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

U63160999836019

FACILITY: GKN Driveline		**SRN / ID:** U631609998
LOCATION: 2200 N Opdyke Rd		**DISTRICT:** Southeast Michigan
CITY: Auburn Hills		**COUNTY:** OAKLAND
CONTACT: Kelly Gentner , Environmental Health and Saftey		**ACTIVITY DATE:** 08/09/2016
STAFF: Tyler Salamasick	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:**
SUBJECT: Self initiated inspection. First inspection of the facility.		
RESOLVED COMPLAINTS:		

Background

GKN driveline is a research and development facility located at 2200 N. Opdyke drive, Auburn Hills, Michigan. GKN driveline is located in a primarily commercial area with the nearest residential structure approximately 540 feet east of the facility. The facility was inspected on Tuesday, August 9th 2016 by Tyler Salamasick of the Michigan Department of Environmental Quality, Air Quality Division. The intent of the inspecting was to determine compliance with the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, and Michigan's Air Pollution Control Rules. GKN driveline currently operates under permit exemptions. The site contact is the human health and safety manager, Kelley Gentner. GKN driveline specifically develops drivetrains for the automotive industry. GKN driveline has approximately 400 employees and operates from 8am until 4pm, Monday through Friday. This is a new facility and it has been in operation since October 2014.

Inspection

Site arrival was at 12:45 pm Tuesday, August 9th 2016. I was greeted by the building services technician, John Flores and the facilities manager, Paige Avallone. Upon meeting I presented my State of Michigan identification card, informed the facility representative of the intent of my inspection and was permitted onto the site. Paige informed me that GKN had recently built the facility and started operations in October of 2014. The health and safety manager, Kelley Gentner joined the meeting, and was assigned to show me the facility. Paige and John did not join me for the full inspection.

Kelly Gentner informed me that this facility develops prototype drivetrains for the major automotive manufactures as well as tests some drivetrains already used on the market (though this is only performed rarely). The east portion of the facility houses offices and meeting rooms. There did not appear to be any equipment of concern for air quality in the office section. The west portion of the facility is composed primarily of drivetrain dynamometers and prototype drivetrain assembly. The facility also has a build area, metrology area, vehicle engineering section and two labs. The labs consist of a metallurgy lab and s materials lab. The metallurgy lab does not analyze internal metal chemistry or properties but instead performs surface etching for microstructure.

Drivetrain Dynamometers

GNK has at least 18 dynamometers consisting of 8 cells (also called testing rigs) that are powered primarily by hydraulic fluid, 6 high speed dynamometers (mostly electric engine driven), one full vehicle dynamometer and 3 multi-motor dynamometers (mostly electric engine driven). The hydraulic fluid that powers the dynamometers is pumped throughout the facility through overhead pipes and some floor piping. This hydraulic fluid is powered via 12 electric pumps housed in the utilities area on the north end of the building. These pumps are not equipped to use any fuels and do not appear to emit any significant air contaminants. The hydraulic fluid is then pumped outside to two cooling towers. At the cooling tower the hydraulic fluid is cooled and recirculated into the facility. The cooling water does not make direct contact with the hydraulic fluid. In the winter the water is drained out of the towers and cold air is used to cool the hydraulic fluid. This cooling process appears to be permit exempt pursuant to **R 336.1280(d)** which states in part...

> Rule 280. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:...
>
> ...(d) Water-cooling towers and water-cooling ponds not used for evaporative cooling of process

water or not used for evaporative cooling of water from barometric jets or from barometric condensers.

The 3 multi-motor dynamometers used a ventilation system. I was informed that the vents did not draw air off of the equipment but instead pushed cold air over the parts to keep them cool. This process does not appear to vent to the outside air, though I could not directly confirm this.

The build area of the facility is used to assemble and disassemble parts and to inspect parts that have failed. This area contained one oven that is vented to the outside air. This oven is used to heat the aluminum parts in order to expand the metal to help remove the steel cup inside of them. This oven is operated at approximately 350F and is not used to burn or clean parts. I did not observe any plastic or oil components on the parts; I only observed what appeared to be aluminum and steel parts.

The metrology area is used for high precision measuring. The room is temperature controlled in order to maintain a constant temperature. This area did not appear to have any externally vented equipment. Next to the metrology area and shipping and receiving is the warranty area. This location has one saw that uses water jets to cool the blade and control metal dust that would be emitted. The saw is vented outside. This equipment is not used for production and appears to meet permit exemption **R 336.1285(l)(vi)(A)** which in part states...

> Rule 285. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:
>
> (vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper stock, wood, or wood products which meets any of the following:
>
> (A) Equipment used on a nonproduction basis.

Close to this area is a small painting booth (approximately 4ft by 4ft). The booth is used minimally and is not equipped with a spray gun; instead GKN uses hand held aerosol spray canisters of paint. GKN's booth has a fabric filter in place and is vented to the outside air. This process appears to meet the permit exemption **R 336.1287(b)** which in part states...

> Rule 287. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:
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> ...(b) A surface coating process that uses only hand-held aerosol spray cans, including the puncturing and disposing of the spray cans...

The facility does have drilling and machining in order to fabricate the prototypes drivetrains. These prototypes are not for production but are instead used as testing models for research and development of the product. This process appears to be exempt from permitting pursuant to **R 336.1285(l)(vi)** which in part states...

> Rule 285. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:...
>
> ...(l) The following equipment and any exhaust system or collector exclusively serving the equipment:...
>
> (i) Equipment used exclusively for bending, forming, expanding, rolling, forging, pressing, drawing, stamping, spinning, or extruding either hot or cold metals.
>
> ...(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper stock, wood, or wood products which meets any of the following:
>
> (A) Equipment used on a nonproduction basis.
>
> (B) Equipment has emissions that are released only into the general in-plant environment....

Vehicle engineering consisted of 6 vehicle stations that had exhaust collection vacuums for fully

assembled test vehicles. These stations allowed the mechanics to run the vehicles inside while working or testing them without creating unsafe indoor air. This area also contained a full vehicle dynamometer. Kelley informed me that they have not used the fully vehicle dynamometer yet. Per email correspondence from Vince Hellwig on Wednesday, June 12, 2013 4:47 PM the EPA consider this type of emission units to be mobile sources. The MDEQ does not have regulatory authority over mobile sources.

The final areas inspected were the metallurgy and material labs. These labs develop oils and surface etching for material strength. The labs have 3 small ovens used to test the oil for weathering. These ovens operate at a maximum temperature of 180C but are commonly run at 120C. Minimal amounts of oils are tested. This process appears to fall under permit exemption **R 336.1283** subrules **(a)v, (a) (vi)** and sub rule **(b).**

Conclusion

It appears that GKN driveline is in compliance with rule **R 336.1201(1)** as well as the Federal Clean Air Act Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act of 1994, PA 451, as amended, and Michigan's Air Pollution Control Rules. There are no apparent recommendations for this facility.

NAME _____ DATE 8/18/16 SUPERVISOR SK