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

A864823820

FACILITY: FORD MOTOR CO ROUGE COMPLEX		**SRN / ID:** A8648
LOCATION: 3001 MILLER RD, DEARBORN		**DISTRICT:** Detroit
CITY: DEARBORN		**COUNTY:** WAYNE
CONTACT: Lonnie Luciw , Environmental - Dearborn Engine Plant, Section 3		**ACTIVITY DATE:** 12/04/2013
STAFF: Robert Byrnes	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MEGASITE
SUBJECT: Scheduled compliance inspection of the engine plant covered by Section 3 of MI-ROP-A8648-2010.		
RESOLVED COMPLAINTS:		

I arrived at the Dearborn Manufacturing site around 9:15 am on December 4, 2012 for a site inspection of the Dearborn Engine Plant. I obtained a visitor pass from security and contacted Lonny Luciw to arrange for my entry into the facility. Lori Brinkman picked me up and drove to the Engine Plant where we met with Lonnie Luciw. A copy of the DEQ Environmental Inspections: Rights and Responsibilities brochure was provided.

The Dearborn Engine Manufacturing facility is a separate factory within the Rouge Complex and is covered by Section 3 of the For Dearborn Assembly ROP. The facility has been operating 2 shifts per day with one Saturday work day a month for the engine assembly lines. The machining crews are almost running 24 hours per day. The facility produces the I-4 engine which is an all aluminum inline 4 cylinder engine mainly used in the Ford Focus. Raw aluminum metal castings (blocks and heads) are received at the facility. The engine blocks and cylinder heads are then drilled and machined in various machining equipment operated under R285(l)(vi). The equipment is vented to oil mist eliminators and then vented to the atmosphere. Oil mist eliminators are considered a fabric filter type control device as fibrous woven materials are used to separate the oil mist from the air. Before and after machining processes have taken place, parts and parts racks are then processed through aqueous washers which operate as exempt under Rule 281(e).

Storage Tanks

From the previous inspection write up, nothing with the storage tanks has changed. All material storage tanks are exempt under Rule 284 b, c or g.

The facility has 7 material storage tanks:
Tank #G-2 is a 10,800 gallon 3 compartment gasoline, exempt Rule 284(g)
Tank #T-1 is 20,000 gallon HYD oil, exempt Rule 284(c)
Tank #T-3 is 20,000 gallon HYD oil, exempt Rule 284(c)
Tank #T-4 is 15,000 gallon soluble oil, exempt Rule 284(c)
Tank #T-5 is 20,000 gallon MTR oil, exempt Rule 284(c)
Tank #T-6 is 20,000 gallon MTR oil, exempt Rule 284(c)
Tank #T-7 is a 15,000 gallon hazardous substance, exempt Rule 284(c) (I believe this tank holds used machining lubricant)
There is also a 30,000 gallon propane storage tank, exempt Rule 284(b). This tank is used to operate the hi-lo/fork lifts at the facility.
The storage tanks are operated as exempt under the rules listed above.

Dyno Test Stands

Part of the site inspection included observing the 4 engine dyno test cells. Since aournd 2006 test cells 2 & 4 have not run, cell 1 ran in 2010. Parts from cell 1 has been taken to keep cell 3 functional. None of the dyno cells have been used regularly in the past year and a half. Dyno cell 3 was recently upgraded with $200,000 worth of new control equipment (computer, control modules by Allen Bradley, and a new atmospheric measuring device). Passive measurement and control instrumentation and electronics are not include as part of any reconstruction determination (see 63.9290(a)(3)). As such no reconstruction determination is needed for MACT PPPPP. From previous inspection write up: The actual installation dates for the dyno cells were received from Danielle Fenbert via a 9-16-09 e-mail. The installation dates were as follows:
Cell #1: asset #F0710440 – installed March to April 1980
Cell #2: asset #F0710441 – installed March to April 1980
Cell #3: asset #F0710442 – installed March to April 1980
Cell #4: asset #F0724915 – installed March 1985

Part of the site tour included a visit to the 4 dynamometer test stands. The test stands are only used for special testing as most testing services have been consolidated into the Ford Windsor facility. The Dearborn Engine dynamometers conducted 2 long term tests last year (100-300 hours. Of the 4 test cells, 3 units remain functional as eddy current dynos. One test cell is not an eddy current dyno so it really is not functional to Ford. A view of the 3 functional test cells showed the following:

Cell #1 – the eddy current dyno load cell was installed new in 2000. The unit was rebuilt on 5/22/06 with a new coil, new style cooling chambers, o-rings, fixed bearing sockets and grooved bearing spindle.

Cell #2 – the eddy current dyno load cell was installed new in 1995.

Cell # 3 – the eddy current dyno load cell was installed new in 2005.

I was a little surprised to see different dates on the dyno load cells as was learned from my last inspection in 2009. As such, I requested that a reconstruction determination be made. The first e-mail response received on February 27, 2012 showed an overview of the reconstruction costs but did not calculate the % value of an equivalent new unit. On February 29, 2012 I requested additional information as to what the % cost as compared to an equivalent new unit would be and also requested a break down as to what the 1.8 million reconstruction cost were based upon. On March 21, 2012 I received a response to the questions. A copy of this e-mail is attached to this report. The total expenses were $175,000 spent for 2002 through 2006; and $30,000 spent for 2006-2011 for a total of $205, 000. The cost of the new equipment came in at $5.6 million dollars. This value seems very high as a recent determination at John Deere in 2009 showed the cost of 8 new units to be only $2.2 million. Either way if you take the worst/best case numbers, reconstruction has not likely occurred. The percent calculated by Ford was at 4% well below the 50% reconstruction level.

Based upon the information above, the test stands remain as existing units. Therefore the test stands are not subject to MACT PPPPP as they are existing units. Existing sources do not have to meet the requirements of MACT PPPPP or subpart A per 40 CFR 63.9290(b). The dyno cells operate under the R285 (g) exemption for internal combustion engines less than 10,000,000 btu/hr. The exemption is allowed due to the installation dates listed below and an internal memo from Lynn Fiedler dated October 7, 1996 which is attached to the August 14, 2009 inspection report. This memo states R285 exempts dynamometers from both NSR and PSD requirements until 1993

FG-FTPaintlines

All of the fuel tank lines have been removed from the facility. A walk through of the facility confirmed that all portions of each paint line have been completely removed. An M-001 form was submitted on April 8th, 2013 as notification of this change. These emission units will likely get removed from the ROP when the ROP renewal is submitted sometime in 2014.

FG-Metal MACT

The facility is no longer subject to MACT for this portion of the facility as all of the fuel tank paint lines have been removed. The fuel tank painting lines were previously subject to a coating MACT standard because Section 1 makes the entire facility major for HAP. Section 1 of the ROP is still subject to MACT IIII for coating of light duty trucks and automobiles because the facility is still major for HAP.

Mod Center

This work area is completely fenced off from the rest of the engine plant facility and the air environmental compliance records are maintained with Section 1 records for the F-150 Assembly Plant. I briefly walked by the outside of the mod center which appeared to have limited activity at this time. Everything appeared normal as there were no visible emissions or any detectable odors from this operation. From the previous inspection description: The mod center is where F-150 trucks have emblems, decals, skid plates, bug shields, etc, applied to the vehicles. There is a vehicle washer to clean the vehicles before processing. Vehicles are then sent to one of 10 separate work bays, hand cleaned with IPA wipes, decals are applied and then cured with infrared lights. There is also a final assembly area to drop in bed lines and attach skid plates. The materials usages for IPA wipes are included with the assembly plant. The reason this process is at the engine plant is due to the large amount of available work space.

Emergency Engines

I asked if this engine plant had any emergency engines. All emergency engines are included with section 5, site services at the Ford Dearborn Complex.

Rule 281(h) and Rule 290

The rule 290 source list has changed significantly since the last inspection. All of the seam welders have been removed as the fuel tank lines are no longer present. The ink dobber and ink jet printer areas have also been removed (exempt one covered by R290), discontinued or are no longer functioning. Most of the parts inking have been changed to laser etching which is exempt under Rule 285(l)(vi) and is vented internally but also has a cyclone and filter. There is only 1 or 2 aqueous based heated cleaners at the facility but they do not operated under Rule 281(h). They are operated as exempt under Rule 281(e).

The RTV silicone applicators apply RTV sealant to various areas on the engine that have critical sealing points (front cover, oil plan, cam cover, head gasket secure, etc.). A copy of the Rule 290 records from December 2006 through December 2013 was obtained. The monthly VOC emissions are usually no more than 10 lbs per month. See attached records for more details. Lonnie is supposed to be sending an updated list of Rule 290 exempt emission units as most of them from the previous list have been removed.

Rule 287

There is a new Rule 287 source at the facility for applying red Loctite to various fasteners and plugs on the engine. Copies of the records were obtained for January 2013 through November 2013 and all emissions were between 7 to 12 gallons per month, well below the limit of 200 gallons per month to be exempt under Rule 287.

We concluded our site visit with a brief meeting back at Lonnie's cubicle. I told Lonnie and Lori everything looked pretty good from a compliance stand point. The facility appears to be in compliance with all permit requirements in section 3 of MI-ROP-A8648-2010 after reviewing all the information obtained during the inspection and the information contained within this report.

NAME Robert Byrnes DATE 12/10/13 SUPERVISOR W.M.