N1336
FY 2019 INSP-
ROP CMS.

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

N133647386

FACILITY: BASF CORPORATION		**SRN / ID:** N1336
LOCATION: 26701 Telegraph Road, SOUTHFIELD		**DISTRICT:** Southeast Michigan
CITY: SOUTHFIELD		**COUNTY:** OAKLAND
CONTACT: Bryan Hughes , EHS Team Leader		**ACTIVITY DATE:** 12/04/2018
STAFF: Iranna Konanahalli	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: FY 2017 ROP CMS inspection of BASF Corporation ("BASF")		
RESOLVED COMPLAINTS:		

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 [i.e., fuel requirements have been removed] MACT 5D and CI RICE MACT 4Z)

NSPS Dc boilers: Two identical natural gas fired (fired tube: flame inside tubes) boilers (Cleaver Brooks CB Package Boilers, Model CS-700-600; design capacity: 25 million BTU per hour (5.8 MW) each) are subject to: NSPS Dc, New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR, Part 60, Subpart Dc). All boilers have design heat input capacity of 25 >> 10 MM BTU per hour. All boilers were installed after June 9, 1989 (1990). Only NSPS Dc requirement for pipeline quality natural gas fired boilers (no fuel oil backup) is fuel usage recordkeeping. BASF complies with this requirement via annual MAERS submittal.

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 Dc revisions simplified the natural gas usage recordkeeping. ROP and MAERS natural gas recordkeeping satisfies NSPS Dc.

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. BASF Energy Optimization/MSS, in conjunction with site personnel, conducted an energy assessment on April 30, 2014.

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 Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines (ICE);, Page 6674 Federal Register / Vol. 78, No. 20 / Wednesday, January 30, 2013 / Rules and Regulations / Final Rule. This final rule is effective on April 1, 2013. BASF's Emergency CI (Diesel) RICE is not subject to NSPS 4I because it was installed / manufactured before April 2006 (1989).

BASF's emergency generator (Onan 275 kW Genset) is NOT subject to: NSPS IIII or 4I, New Source Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion (IC) Engines, 39154 Federal Register / Vol. 71, No. 132 / Tuesday, July 11, 2006 / Rules and Regulations / Final Rule. The generator is not subject to NSPS 4I based upon manufacture date (1989 << manufactured well before April 1, 2006).

Not Subject to: NESHAP/ MACT T, area source National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T; NESHAP/ MACT T); Correction; 29484 Federal Register / Vol. 60, No. 107 / Monday, June 5, 1995 / Rules and Regulations; amended National Air Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning (40 CFR, Part 63, Subpart T); Final Rule; Page 25138 Federal Register / Vol. 72, No. 85 / Thursday, May 3, 2007 / Rules and Regulations. BASF R & D Center does NOT use the MACT T listed halogenated HAP solvents (>5%w: methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3)) in the cold-cleaners; it uses BASF proprietary degreasing solvents.

On December 04, 2018, I conducted a level-2 annual **FY 2017 ROP CMS inspection** of BASF Corporation ("BASF"), an OEM automotive paint and paint application research center,

located at 26701 Telegraph Road, Southfield, Michigan 48034-2442. The inspection was conducted to determine compliance with federal Clean Air Act (CAA); Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 (PA 451); Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules; and the RO permit No. MI-ROP-N1336-2015.

During the inspection, Ms. Mariana Pipoli Runho (Phone: 734-324-2713; Fax: 734-324-6401; Mobile: 313-701-9827; E-mail: Mariana.Runho@basf.com), EHS, and Mr. Howard D. Stephan (Phone: 248-948-2437; Fax: 248-948-2092; Mobile: 248-943-2470; E-mail: Howard.Stephan@basf.com), Shipping and Material Services, assisted me.

Mr. Bryan Hughes (Phone: 734 324-6523; Mobile: 734-559-3940 Fax: 734 324-6401 E-Mail: Bryan.Hughes@basf.com) EHS Team Leader, Ohio-Michigan-Canada Hub, BASF Corporation, Wyandotte, 48192 Wyandotte, Michigan, was also present during the FY 2019 inspection.

Mr. Kelvin Manni (Phone: 248-948-2408; E-mail: Kelvin.Manni@basf.com), Site Engineering Manager, was not present. Mr. Manni keeps records pertaining to the boilers (2) and an emergency generator. Also, Mr. Manni is responsible for determining natural gas utilization factor for boilers (≈84% CY 2016)

Ms. Amanda Taylor (Phone: 248-948-2391; Fax: 248-948-2091; Mobile: 732-642-1379; E-mail: Amanda.Taylor@basf.com), EHS Specialist Ohio-Michigan-Canada Hub, is no longer handling Southfield facility (FY2017). As Ms. Taylor moved to BASF's Wyandotte facility, Ms. Mankiewicz replaced her. About 2018, as Ms. Rose Mankiewicz (Phone: 734-324-6177; Fax: 734-324-6401; Mobile: 734-325-0013; E-mail: Rose.Mankiewicz@basf.com), EHS Specialist Ohio-Michigan-Canada Hub, transferred to Cincinnati, Ms. Mariana Pipoli Runho replaced her.

Mr. David W. Sheaves (Ph: 734-324-6836; Mobile: 734-476-7608; E-mail: David.Sheaves@basf.com), Environmental Health and Safety Team Leader, separated from the group (still part of BASF) and he was replaced by Mr. Bryan Hughes.

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 in, 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 SEMI 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. Upon startup and every 30 second, the 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)

The solvent storage room houses the solvents, the paint resins in 55-gallon drums and 5-gallon pails. The equipment consists of drum valves for raw material transfer and a fugitive exhaust system for room ventilation. The material withdrawal was not done during the inspection. This is a small source and the ventilation is for industrial hygiene.

Bond and ground principles are practiced rigorously to prevent fire and explosion during solvent transfers from one container to the other due to static electricity. Also, structurally weak areas are provided in the storage room to direct exploding gases and save most of the building from collapse.

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

The waste handling room temporarily houses paint related wastes in storage totes, drums and 5-gallon pails. The waste collection system is present in the room. The drum crusher (aka compactor) is located in this room. The drum crushed located in the waste room. The materials are stored and labeled as hazardous waste.

US EPA and MDEQ-HWMD conducted a joint Resource Conservation and Recover Act (RCRA) inspection in March 2007.

FG-R&DPAINTBOOTHS (Removed from ROP: R&D EU)

There were approximately 43 R & D paint spray booths at the facility; few booths of 43 were removed recently during a consolidation. The booths are intermittently used to paint small test panels on a nonproduction basis for R & D purposes. The panels are cured in natural gas fired curing / bake ovens. Electrodeposition (E-coat) dip coating processes do not require a particulate control system and E-coat VOC emissions are not controlled.

Each spray booth has a spray log. I asked Ms. Runho and Mr. Stephan to install filters snug and tight. Custom software for spray logs is used for tracking paint & solvent usage and VOC emissions.

During the FY 2019 inspection, I observed operation of basecoat (BC) application: robotic application at BOOTH 101A.

Per Rule 336.1601(a), the painting process is not subject to Rule 336.1621.

FG-BOILERS.

Two identical natural gas fired (fired tube: flame inside tubes) boilers (Cleaver Brooks CB Package Boilers, Model CS-700-600) of design capacity 25 million BTU per hour (5.8 MW) each. The boilers were installed in CY 1990 (after June 9, 1989). Therefore, the boilers are subject to New Source Performance Standards (NSPS), 40 CFR, Part 60, Subparts Dc and A. The boilers supply hot water and heat to the buildings. Natural gas usage, hours of operation, records are available. During CY 2017, **52.777** million scf of natural gas was used in CRC building and **46.052** million scf of natural gas was used in the two boilers. (FG-BOIILERS, SC VI). Fuel oil capability does not exist and, therefore, has not been used. Natural gas usage records are kept based upon hours of operation. Steam production metering device (Venturi meter) is present but not working. A data acquisition system (DAS) has steam temperature and pressure. The boiler produces 70 psi (high pressure) saturated steam. The steam pressure is reduced to 13 psi and delivered.

87.3 (upgraded from 83) percent of the building total natural gas usage is expected to go through the boiler. 87.3% may be an updated fudge factor or boiler utilization factor used by BASF; it is based upon a historical data using boiler steam production. Kitchen and roof-top

natural gas heaters account for the rest of natural gas usage. Hours of on/off are tracked and natural gas is prorated. This is not an accurate method but may be accepted at this time.

Neither boiler is equipped with Oxygen Trim System. Only pipeline quality natural gas is used in the boilers (FG-BOIILERS, SC III.1)

Natural gas is used in several buildings, MM SCF (CY 2017):

1. Coating Research Center (CRC) building = **52.777**
2. Pigments and Coatings Excellence (PACE) Group building = **7.280**
3. CATALYST building = **0. 926**
4. EDN building = **0. 532**

Total for all buildings = **61.515** MM SCF
Two natural gas boilers (FG-BOILERS) = **46.052** MM SCF

NSPS Dc Revisions:

3. 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.

4. 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) removed 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.

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 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), by 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 a copy of the notification to Mr. George Czerniak (AE-17J), US EPA Region V, 77 W. Jackson Blvd., Chicago, IL 60604-3507.

The MACT 5D boilers are:

Two identical natural gas fired (fired tube: flame inside tubes) boilers (Cleaver Brooks CB Package Boilers, Model CS-700-600) of design capacity 25 million BTU per hour (5.8 MW) each.

BASF must submit an Initial **Compliance Status Report** on or before January 31, 2016 (§ 63.9(h)). During FY 2016 inspection, I reminded BASF to submit this CSR before January 16, 2016. See below for ICSR.

In addition, BASF mailed the initial notification letter dated March 2, 2005 to both US EPA and DEQ-AQD. The **Boiler NESHAP / MACT initial notification** was due March 12, 2005. The boilers were not subject to emission limits. However, on June 8, 2007, US Court of Appeals has mandated that EPA vacate the Boiler MACT Rule in its entirety. MDEQ-AQD never decided what to about possible 112(j) case-by-case MACT determination.

BASF burns only pipeline quality natural gas (FG-NG-BOILER-MACT-5D-MJRSOURCE-EXISTING, SC III.1); the boilers are NOT equipped to burn fuel oil. I reminded BASF officials initial tune-up must be performed by January 31, 2016 (FG-NG-BOILER-MACT-5D-MJRSOURCE-EXISTING, SC III.1). Also, one-time energy assessment (EA) must be performed by January 31, 2016 (FG-NG-BOILER-MACT-5D-MJRSOURCE-EXISTING, SC III.4); BASF does not operate under **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..

Neither boiler is equipped with oxygen trim system (FG-NG-BOILER-MACT-5D-MJRSOURCE-EXISTING, SC III.1: annual tune-up).

Oxygen trim system means a system of monitors that is used to maintain excess air at the desired level in a combustion device over its operating load range. A typical system consists of a flue gas oxygen and/or CO monitor that automatically provides a feedback signal to the combustion air controller or draft controller.

Notice of Compliance Status - 40CFR63 Subpart DDDDD Industrial, Commercial and Institutional Boilers and Process Heaters.

On January 28, 2016 (tune up due January 31, 2016) AQD received Notice of Compliance Status Report dated January 25, 2016.

Existing & Major Source Boiler MACT 5D Two identical natural gas fired (fired tube: flame inside tubes) boilers (Cleaver Brooks CB Package Boilers, Model CS-700-600) of design capacity 25 million BTU per hour (5.8 MW) each (FG-BOILERS). The boilers were installed in CY 1990 (after June 9, 1989). The boilers generate steam for space heating.

1. Gas1 NG only.

2. Initial tune-up (required annually:12/09/2015 & 12/28/2016) and

3. Energy assessment (one-time only: 04/30/2014).

BASF is required to submit an **annual compliance report** for FG-BOILERS. The first one shall be submitted by **January 31, 2017** and then by **January 31, every year thereafter**. BASF is required to submit the annual compliance report per MI-ROP-N1336-2015FG-NG-BOILER-MACT5D-MJRSOURCE-EXISTING, SC VII.6 electronically using **Compliance and Emissions Data Reporting Interface (CEDRI)** that is accessed through the EPA's **Central Data Exchange** (www.epa.gov/cds).

2016 annual compliance report – Jan-Dec 2016

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. Dates of most recent tune-up = 12/28/2016, 11/16/2017 (Boiler1) & 12/16/2017 (Boiler2). Dates of most recent burner inspection = 12/28/2016, 12/16/2017.

One-time Energy Assessment (EA)

Per NESHAP / MACT 5D, BASF Energy Optimization/MSS, in conjunction with site personnel, conducted an energy assessment on April 30, 2014. When fully implemented these findings could result in annual savings in excess of $120k at an estimated cost of $158k. The total primary energy cost in 2013 was $1,433,681. Electricity accounted for 78% of the total spent for primary energy while natural gas accounted for 16%.

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 2019 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.

During the 2019 inspection Red Label power-assisted lid cold-cleaner was sent out for repairs and maintenance.

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) = 101,300 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
750 kW → 55 gallons per hour diesel
600 kW → 46 gallons per hour diesel
300 kW → 28 gallons per hour diesel

Based upon the above information, assuming 1 MW generator consumes 75 gallons of diesel per hour, knowing 138,000 BTU per gallon of diesel, heat input of 1 MW generator is 10.4 million BTU per hour. Hence, a diesel generator up to 1 MW is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(2)(g). It may be noted that some engines convert heat to work more efficiently than others. Recent engine designs have efficiencies up to 40% for heat to shaft work conversion. Converting work to electricity is up to 95% efficient.

NESHAP / RICE MACT 4Z, 40 CFR Parts 60 and 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines; New Source Performance Standards for Stationary Internal Combustion Engines (ICE);, Page 6674 Federal Register / Vol. 78, No. 20 / Wednesday, January 30, 2013 / Rules and Regulations / Final Rule. This final rule is effective on April 1, 2013. BASF's Emergency CI (Diesel) RICE is not subject to NSPS 4I.

FG-CI-RICE-MACT4Z, SC III.1

Change oil/filter & inspect hoses/belts every 500 hours or annually; inspect air cleaner (CI) or spark plugs (SI) every 1,000 hours or annually. No emission standards.

Oil and filter were changed on 12/06/2015, 12/05/2016, 9/10/2017.
Hoses and belters were inspected on 04/24/2015, 12/05/2016, 8/9/2017.

FG-CI-RICE-MACT4Z, SC IV.1

Non-resettable hours meter is present:

December 15, 2015 reading: 726 hours. 29.7 hours used in CY2015-YTD-DEC2015. 3.3 hours of 29.7 hours was for emergency.

December 31, 2016 reading: 759 hours. 32 hours used in CY2016. 7.6 hours of 32 hours was for emergency.

December 31, 2017 reading: 784.1 hours. 24.8 hours used in CY2017. 2.9 hours of 24.8 hours was for emergency.

Current hours meter reading = 775 (7/31/2017), 815.2 (12/03/2018).

Conclusion:

I did not find any compliance problem with permit conditions at the time of the inspection. This is a small source of VOC and HAP. Boiler MACT 5D and CI RICE MAC 4Z sources are

present. BASF is in compliance with ROP.

NAME [signature] DATE 12/27/2018 SUPERVISOR [signature]