F 3254 – SAR – 20160705

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

F325435832

FACILITY: Selfridge Air National Guard Base		SRN / ID: F3254
LOCATION: 127th Wing/Environmental Mgmt Office, MOUNT CLEMENS		DISTRICT: Southeast Michigan
CITY: MOUNT CLEMENS		COUNTY: MACOMB
CONTACT: Mark Paasche , Environmental Engineer		ACTIVITY DATE: 07/05/2016
STAFF: Francis Lim	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT:		
RESOLVED COMPLAINTS:		

On July 5, 2016, I conducted an inspection at Selfridge Air National Guard Base (SANGB) located in Harrison Township near Mt. Clemens, Michigan. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Administrative Rules; and the conditions of Permit-To-Install (PTI) No. 523-96A and No. 10-15.

Kenneth Baker and Mark Paasche represented Selfridge Air during the inspection.

SANGB is a military installation whose major tenants include the Army, Air Force, Marines, Navy, Coast Guard, and Department of Homeland Security. The base is hosted by the Michigan Air National Guard's 127th Wing.

Maintenance squadron and support equipment is assigned for each particular aircraft. Support equipment may consist of aerospace ground equipment (AGE), emergency engines, and paint & maintenance equipment.

SANGB previously have eight permits for the paint spray booths. The permits have been voided. There are now only four paint spray booths at the site; only three are currently being used. All booths are R 287c exempt. Paint usage for each booth is well below 200 gallons per month. The booths are located at Building/Hangar No 139, No. 1465, No. 120 and No. 35. I inspected the paint booth located at Hangar 35. This booth is used to spray paint aircraft parts. HVLP spray guns are used. Dry filters looked new and installed properly. Filters are changed when pressure drop approaches 1.0 inch water. Paint guns are cleaned and sprayed with solvent in the gun cleaner tank. I verified that a paint log is kept near the work area. As with any other military installation, every chemical/paint used on site has an assigned number to it. If new paint/chemical is purchased, a number is assigned to it and hazardous contents are identified. Facility is considering purchasing a solvent distillation equipment to recycle the used solvents in the booths.

SANGB previously have three permits for the parts washers and degreasers. These cleaners are now exempt under R 281h. Halogenated solvents are not used. Cold cleaners generally use aqueous solvent. But some military specification parts specify solvent usage. Degreasers have either hydraulic covers or mechanically assisted covers.

Selfridge previously has four permitted coal-fired boilers used for space heating. The coal-fired boilers have been removed and replaced by multiple, smaller natural-gas fired heaters.

Facility operates several emergency diesel engine generators subject to the Area Source

Reciprocating Internal Combustion Engine (RICE) MACT. Facility also installed newer emergency diesel engine generators subject to the New Source Performance Standards (NSPS) Subpart IIII. Gas-fired generators have not been used.

There are two bulk Jet A fuel oil storage tanks (900,000 gallons and 335,000 gallons capacity). Jet A fuel, with additives is very similar to JP-8. Jet A is commercially available and is cheaper. On June 2014, SANGB informed AQD about the change in jet fuel from JP-8 to Jet A (with additives).

The fuel storage tanks are grandfathered from NSPS Subpart Kb requirements. SANGB is planning to install two additional fuel storage tanks. They are aware that the installation will be subject to Subpart Kb.

The base no longer operates jet engine test cells. Two "Hush Houses" where jet planes are tested are installed. The jet plane is ushered into the building, tail first, where the engine exhaust goes through a binocular shaped receptacle. The exhaust goes through a tunnel that muffles the jet engine noise. Wires are hooked up to the aircraft during the test which could last for 30 minutes up to several days. The Hush House is not considered a stationary source. In the past, only one of the "Hush Houses" was used. There is currently no need for the "Hush House" because engine maintenance is not done at the base anymore.

Aviation ground equipment (AGE) are aircraft support equipment on wheels (some are motorized) that are equipped with engines fueled by aviation fuel and diesel fuel. Two types of engines are used: turbine and reciprocating.

The aerospace ground equipment were previously not permitted. After AQD determined that the potential to emit for these ground equipment were significant, these equipment were included in PTI No. 523-96A. AGE consists of all motorized aircraft support equipment, such as electric power generators, compressors, hydraulic test stands, weapon loading units (hydraulic lifts), towing vehicles, units that produce nitrogen, provide supplementary heating, air conditioning, and lighting. The facility has requested that the AGE be considered a mobile source. In September 2012, SANGB requested again that AGE be considered a mobile source when determining Title V applicability. The district still considers the AGE as an emission unit and not a mobile source.

SANGB installed a fluorescent bulb crusher last January 2016. Permit-to-install No. 10-15 was issued for this equipment.

Environmental-related records are maintained through Air Program Information Management (APIM), a program developed by the military for use at military installations.

The fallout incident that occurred in Harrison Township last February 2016 was also discussed with Ken and Mark. A copy of the metals analysis from the fallout was given to them.

PTI No. 523-96A (Opt-Out Permit)
FG-COLDCLEANERS
Special Cond 1.1. VOC limit is 10 tons per year based on a rolling 12-month period. For the period ending in December 2015, VOC emissions were 0.4 tons. See attached list of degreasers and 12-month VOC emissions records.

Special Cond 1.2. Material usage limit is 3,000 gallons per year based on a rolling 12-month

period. For the 12-month period ending in December 2015, solvent usage is 111 gallons. See attached monthly and12-month period usage records.

Special Cond 1.3. VOC content of solvent is less than the limit of 6.7 pounds per gallon. See attached record.

Special Cond 1.4. Rule 707 is complied with.

Special Cond 1.5. Records necessary to show compliance with the VOC emission limit, material usage limit and VOC content limit is kept.

FG-PAINTBOOTHS
Special Cond 1.1. Usage limit is 200 gallons per month per paint spray booth. Booths are seldom used.

Special Cond 2.2. VOC content limit of paint is 6.25 pounds per gallon. Staff did not verify this. Booths are seldom used. Total VOC emissions for all the booths reported on 2015 MAERS total 552.7 pounds (0.3 ton).

Special Cond 2.3. Paint booth filters are properly installed.

Special Cond 2.4. Records are kept to show compliance with the usage limit, VOC content limit and HAPs limit (for FG-FACILITY).

FG-NGHEATERS
Special Cond 3.1. Natural gas usage limit for the heaters is 520 MM cubic ft. per 12-month rolling time period. For the 12-month period ending in May 2016, natural gas usage is 107.7 MM cubic ft. See attached list of natural gas heaters and boilers with corresponding capacities (from 0.1 to 2.4 MM BTU/hr.). See attached total monthly and 12-month natural gas usage records.

Special Cond 3.2. SANGB keeps records of natural gas usage based on a rolling 12-month time period.

FG-DIESELGENS
Special Cond 4.1. Annual power output limit for the diesel engines is 450,000 kilowatt hours per 12-month rolling time period. For the 12-month period ending in May 2016, power output for the diesel engines is 144,339 kilowatt hours. Please see attached records.

Special Cond 4.2. SANGB keeps records to demonstrate diesel engine power output.

FG-GASGENS
Special Cond 5.1. Annual power output limit for the gas generator engines is 75,000 kilowatt hours per 12-month rolling time period. Gas generators have not been used.

Special Cond 5.2. Gas generators have not been used.

FG-AGE
Special Cond 6.1. Diesel fuel or JP-8 fuel usage limit for all turbine engines is 150,000 gallons per 12-month rolling time period. For the 12-month period ending in May 2016, fuel usage is 2099 gallons. See attached monthly and 12-month usage records.

Special Cond 6.2. Diesel fuel or JP-8 fuel usage limit for all reciprocating engines is 75,000

gallons per 12-moth rolling time period. For the period ending May 2016, fuel usage is 10,924 gallons. See attached usage monthly and 12-month usage records.

Special Cond 6.3 SANGB keeps records to demonstrate fuel usage limits compliance.

FG-TESTCELLS
The engine test cells have not been operating.

FG-FUELSTORAGE
Special Cond 8.1. The facility has two bulk Jet A fuel storage tanks with capacities of 900,000 and 335,000 gallons. These tanks are grandfathered under the NSPS Subpart Kb. The tanks have domed external floating roofs. The facility has several other storage tanks containing gasoline, diesel and Jet A fuel, ranging from 3,000 to 20,000 gallon capacities. These smaller tanks have horizontal fixed roofs.

Jet A throughput limit for the storage tanks is 55,000,000 gallons per 12-month rolling time period. Throughput for the period ending May 2016 is 2,947,928 gallons. See attached throughput records and list of storage tanks.

Special Cond 8.2. SANGB keeps records to demonstrate fuel usage limits.

FG-FACILITY
Special Cond 9.1.Facility wide limits, based on a rolling 12-month time period are: Individual HAPs, 9 tons per year; aggregate HAPs, 22.5 tons per year; NOx, 83.9 tons per year; CO, 80.6 tons per year; SO2; 4.2 tons per year; PM10, 19.5 tons per year; and VOC, 44.2 tons per year.

The following annual emissions (based on a rolling 12-month period ending in May 2016) were reported by the facility: Individual HAPS, less than 1 ton per year; aggregate HAPs, less than 1 ton per year; NOx, 11.8 tons per year; CO, 6.0 tons per year; SO2, less than 1 ton per year; PM10, less than 1 ton per year; and VOC 2.6 tons per year. See attached emissions records.

Special Cond 9.2. HAPs emissions records are kept.

Special Cond 9.3 NOx, CO, SO2, PM10, and VOC emissions records are kept.

PTI No. 10-15, permit for a bulb crusher.
Special Condition II.1. Limit of 400 eight-foot equivalent bulbs crushed. Highest daily bulbs crushed occurred on January 6, 2016 with 222 eight-foot equivalent bulbs.

Special Condition II.2. Limit of 5,000 eight-foot equivalent bulbs crushed per 12-month rolling period. 1,891 eight-foot equivalent bulbs crushed for the 12-month period ending May 2016. See attached monthly and 12-month period records.

Special Condition III.1 and 2. Bulb crusher is maintained according to manufacturer's specifications and procedures in order to minimize emissions.

Special Condition III.3. Bulb crusher is located far away from property line, schools, apartment buildings, and hospitals.

Special Condition III.4, 5, and 6. Broken glass is properly handled. Drum changeout is done

as quickly as possible. A counter monitors usage to advise the facility to replace filters as necessary or a within a minimum of two years.

Special Condition IV.1, 2, and 3. A series of bag filter, HEPA filter and activated carbon filter is installed. Warped drum is not used. A self-sealing flexible device on the feed chute is installed.

Special Condition VI.1. Required records are kept.

Special Condition VI.2, 3, and 4. Filters have not been replaced yet since the crusher has only operated for a year. Broken glass and metal pieces are disposed properly. Recording of room temperature during operation was not verified.

Special Condition VIII.1. Exhaust gases from bulb crusher is not discharged into the ambient air.

RICE MACT and Subpart IIII NSPS
Attached is a list of emergency diesel engine generators subject to the Area Source RICE MACT. Six of the engines were manufactured in 2006 and (beyond) subject to Subpart IIII NSPS.

1. Cummins diesel engine, located at KC 135 Fuel Hangar and manufactured 2007, is certified per EPA website based on engine model 4BTA3.9G5.
2. Cummins diesel engine, located at Security Forces and manufactured 2010, is certified per EPA website based on engine family ACEXL0409AAD.
3. Cummins diesel engine, located at Navy and manufactured in 2012, is certified per EPA certification submitted. See attached.
4. Cummins diesel engine, located at DHS and manufactured in 2008, is certified per EPA certification submitted. See attached.
5. Cummins diesel engine, located at DHS/CBP and manufactured in 2010 is certified per EPA website based on engine family ACEXL0661AAH.
6. John Deere diesel engine, located at ANG and manufactured in 2012 is certified per EPA website based on engine model 4045HF285H.

Boiler MACT and Boiler NSPS
All natural gas fired boilers are exempt from the area source Boiler MACT. All the natural gas-fired boilers are less than 10 MM BTU and not subject to the Boiler NSPS.

NAME _____ DATE 08-04-16 SUPERVISOR CJE