERS.

EG-PAINTLINE (Removed from ROP: R&D EU) – Idled for few years and then removed

According to Ms. Karen Kellam, Application Research Center was idled since July 2011; ARC closed and now known as PACE. Many long-term R & D positions are outsourced to Mangalore, India. Indian workers already obtained necessary training in CY 2011 at Southfield facility. Other business units of BASF such as EDN and Catalysts have moved into this building.

EU-PIGMENT

The pigment staging and storage room houses various pigments (powders) in five-gallon pails prior to their use in paint formulations. Particulate emissions are controlled using a HEPA filter particulate control system. This Farr Dust Collector (Farr Company, Los Angles, 800-333-7320-ext 333) uses pulse-jet air for cleaning HEPA filters. The process was not operating during the inspection; this is an intermittent operation; a couple of hours per month. Production and emission records are kept. The emissions from this source are less than one-tenth of a pound of particulate matter per year due to HEPA control. Photohelic pressure drop readings are taken and recorded to ensure proper operation of HEPA filter system. SAP software keeps track of maintenance. A notice has been posted on the pigment room to advise employees to log pressure drop readings each time; ROP requires at least once per week.

Filter pressure drop logs are kept each time pigment transfer occurs. Based upon pressure drop, filters are cleaned using pulse air. The pigment transfer rates have come down due to bad economy and outsourcing. During the inspection, I asked Mr. Howard to start the fan and I checked the air flow being drawn; I confirmed that there was sufficient suction.

It has been decided (CY 2012) to keep HEPA filter system on site operational since occasional pigment transfer may occur after most work is transferred to India. This unit is mostly idled (sparingly used) although capable of being operated.

EG-SOLVSTORE (Removed from ROP: R&D EU)

Total for all buildings = **59.875** MM SCF
Two natural gas boilers (FG-BOILERS) =**43.115** MM SCF

NSPS Dc Revisions:

1. 72 FR 32759 = Page 32759 Federal Register / Vol. 72, No. 113 / Wednesday, June 13, 2007 / Rules and Regulations / Final Rule – to add compliance alternatives and to revise certain recordkeeping and reporting requirements.

2. 74 FR 5091 = Page 5091 Federal Register / Vol. 74, No. 17 / Wednesday, January 28, 2009 / Rules and Regulations / Final Rule - to correct technical and editorial errors.

The NSPS revisions simplified the natural gas usage recordkeeping. RO permit renewal MI-ROP-N1336-2010 & 2015 incorporate these changes. In addition, the ROP (2010 onwards) removes diesel / fuel oil requirements.

BOILER MACT 5D: FG-NG-BOILER-MACT-5D-MJRSOURCE-EXISTING

BASF was subject to 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (Federal Register / Vol. 69, No. 176 / Monday, September 13, 2004 / Page 55218 / Rules and Regulations). However, on June 8, 2007, US Court of Appeals had mandated that EPA vacate the Boiler MACT Rule in its entirety; in the interim period, 112(j) MACT permit was required. US EPA re-promulgated the Area Source Boiler MACT as NESHAP / MACT 6J

01/09/12 - The U.S. District Court for the DC Circuit vacated the EPA's May 18, 2011, notice that delayed the effective dates of the Major Source Boiler MACT rule. The effective dates of the final rules published in the Federal Register on March 21, 2011 (76 FR 15608 and 76 FR 15704), are delayed until such time as judicial review is no longer pending or until the EPA completes its reconsideration of the rules, whichever is earlier.

12/23/11 - The EPA published the Major Source Boiler MACT reconsideration proposal (40 CFR 63, subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, Page 80598 Federal Register / Vol. 76, No. 247 / Friday, December 23, 2011 / Proposed Rules). The EPA will accept comment on the reconsideration proposal until February 21, 2012.

The boilers are subject to: Major Source Boiler NESHAP / MACT 5D, 40 CFR Part 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, Page 7138, Federal Register / Vol. 78, No. 21 / Thursday, January 31, 2013 / Rules and Regulations / Final rule; notice of final action on reconsideration. The December 23, 2011, proposed rule addressed specific issues and provisions the EPA identified for reconsideration. This summary of the final rule reflects the changes to 40 CFR, Part 63, subpart DDDDD (March 21, 2011 final rule) in regards to those provisions identified for reconsideration and on other discrete matters identified in response to comments or data received during the comment period.

The boilers (2) are **existing units** as they commenced construction before **June 4, 2010** (installed in 1990). The boilers do NOT burn any fuel other than pipeline quality sweet natural gas (NG); they do not burn solid fossil fuel, biomass, liquid fuel, etc. There is no emission limit for Gas1 that includes natural gas. For boilers over 10 million BTU per hour heat input, annual tune-up is required (no more than 13 months between tune-ups). Initial tune-up was due by January 31, 2016 (BASF tune-ups: 12/09/2015 [initial] and 12/28/2016). Only boilers with emission limits are required to conduct performance tests (within 180 days of compliance date (January 31, 2016), July 29, 2016. BASF's boilers are not subject to emission limits as they fire only NG.

Boiler MACT **Initial Notification** is due by May 31, 2013. AQD received on May 31, 2013, Major Source Boiler MACT Initial Notification dated May 29, 2013. The notification is signed by Mr. David Sheaves (734-324-6836), Michigan-Canada EHS Hub Environmental Team Leader. The notification covers two boilers. BASF also mailed

Per 40 CFR, Part 63, 63.7550(c) and MI-ROP-N1336-2015FG-NG-BOILER-MACT5D-MJRSOURCE-EXISTING, SC VII.6, submitted, for the reporting period Jan 1 – Dec 31, 2016, **annual compliance report** for FG-BOILERS: dated Jan 30, 2017; operating hours Boiler1 = 4680 & Boiler2 = 4362 hours; date of most recent tune-up = 12/28/2016; date of most recent burner inspection = 12/28/2016.

FG-COLDCLEANERS (13)

BASF has 13 cold-cleaners using organic solvents; none uses halogenated solvents. Therefore, the cold cleaners are **not subject** to NESHAP for Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; Federal Register / Vol. 59, No. 231 / Friday, December 2, 1994).

Two (one dirty for first stage and other relatively clean for second stage cleaning) 5-gallon buckets are placed in a closed container with a lid. Each 5-gallon container has a lid as well. In addition, there is one Safety-Kleen cold -cleaner with a lid, which is pneumatically powered, to keep it closed when not in operation (it was closed during FY 2017 inspection). Operating instructions are posted. Safety Kleen does not service the unit. BASF uses its own proprietary degreasing solvents and manages waste according to applicable hazardous waste laws and regulations. I observed the machine while the lid was operating.

A cold-cleaner is exempt from Rule 336.1201 pursuant to Rule 281(2)(h) or Rule 285(2)(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979. I asked BASF officials to ensure that a cold-cleaner is kept closed at all times when idled. I gave to Mr. Ozimek copies of DEQ's "cold-cleaner operating procedures". During FY 2017 inspection, the procedures were posted. During the previous inspection, I gave additional decals to Mr. Howard Stephan.

Power assisted lid cold-cleaner is located in Red Label Solvent Storage Room. Only BASF proprietary solvents are used. . MSDS (see below) indicates NULL halogenated solvents. The power-assisted unit is mostly used for cleaning dampers.

50-75 gallons per month solvents are used.

Solvent 6562 is blended by Ashland / Nexco (800-325-3751) Spray Booth Solvent 579343

100% VOC solvent:

Acetone (CAS 67-64-1) 50-60%; IPA (CAS 67-63-0) 20-30%; Ethylene Glycol Monobutyl (CAS 111-76-2) 15-20%

Acetone (CAS # 67-64-1, C3H6O = CH3-CO-CH3) is not VOC pursuant to 336.1122 (V-definitions) (f) (xiii). However, acetone has high potential for fire and explosion due to low boiling point (BP = 133 °F), low flash point (FP = - 4 (negative) °F) and wide flammability range (Flammability range = 2.5 %v (LEL) – 12.8%v (UEL)).

Flash Point (FP) = -4 °F TCC (Tag Closed Cup). Auto Ignition = NA °F. Boiling Point (BP) = 133 °F / 56 °C @ 1,013 hPa (hector-pascal). Vapor Pressure (VP) = 307.9 hPa at 77 °F / 25 °C. Specific Gravity (SG, Water = 1.0) = 0.806. Density (ρ) @ 68 °F = 0.806 kg /L. Flammability range = 2 %v (LEL) – 12%v (UEL).

1,013 hPa (hector-pascal) = 101,3 00 Pa (Pascal) = 101.3 kPa =1.013 bar =1 atm.

Emergency Generator: FG-CI-RICE-MACT4Z

One 275-kilowatt emergency diesel generator (Onan 275 Genset Model No. 275 DFM L33477N Onan Serial No. C890214181 and Engine Model No. NTA 855G1 & Serial No. 30314399) is present.

PTI Exemption - CI RICE Engine

Fuel usage for Caterpillar Generators is as follows:

1500 kW → 105 gallons per hour diesel (DMC)
1050 kW → 74 gallons per hour diesel

MDEQ AQD Information Request
BASF Southfield, Michigan - 7/28/2017

Natural Gas Usage - 2016

Building	MCF
CRC	51,635
PACE	6,971
EDN	370
CAT	899
TOTAL All Buildings	59,875
TOTAL CRC Boilers (83.5% of CRC Natural Gas)	43,115

Compliance Activities

Boilers (2)	
Initial Tune-up	12/9/2015
2016 Tune-up	12/28/2016
One-time Energy Assessment	4/30/2014
Emergency Generator	
Date of last inspection of hoses and belts	6/29/2016
Date of last oil and filter change	12/5/2016
Hour meter reading (12/31/2016)	759
Hours Used (2016)	32
Hours Used for Emergency (2016)	7.6
Current hour meter reading (7/31/2017)	775

BASF
We create chemistry

CERTIFIED MAIL – RETURN RECEIPT REQUESTED
USEPA: Via CDX
MDEQ District Office Southeast Michigan: 7010 0290 0003 7145 0890

January 30, 2017

Iranna Konanahalli
Michigan Department of Natural Resource and Environment - AQD
Southeast Michigan District Office
27700 Donald Court
Warren, MI
48092-2793

Re: 40CFR63 Subpart DDDDD Industrial, Commercial and Institutional Boilers and Process Heaters, Annual Compliance Report
BASF Corporation, Southfield, MI

To Those Listed:

This correspondence provides required Annual Compliance Report pursuant to 40CFR63.7550(c) for the BASF Corporation facility located in Southfield, MI.

(c) A compliance report must contain the following information depending on how the facility chooses to comply with the limits set in this rule.

(1) If the facility is subject to the requirements of a tune up you must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) of this section, (xiv) and (xvii) of this section, and paragraph (c)(5)(iv) of this section for limited-use boiler or process heater.

(5)(i) Company and Facility name and address.

- BASF Corporation
  26701 Telegraph Road
  Southfield, MI 48033

(ii) Process unit information, emissions limitations, and operating parameter limitations.

- BASF Corporation owns and operates two natural gas boilers with an operational rating of 25.1 MMBTU per unit. The units operate and are permitted in Gas 1 service only, the units are not permitted through the facility's Renewable Operating Permit to burn or utilize any others fuels.

(iii) Date of report and beginning and ending dates of the reporting period.

- Report date: 1/30/2017
- Reporting period: 1/1/2016-12/31/2016

Certification Statement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Karen Cummins

Karen Cummins Manager Business Services

1/30/12

Date

Should you have any concerns or questions regarding the information contained in this submittal please contact me at 734-324-6177.

Sincerely,

Rose Mankiewicz
EHS Specialist
BASF Corporation