

N3213
FY 2016 Sched. Insp.

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

N321336451

FACILITY: Key Safety Systems (KSS)		SRN / ID: N3213
LOCATION: 7000 NINETEEN MILE RD, STERLING HTS		DISTRICT: Southeast Michigan
CITY: STERLING HTS		COUNTY: MACOMB
CONTACT: <i>AS</i>		ACTIVITY DATE: 09/09/2016
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: FY 2016 scheduled inspection of Key Safety Systems ("KSS")		
RESOLVED COMPLAINTS:		

N3213 - SAR - 2016 09 09

Key Safety Systems (KSS) (N3213)

7000 Nineteen Mile Road
Sterling Heights, MI 48314-3210

Name / ownership changes: Breed Technologies, Inc. → Allied Signal, Inc. → Bendix Safety Restraints Group → Key Safety Systems (KSS)

PTI Void: 130-92 (09/18/2000)

PTI Application Void: 130-92A (01/21/1993)

Active PTIs: 123-91A dated January 22, 1992, for paint spray booth and 525-87B dated November 05, 1991, for test chambers. AQD may void these permits (2) as the processes / equipment are now exempt from Rule 336.1201 pursuant to Rules 285 & 287. All exhaust released to in-plant environment.

On September 09, 2016, I conducted a level-2 **scheduled** inspection of Key Safety Systems ("KSS") located at 7000 Nineteen Mile Road, Sterling Heights, Michigan 48314. 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, Messrs. Anthony Penner (Phone: 586-726-4055; Fax: 586-726-4222; E-mail: PennerA@KeySafetyInc.com), HR Director, Brian Volmering (Phone: 586-726-4111; Fax: 586-726-4126; Mobile: 810-417-1795; E-mail: VolmerB@KeySafetyInc.com), Prototype & Metrology Lab Manager, and John Young (Phone: 586-726-4064; Fax: 586-726-4222; E-mail: YoungJ4@KeySafetyInc.com), Manager, assisted me.

Mr. Fred Anderson (Phone: 586-726-3804; Fax: 586-726-4216; Mobile: 810-571-3804; E-mail: AndersF@KeySafetyInc.com), Engineering Services Manager, Labs, Build Rooms, Model Shop, retired about April 2016. Mr. Bruce Kalandek (Phone: 586-726-3840; Fax: 586-726-4190; Mobile: 586-909-1386; E-mail: KalandB@KeySafetyInc.com), PE, PMP, Lead Engineer, Global Core Airbags, was not present.

Mr. Mace J. McMillan, Corporate Director, Health, Safety & Environmental Quality, 5300 Allen K. Breed Hwy, P.O. Box 33050, Lakeland, FL 33807-3050, was not present during the FY2016 inspection. Mr. McMillan manages the manufacturing plants.

Key Safety Systems (KSS) is a global leader in the design, development and manufacturing of automotive safety-critical components and systems including airbags, seatbelts, airbag inflators and steering wheels. The KSS products are featured in more than 300 vehicle models. KSS is headquartered in Sterling Heights, Michigan, with a global network of 35 sales, engineering, and manufacturing facilities. The company has 4 main technical centers located in the U.S. (Sterling Heights, MI), Germany, China, and Japan. Lately, KSS is also involved in autonomous vehicle technologies, driver assistance systems, collision avoidance systems, etc. In other words, KSS is involved in both Active and Passive Safety Technologies:

1. **Active Safety:** Autonomous Technologies, Event Protection, Integrated Safety & Electronics.
2. **Passive Safety:** Airbags, Inflators, Seatbelts, Steering Wheels

At this location (Sterling Heights, Corp HQ), KSS operates a testing, prototyping and R & D facility and there is no production of commercial product for sale. The company builds seat belt, air bag and other safety systems prototypes. It conducts crash studies using male, female and child dummies. It blows air bags for research. It calibrates crash dummies with respect to variety of sensors. Seat belt buckles are tested for safety. No vehicle is involved; only dynamic forces acting on dummies under crash conditions are simulated.

Employment at the Sterling Heights HQ was reduced from 350 (2005) to 150 (2010) due great recession economic crisis; as the automotive industry economy improved, employment at Sterling Heights increased to 300 (2016).

Breed (before ownership changed to KSS) operated in CY2000 injection molding machine to make plastic parts for research activities. The molding machine has been removed per FY2011 inspection.

525-87B two automotive air bag inflation testing chambers (Environmental Chambers)

In these environmental chambers air bags are deployed, inflated and blown up for testing. The emissions are particulate matter only. The particulate matter is controlled using Farr 30/30 extended area replaceable filters. The pictures (1 picture per 1 millisecond) are taken to review and analyze bag blow-up. Extremely limited PM emissions are controlled. No exhaust to outside ambient air.

In addition, 14 (2 vibration and 12 temperature [both hot and cold]) environmental chambers are present. The chambers are electrically heated. Practically nil emissions from these operations are possible and no exhaust system to outside ambient air is present.

123-91A paint spray booth (5 ft. wide * 4 ft. height * 3 ft. deep)

Paint spray booth is used to paint the miscellaneous metal parts used for R & D, prototyping, etc. Only spray cans are used. 1-liter spray equipment is not used anymore; less than one half gallon of paint per month was used in CY2000 (about the time spray equipment was removed). Emission limit for this booth is 1.0 ton per year of VOC. The back-draft filters are present. The booth is now exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1287(b); formerly, the booth was exempt pursuant to Rule 336.1287(c) when the spray equipment was used.

130-92 TIG / MIG welding hood and bag inflator hood.

Removed. AQD voided PTI No. 130-92 (9/18/2000).

One Vertical Dynamic Impact Simulator for energy management, air bag systems, interior trim, is present.

Two Vibration Chambers for testing air bags, seat belts are present. Crash testing with high speed camera is done.

One MAC BLAST sandblast machine, one steel cutting machine and one welding booth are present; neither has an exhaust system to outside ambient air. All machines / equipment are used on non-production basis. The sand blast machine, steel cutting machine and welding equipment are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 336.1285(l) and Rule 336.1285(i) (welding).

No parts cleaner is present.

AQD may void PTI Nos. 123-91A for paint spray booth and 525-87B for test chamber. Now (since 2000), only spray cans are used in the booth under non-production, R & D environment (Rule 336.1287(b)).

Conclusion:

AQD may void PTI Nos. 123-91A and 525-87B. KSS is in compliance with conditions of PTI exemption rules (285, 287).

NAME D. Kenanahall DATE 09/12/2016 SUPERVISOR Joye ZK