

FY 2015 Insp.

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

U63150140028691

FACILITY: Hitachi Chemical Co. America Ltd.	SRN / ID: U631501400
LOCATION: 46944 Liberty Dr.	DISTRICT: Southeast Michigan
CITY: Wixom	COUNTY: OAKLAND
CONTACT: <i>76</i>	ACTIVITY DATE: 02/18/2015
STAFF: Irunna Konanahalli	COMPLIANCE STATUS: Compliance
SUBJECT: FY 2015 inspection of Hitachi Chemical	SOURCE CLASS:
RESOLVED COMPLAINTS:	

U 63 15 01400 SAR 2015 02 18

Hitachi Chemical Co. America Ltd. (U-63-15-01400)
46944 Liberty Dr.
Wixom, Michigan 48393-3693

www.hitachi-chemical.com

Rules 336.1285 (particulate from dynamometers), 336.1287 (proposed powder coating booth)

On February 18, 2015, I conducted a level 2 self-initiated inspection of Hitachi Chemical ("Hitachi"), an automotive brake testing (electrically powered dynamometer) company, located at 46944 Liberty Dr., Wixom, Michigan 48393-3693. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451; and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the inspection, Mr. Dennis Parker (Phone: 248-863-3685-ext. 668 or 248-863-3668 - direct; Cell: NA; Fax: 248-960-3136; E-mail: Parker@hitachi-chemical.com), Director of Sales and Eng., Automotive Parts Division, assisted me.

Hitachi is primarily in brake testing business using three brake dynamometers. Hitachi wants to expand to other areas of automotive brake business like TMD Friction of Clawson, Michigan. Hitachi tests automotive brakes for two of Big Three (Chrysler, Ford, except GM), Honda, Nissan, etc.

Three (3) electrically driven Link 3900 NVH brake dynamometers are present. Each dynamometer cell is completely enclosed, i.e. no air exchange between the surrounding room and the cell. Each cell is equipped with a blower that supplies air to the brake friction area. Brake friction particulate emissions are captured and delivered to a filter system consisting of a pleated filter (primary) and 8-bag filter (secondary). It may be noted that each enclosed cell of three cells has its own dedicated particulate capture system and filter system. Almost all exhaust air upon filtration is recycled to (reused in) the cell ensuring acceptable humidity and particulate contaminants. Air reuse is implemented to save energy costs (HVAC) due to heating (winter) / cooling (summer).

During the inspection, the particulate filter systems (3 in all, one for each dyno) were installed properly; the brake dynamometers (3) were not operating.

The brake dynamometers (3) are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285. Exhaust gases upon filtration are reused in the brake dynamometers for

capture of particulate emissions due to brake friction.

Proposed installation of powder coating booth

A powder coating booth that has an appropriately designed and operated particulate control system including an associated paint bake oven is exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(d). Captured particulate powder (paint) is reused in the booth resulting in nearly 100% Transfer Efficiency (TE). VOC emissions, from an associated bake oven, due to resin cross linking agents and trace solvents as catalyst (e.g., caprolactam) are less than 5% of the powder coating mass (pounds / kilograms).

Powder coating process is environment-friendly due to practically nil waste. Unfortunately, the process does not facilitate easy color change. It is excellent for one color such as black. Usually, it is electrostatic application, where paint particles (powder) are electrically charged and the part to be coated is grounded.

Conclusion

The brake dynamometers are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285

NAME *S. P. Navakall* DATE *03/04/2015* SUPERVISOR *CJE*