

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: On-site Inspection**

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|--|--|----------------------------------|
| <b>FACILITY:</b> Selfridge Air National Guard Base                     |  | <b>SRN / ID:</b> F3254           |
| <b>LOCATION:</b> Selfridge Air National Guard, MI 48045, MOUNT CLEMENS |  | <b>DISTRICT:</b> Warren          |
| <b>CITY:</b> MOUNT CLEMENS   |  | <b>COUNTY:</b> MACOMB            |
| <b>CONTACT:</b> Kenneth Baker , Environmental Engineer                 |  | <b>ACTIVITY DATE:</b> 08/06/2021 |
| <b>STAFF:</b> Kerry Kelly  | <b>COMPLIANCE STATUS:</b> Non Compliance | <b>SOURCE CLASS:</b> SM OPT OUT  |
| <b>SUBJECT:</b> FY 2021 scheduled inspection                           |  |                                  |
| <b>RESOLVED COMPLAINTS:</b>  |  |                                  |

On August 6, 2021, I (Kerry Kelly, EGLE-AQD) conducted an inspection at Selfridge Air National Guard Base (SANGB) located in Harrison Township, 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 Environment, Great Lakes, and Energy - Air Quality Division (EGLE-AQD) Administrative Rules; and the conditions of Permit-To-Install (PTI) Nos. 523-96A and No. 10-15.

Kenneth Baker 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 127<sup>th</sup> Wing. The facility is located in eastern Macomb County, Michigan. Macomb County is designated as non-attainment for ozone. SANGB is bounded on the east by Anchor Bay/Lake St. Clair and on the south and west by residential properties. A river also runs along the southern boundary of the base.

Maintenance and operation of military equipment and buildings and some research and development work are the primary activities that take place at SANGB. 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. The facility also has a fluorescent bulb crusher and several natural gas-fired boilers & space heaters.

AGE are aircraft support equipment on wheels (some are motorized) that are equipped with engines fueled by aviation fuel and diesel fuel. AGE consists of all motorized aircraft support equipment, such as electric power generators, compressors, hydraulic test stands, weapon loading units, towing vehicles, supplementary heating, air conditioning, and lighting. In the past, the facility has requested that the AGE be considered a mobile source which would result in the emissions from the AGE not being included in the facility's potential to emit (PTE) calculations. Based on previous inspection reports for the facility, AQD Warren district determined that the AGE are not a mobile source and therefore the emissions must be included when calculating the facility's PTE. As a result, the facility's PTE for hazardous air pollutants (HAP), carbon monoxide (CO) and nitrogen oxides (NOx) was greater than major source thresholds without federally enforceable emission limits in place.

On August 6, 1999, a PTI was approved (No. 523-96) limiting SANGB's HAP and criteria pollutant emissions to below major source thresholds, making the facility a synthetic minor opt-out for HAPs and criteria pollutants. This opt-out permit was modified and PTI No. 523-96A approved March 21, 2005.

Environmental-related records are maintained through Air Program Information Management (APIM), a program developed by the military for use at military installations. PTI 523-96A and 10-15 require monthly and 12-month rolling emissions and/or throughput records be kept for each emission unit or flexible group. During the inspection, Mr. Baker informed me that the 12-month rolling total emissions and/or throughputs are not currently be calculated at the end of each month for the preceding month. Mr. Baker provided the 12-month totals for the periods ending December 2019 and December 2020 for all emission units and flexible groups and the period ending May 2020 and May 2021 for the natural gas heaters. He also stated he could compile the 12-month totals for any 12-month period ending prior to approximately May 2021. According to Mr. Baker, it takes several weeks following the end of each month to get the natural gas usage for heaters and the solvent usage for cold cleaners. Though failure keep emissions records on a monthly and 12-month rolling basis as determined at the end of each calendar

month indicates non-compliance with Special Conditions 1.5, 2.4, 3.2, 4.2, 5.2, 6.3, 8.2, and 9.3 of PTI 523-96A and Special Condition VI.1 of PTI 10-15, the Warren District Supervisor (Joyce Zhu) and I decided not to issue a violation notice for this non-compliance during this compliance evaluation provided Selfridge keeps these records going forward and submits the records to me each month for the next six calendar months (September 2021 – February 2022).

## **COMPLIANCE EVALUATION**

### **COLD CLEANERS**

Mr. Baker provided a list of all cold cleaners at the facility (Attachment 1). According to this list, there are 15 cold cleaners at SANGB, 14 of which have air-vapor interface less than 10 square feet. One cold cleaner (located in Building 36) has an air-vapor interface greater than 10 square feet. The air-vapor interface of this cold cleaner is 17.78 square feet. Though cold cleaners with an air-vapor interface less than 10 square feet may be exempt from the requirements to obtain a PTI per Rule 281(2)(h), the cold cleaners at SANGB are included in PTI No. 523-96A in the Flexible Group FG-COLDCLEANERS.

### **PTI 523-96A**

Special Cond 1.1. sets a VOC limit of 10 tons per year based on a rolling 12-month period. Mr. Baker provided VOC emissions for calendar year 2019 and 2020 (Attachment 2). For the period ending December 2019 and December 2020, reported VOC emissions from the cold cleaners were 0.32 tons and 0.38 tons respectively.

Special Cond 1.2. sets a material usage limit of 3,000 gallons per year based on a rolling 12-month period. For the 12-month period ending December 2019 and December 2020, the reported solvent usage is 147.76 gallons and 168.5 gallons respectively (Attachment 2).

Special Cond 1.3 limits the VOC content of solvent to less than 6.7 pounds per gallon. According to records provided by Mr. Baker (Attachment 2), the solvent (Jet A) used in the cold cleaner located at the museum has the highest VOC content at 6.7 lbs/gallon.

Special Cond 1.4. requires SANGB operate the cold cleaners in compliance with Rule 707. Rule 707 requires:

- Cold cleaners to be equipped with lids and the lids be closed whenever parts are not being handled. The cover must be mechanically assisted if the solvent is more than 0.3 psia, agitated, or heated.
- A device be available for draining cleaned parts
- Waste solvent to be stored in closed containers
- Written procedures for the operation of such provisions, and such procedures shall be posted in an accessible, conspicuous location near the cold cleaner

I inspected the cold cleaners located in Building Nos. 117, 45, 35, 36, and 1464. These cold cleaners matched the description in the list provided by Mr. Baker. During the inspection, each cold cleaner I observed was equipped with a lid and the lid was closed. I saw instructions posted in a conspicuous location near each cold cleaner. The cold cleaner in Building 36 is capable of agitating the solvent and is used for cleaning aircraft wheel rims. This cleaner appeared to have a lip exhaust and emissions ducted to the ambient air. I observed a rack inside the cleaner for draining parts and that the lid was mechanically assisted. SANGB appears to be operating the cold cleaners in compliance with Rule 707.

### **PAINT BOOTHS**

According to records provided by Mr. Baker (Attachment 3), there are paint booths located in Building Nos. 1416, 1465, 120 and 35 at SANGB. Though coating lines with coating use rates of not more than 200 gallons per month and with properly installed dry filter control may be exempt from the requirements to obtain a PTI per Rule 287(2)(c), the paint booths at SANGB are included in PTI No. 523-96A in the Flexible Group FG-PAINTBOOTHs.

### **PTI 523-96A**

Special Cond 1.1. limits the amount of paint and solvent used in each paint booth to 200 gallons per 12-month rolling time period. The records of paint usage for January 2019 through December 2020 that were provided (Attachment 3) indicate a total of 21.81 gallons were used in all booths combined in 2019

and 28.65 gallons were used in all booths combined in calendar year 2020. The reported annual usage for all booths combined is less than the 200 gallon per year per booth limit. Special Cond 2.2. sets a VOC content limit of paint of 6.25 pounds per gallon. Mr. Baker provided records of the monthly average VOC content of the coatings for calendar year 2019 and 2020 (Attachment 4). These records indicate the highest monthly average coating VOC content was 5.6 lbs/gallon, reported in December 2019 and August 2020.

Special Cond 2.3. requires paint booth filters to be properly installed. I inspected the three paint booths located in Building 1465 and the one paint booth in Building 35 during this inspection. There were filters in place in three of the four booths I inspected. The filters appeared new and to be installed properly. Paint guns are cleaned and sprayed with solvent in the gun cleaner tank. Mr. Baker stated the booth that was missing filters was not used for spray painting and, as a result, didn't need filters because no particulate emissions were being generated. In this booth I observed a table with what appeared to be a piece of a coast guard helicopter on top. I didn't see any spray guns in this booth and it didn't appear the booth was used for spray painting.

### **NATURAL GAS-FIRED HEATERS**

Mr. Baker provided a list of the gas fired boilers and heaters at SANGB. According to the list, there are 459 boilers and heaters and the heat input rating of each boiler is less than 10 MMBtu/hour. Sizes noted in the records range from 0.034 MMBtu/hour to 3 MMBtu/hour. The natural gas-fired boilers and heaters that I inspected match the description in the list provided by Mr. Baker. Though fuel burning equipment used for space heating, firing natural gas, and with a heat input rating less than 50 MMBtu/hour may be exempt from the requirements to obtain a PTI per Rule 282(2)(b), the heaters at SANGB are included in PTI No. 523-96A in the Flexible Group FG-NGHEATERS.

PTI 523-96A does not include National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources requirements nor New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units requirements.

### **PTI 523-96A**

Special Cond 3.1. limits natural gas usage for the heaters to 520 MM cubic ft. per 12-month rolling time period. For the 12-month period ending in May 2020 and May 2021, natural gas usage was 114 MM cubic ft and 125 MM cubic ft respectively, according to the records provided (Attachment 5).

### **NESHAP for Industrial, Commercial, and Institutional Boilers Area Sources (40 CFR Part 63, Subpart JJJJJJ)**

It appears the natural gas fired boilers at SANGB are not subject to 40 CFR Part 63, Subpart JJJJJJ per 40 CFR 63.11195(e) because they are gas-fired boilers.

### **NSPS for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR Part 60, Subpart Dc)**

It appears the natural gas fired boilers at SANGB are not subject to 40 CFR Part 60, Subpart Dc because the maximum design heat input capacity of each boiler is less than 10 MMBtu/hour.

### **DIESEL GENERATORS**

SANGB operates 55 diesel-fired emergency/fire pump engines. The diesel engines range in size from 4.7 HP to 1,111 HP, 48 of the diesel engines are less than 500 HP. Though internal combustion engines (ICE) that have a heat input capacity of less than 10 MMBtu/hour may be exempt from the requirements to obtain a PTI per Rule 285(2)(g), the diesel engines at SANGB are included in PTI No. 523-96A in the Flexible Group FG-DIESELGENS. The diesel engines I observed during the inspection appear to match the description in the list provided by Mr. Baker.

PTI 523-96A does not include NESHAP for Stationary Reciprocating Internal Combustion Engines requirements nor NSPS for Stationary Compression Ignition Internal Combustion Engines requirements.

### **PTI 523-96A**

Special Cond 4.1. limits annual power output to 450,000 kilowatt hours per 12-month rolling time period for FG-DIESELGENS. Mr. Baker provided records of the power output for the diesel generators for the 12-month periods ending December 2019 and December 2020 (Attachment 6). For the 12-month periods ending in December 2019 and December 2020, the reported power output for the diesel engines was 138,680 kilowatt hours and 255,789 kilowatt hours respectively.

#### **NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ)**

The emergency engines at SANGB may be subject to the 40 CFR Part 63, Subpart ZZZZ. Compliance with 40 CFR Part 63, Subpart ZZZZ was not evaluated during this inspection because EGLE-AQD has not accepted delegation to implement and enforce the 40 CFR Part 63, Subpart ZZZZ at area sources of HAPs.

#### **NSPS for Stationary Compression Ignition ICE (40 CFR Part 60, Subpart IIII)**

Emergency diesel engines at the facility that were ordered after July 11, 2005 and manufactured after April 1, 2006 may be subject to 40 CFR Part 60, Subpart IIII. According to records provided by Mr. Baker, 16 of the emergency diesel engines at SANGB were manufactured after April 1, 2006. These engines range in size from 47 HP to 1,111 HP.

Per 40 CFR 60.4200(d), stationary CI ICE may be eligible for exemption from the requirements of 40 CFR Part 60, Subpart IIII as described in 40 CFR part 1068, subpart C, except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security. 40 CFR Part 1068.225(e) requires manufacturers to add a permanent label to all engines/equipment exempted for national security under 40 CFR part 1068, subpart C. The label is required to contain at least the following items: The label heading "EMISSION CONTROL INFORMATION", the manufacturers corporate name and trademark, engine displacement, family identification, and model year of the engine/equipment (as applicable), or whom to contact for further information, the statement: "THIS [engine, equipment, vehicle, etc.] HAS AN EXEMPTION FOR NATIONAL SECURITY UNDER 40 CFR 1068.225."

Based on records provided by Mr. Baker, four of the diesel engine at SANGB manufactured after April 1, 2006 are exempt from 40 CFR Part 60, Subpart IIII for national security under 40 CFR 1068.225.

According to Mr. Baker, these engines have permanent labels stating they are exempt.

40 CFR Part 60, Subpart IIII establishes emissions limits for emergency diesel engines. Compliance with these emission limits can be demonstrated by purchasing an engine certified by the manufacturer to meet the emission limits and by operating the engines according to the manufacturer's emission-related written instructions or through performance testing by the owner/operator. Records provided by Mr. Baker indicate that each diesel engine at SANGB manufactured after April 1, 2006, that isn't exempt from 40 CFR 60 Subpart IIII, is certified to meet the emission limits in 40 CFR Part 60, Subpart IIII. The engines are either listed in EPA's certification database or have a certificate of conformity attached to the engine.

Per 40 CFR 60.4211(f), to be considered an emergency engine, each engine may be operated for no more than 100 hours per calendar year (CY) for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Each engine may be operated up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income. Mr. Baker provided records of each engine's operating hours for CY 2019 and CY 2020 (Attachment 7). Based on these records, it appears all engines subject to 40 CFR 60 Subpart IIII were operated for less than 100 hours for non-emergency purposes in calendar year 2019 and 2020.

#### **FG-GASGENS**

FG-GASGENS applies to all gasoline-powered generator engines at the facility. According to Mr. Baker, SANGB no longer uses gasoline-powered generator engines. In addition, SANGB reported in the Michigan Air Emissions Reporting System (MAERS) that the gasoline powered engines have not been operated each year from 2014 through 2020.

#### **FG-AGE**

AGE consists of all motorized aircraft support equipment, such as electric power generators, compressors, hydraulic test stands, weapon loading units, towing vehicles, supplementary heating, air conditioning, and lighting. Based on records provided by Mr. Baker, the facility has 184 pieces of AGE fired by either diesel fuel or Jet A fuel. All AGE engines are 180 HP or less. 135 of the AGE are 50 HP or less.

#### **PTI 523-96A**

Special Cond 6.1. limits diesel fuel or Jet fuel usage for all turbine engines in FG-AGE to 150,000 gallons per 12-month rolling time period. Mr. Baker provided records of the fuel usage for the turbines in FG-AGE for the 12-month periods ending December 2019 and December 2020 (Attachment 8). For the 12-month periods ending in December 2019 and December 2020, the reported fuel usage for the turbine engines was 2,329 gallons and 2,591 gallons respectively

Special Cond 6.2. limits diesel fuel or Jet fuel usage for all reciprocating engines in FG-AGE to 75,000 gallons per 12-month rolling time period. Mr. Baker provided records of the fuel usage for the reciprocating engines in FG-AGE for the 12-month periods ending December 2019 and December 2020 (Attachment 8). For the 12-month periods ending in December 2019 and December 2020, the reported fuel usage for the reciprocating engines was 10,255 gallons and 9,506 gallons respectively.

#### **NSPS for Stationary Compression Ignition ICE (40 CFR Part 60, Subpart IIII)**

40 CFR Part 60, Subpart IIII applies to stationary compression ignition internal combustion engines ordered after July 11, 2005 and manufactured after April 1, 2006. A stationary engine, as defined in the rule, means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition.

A nonroad engine, as defined in 40 CFR 1068.30(1)(iii), is an internal combustion engine that by itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. Per 40 CFR 1068.30(2)(iii), the engine included in 40 CFR 1068.30(1)(iii) that remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source is not a non-road engine. A location is any single site at a building, structure, facility, or installation.

During the inspection I observed that the AGE appeared to be affixed to trailers with wheels making them capable of being moved from one location to another. The AGE were parked near the AGE service building at the time of my inspection. They are transported to different areas of the base when needed to do work on aircraft. The AGE equipment are also considered deployable assets.

U.S. Environmental Protection Agency Applicability Determination Index (ADI), Control Number: M090038 (Attachment 9) indicates that an engine that is moved through a facility is classified as a non-road engine and therefore not subject to 40 CFR Part 60, Subpart IIII.

#### **FG-TESTCELLS**

FG-TESTCELLS applies to 2 engine testing stands for F-16 aircraft engines. According to Mr. Baker, SANGB no longer uses the engine test cells. SANGB reported in the MAERS that the engine test cells have not been operated each year from 2014 through 2020.

#### **FG-FUELSTORAGE**

FG-FUELSTORAGE applies to tanks used to store petroleum products such as Jet fuel, diesel, and gasoline. There are 63 above ground storage tanks and one underground storage tank used to store petroleum products at SANGB according to records provided by Mr. Baker. 51 tanks are used to store diesel fuel, 7 tanks are used to store Jet A fuel, and 5 tanks are used to store gasoline. Three of these tanks have a capacity greater than 20,000 gallons (two 390,000 gallon tanks used to store Jet A fuel and one 20,000 gallon tank used to store gasoline).

#### **PTI 523-96A**

Special Cond 8.1 limits the jet fuel throughput for the storage tanks to 55,000,000 gallons per 12-month rolling time period. Mr. Baker provided records of the jet fuel throughput for the 12-month periods ending December 2019 and December 2020 (Attachment 10). For the 12-month periods ending in December 2019 and December 2020, the reported Jet A fuel throughput for the tanks were 3,288,455 gallons and 3,816,223 gallons respectively.

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

#### **NESHAP for Gasoline-Dispensing Facilities (40 CFR Part 63, Subpart CCCCCC)**

The gasoline tanks at SANGB may be subject to the 40 CFR Part 63, Subpart CCCCCC. Compliance with the 40 CFR Part 63, Subpart CCCCCC was not evaluated during this inspection because EGLE-AQD has not accepted delegation to implement and enforce the 40 CFR Part 63, Subpart CCCCCC.

#### **NSPS for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 (40 CFR Part 60, Subpart Kb)**

Except as provided in 40 CFR 60.110b(b) and (d), 40 CFR Part 60, Subpart Kb applies to tanks greater than 75 m<sup>3</sup> (20,000 gallons) used to store organic liquids which can emit volatile organic compounds (as defined in 40 CFR 51.100) into the atmosphere. The two 390,000 gallon tanks used to store Jet A fuel are not subject to 40 CFR Part 60, Subpart Kb per 40 CFR 60.110b(b) because they are storage vessels with a capacity greater than or equal to 151 m<sup>3</sup> (39,890 gallons) storing a liquid with a maximum true vapor pressure less than 3.5 kilopascals (kPa). According to records submitted by Mr. Baker, the vapor pressure of Jet A fuel is 0.07 psia (0.48 kPa). The 20,000 gallon gasoline tank does not appear to be subject to 40 CFR Part 60, Subpart Kb per 40 CFR 60.110b(d)(6) because it is located at a gasoline service station.

#### **Michigan Administrative Rule 703**

The gasoline storage tanks greater than 2,000 gallons appear to be subject to R 336.1703. R 336.1703 requires the tank be vaportight and equipped with: a permanent submerged fill pipe, a vapor balance system or equivalent control, an interlocking system or procedure to ensure vaportight collection line is connected before any gasoline can be loaded, and a device to ensure that the the vaportight collection line shall close upon disconnection so as to prevent release of gasoline vapor. I did not evaluate SANGB's compliance with this rule during the inspection.

#### **FG-FACILITY**

Special Cond 9.1 limits emissions from all process equipment at the facility including equipment covered by other permits, grand-fathered equipment and exempt equipment to the following, based on a rolling 12-month time period:

| <b>Pollutant</b> | <b>Limit</b>   |
|------------------|----------------|
| Individual HAPs  | 9 tons/year    |
| Aggregate HAPs   | 22.5 tons/year |
| NOx              | 83.9 tons/year |
| CO               | 80.6 tons/year |
| SO2              | 4.2 tons/year  |
| PM10             | 19.5 tons/year |
| VOC              | 44.2 tons/year |

Mr. Baker provided records of the facility-wide emissions for the 12-month periods ending December 2019 and December 2020 (Attachment 11). The reported emissions for the 12-month periods ending in December 2019 and December 2020 are listed below:

| <b>Pollutant</b> | <b>2019<br/>Reported Emissions</b> | <b>2020<br/>Reported Emissions</b> |
|------------------|------------------------------------|------------------------------------|
| Aggregate HAPs   | 1.02 tons/year                     | 2.20 tons/year                     |
| NOx              | 11.0 tons/year                     | 10.5 tons/year                     |
| CO               | 6.76 tons/year                     | 6.01 tons/year                     |
| SO2              | 0.044 tons/year                    | 0.037 tons/year                    |

| <b>Pollutant</b> | <b>2019<br/>Reported Emissions</b> | <b>2020<br/>Reported Emissions</b> |
|------------------|------------------------------------|------------------------------------|
| PM10             | 0.83 tons/year                     | 0.77 tons/year                     |
| VOC              | 5.83 tons/year                     | 5.06 tons/year                     |

### **EU-BULBCRUSHER**

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

#### **PTI No. 10-15**

Special Condition II.1. limits the eight-foot equivalent bulbs crushed per day to 400. Mr. Baker provided records of the number of bulbs crushed per day for June 2018 through August 2021 (Attachment 12). The records indicate the highest number of eight-foot equivalent bulbs crushed in a day occurred on June 13, 2018 with 398 eight-foot equivalent bulbs.

Special Condition II.2. limits the eight-foot equivalent bulbs crushed per year, based on a 12-month rolling time period, to 5,000. Mr. Baker provided records of the number of bulbs crushed per month for June 2018 through August 2021 and for the 12-month time periods ending December 2019 and December 2020 (Attachment 13). These records indicate SANGB crushed 2,693 eight-foot equivalent bulbs during the 12-month period ending May 2019.

Special Condition III.1 requires SANGB to follow the Recommended Best Management Practices for Drum-top Crushers and Recommended Best Management Practices for Lamp Handling & Storage are specified in Appendices 1 and 2 of PTI No. 10-15 and maintain and operate the crusher according to the manufacturer's specifications. Appendix 1 requires the following:

1. EU-BULBCRUSHER should have a vacuum pump to create negative internal pressure and well designed and tightly fitted seals at all connection points. EU-BULBCRUSHER must include a bag filter followed in series by a HEPA filter and an activated carbon filter to control particulate emissions.
2. EU-BULBCRUSHER should be used and stored in a room completely segregated from other parts of the building, with a dedicated ventilation/exhaust system that discharges to the ambient air. EU-BULBCRUSHER should not be used or stored in areas where the temperature is elevated (e.g., a boiler room). Use workroom ventilation to create a slight negative pressure throughout the entire work area, so any fugitive emissions are captured by the facility's air filtration system. Workroom ventilation/exhaust or exhaust from EU-BULBCRUSHER should be located away from air intakes.
3. If EU-BULBCRUSHER must be moved, all ports should be covered or plugged and movement should be done in a manner to avoid disturbing the contents of the drum. Ports should also be plugged or sealed when the DTC is not in use.
4. All operators should be trained in the proper assembly, maintenance and operation of the EU-BULBCRUSHER.
5. All operators should wear appropriate Personal Protective Equipment (PPE) when operating EU-BULBCRUSHER
6. Before each use, the operator should inspect EU-BULBCRUSHER for damage or worn components; improper assembly; missing, damaged or improperly fitted seals; seal integrity between the crusher unit and the drum; proper vacuum (negative pressure); and proper air flow.
7. EU-BULBCRUSHER should be operated according to manufacturer's recommendations. This includes not crushing more than the manufacturer-recommended number of lamps per drum and not using EU-BULBCRUSHER continually for longer than the manufacturer recommends. EU-BULBCRUSHER should not be opened to put debris into the drum.
8. The manufacturer's recommended maintenance schedule should be followed for carbon filter and drum change outs. A maintenance log should be kept with EU-BULBCRUSHER recording all carbon filter changes, drum change outs and other maintenance.
9. Drum change-outs should be performed according to the manufacturer's specifications and procedures, and operators conducting change-outs should wear appropriate PPE. Before changing a drum, allow the contents to settle for at least 15 minutes before removing the DTC from the drum. The

drum should be changed by two trained operators, and the full drum should be covered as quickly as possible and tightly sealed. Crushed lamps should not be removed from the drum.

10. EU-BULBCRUSHER should not be used if there is phosphor (white powder) on or around the DTC; there is any damage to EU-BULBCRUSHER, especially the vacuum system, seals or filters; or the EU-BULBCRUSHER has been incorrectly assembled or modified in any way.

11. Drums containing crushed lamps should be managed according to applicable federal and state regulations and sent to a commercial recycler.

Special Condition IV.1, 2, and 3 require a bag filter followed in series by a HEPA filter and an activated carbon filter are installed, maintained, and operated in a satisfactory manner, SANGB not operate EU-BULBCRUSHER with a warped drum that prevents the crushing unit from sealing flush with the drum top and that SANGB verify that the seal between the crusher unit and the drum is tight before each use, and SANGB seal the feed chute of EU-BULBCRUSHER with a cap or other similar device whenever the unit is not in use.

During the inspection EU-BULBCRUSHER was not being operated and, as a result, I did not evaluate compliance with numbers 3, 5, 6, and 9 of Appendix 1. I inspected EU-BULBCRUSHER, which is located in a building used for storage/recycling. I did not observe any other processes or process equipment in the building containing EU-BULBCRUSHER. I observed the manufacturer's operating instructions posted on EU-BULBCRUSHER and in a binder used by the operators to also track the amount of bulbs crushed. There was a filter on the top of the crusher and a bolted-on cover was sealed flush with the drum top. A cap was covering the feed chute where bulbs are inserted. I did not see any powder or broken glass on or near the crusher during the inspection. According to Mr. Baker, there is a special key that is required to operate EU-BULBCRUSHER and only trained employees are permitted to operate EU-BULBCRUSHER. Mr. Baker also stated that drums containing crushed lamps and spent filters are sealed and stored in the 90-day waste holding area while awaiting proper disposal.

Appendix 2 contains best management practices for handling and storing of spent lamps including; storing lamps in closed, structurally sound containers in a clean, dry room away from high traffic areas. During the inspection I observed spent lamps were stored in sturdy cardboard containers located in a clean, dry, low/no traffic area near the bulb crusher.

Special Condition III.2 and 4 requires SANGB to maintain, operate, and perform drum change outs of EU-BULBCRUSHER according to the manufacturer's specifications and procedures. During the inspection I observed that manufacturer's operating instructions posted on EU-BULBCRUSHER and in a binder used by the operators.

Special Condition III.3. states EU-BULBCRUSHER shall be located a minimum of 50 feet from the property line; 300 feet from any existing places of residence or private or public assembly; 500 feet from a school, apartment building, or institutional occupancy; and not less than 1000 feet from a hospital or nursing home. Based on Google Earth satellite images and measurements, and my knowledge of the facilities/properties on and off the base, EU-BULBCRUSHER appears to be located more than 1,000 feet from the property line, existing places of residence or private or public assembly, schools, apartment buildings, or buildings used for institutional occupancy, and hospitals and nursing homes.

Special Condition III.5 requires SANGB to completely replace the carbon within the activated carbon filter or replace the entire activated carbon filter, a minimum of once every two calendar years. Records provided indicate the carbon filters were changed November 25, 2019. The next carbon filter change is required no later than November 25, 2021 (Attachment 12).

Special Condition III.6 requires all broken glass and metal pieces collected in the 55-gallon drum portion of EU-BULBCRUSHER be properly handled, transported, and disposed of in accordance with all applicable State rules and federal regulations. Based on my observations and information gathered during this inspection, SANGB is properly handling, transporting, and disposing of all broken glass and metal pieces collected in the 55-gallon drum portion of EU-BULBCRUSHER.

Special Condition VIII.1 prohibits exhaust gases from bulb crusher from being discharged into the ambient air. I did not see an exhaust system on EU-BULBCRUSHER.

## **HUSH HOUSES**

There are two "Hush Houses" at SANGB where jet planes are tested. In the "Hush House", a fully assembled jet plane is ushered into the building, tail first, and the engine exhaust goes through a binocular shaped receptacle. The emissions from the jet exit the narrow end of the receptacle and enter a tunnel outside of the building that muffles the jet engine noise. In letter from EPA Region 4 to Georgia Dept. of Natural Resources, Air Protection Branch, dated March 12, 1996 (Attachment 13), EPA indicated hush houses are not considered stationary sources since the aircraft engines are not removed from the aircraft prior to testing.

### **NATURAL GAS-FIRED GENERATORS**

SANGB operates 7 natural gas-fired emergency engines. The natural gas-fired engines range in size from 47 HP to 684 HP. Six of the natural gas-fired engines are less than 500 HP. Internal combustion engines (ICE) that have a heat input capacity of less than 10 MMBtu/hour are exempt from the requirements to obtain a PTI per Rule 282(2)(g). The natural gas-fired engines I observed during the inspection appear to match the description in the list provided by Mr. Baker.

### **NESHAP for Stationary Reciprocating Internal Combustion Engines (40 CFR Part 63, Subpart ZZZZ)**

The emergency engines at SANGB may be subject to the 40 CFR Part 63, Subpart ZZZZ. Compliance with the 40 CFR Part 63, Subpart ZZZZ was not evaluated during this inspection because EGLE-AQD has not accepted delegation to implement and enforce the 40 CFR Part 63, Subpart ZZZZ at area sources of HAPs.

### **NSPS for Stationary Compression Ignition ICE (40 CFR Part 60, Subpart IIII)**

Emergency natural gas-fired engines at the facility that were ordered after June 12, 2006 and manufactured after January 1, 2008 for lean burn engines with a maximum engine power greater than or equal to 500 HP and less than 1,350 HP or manufactured after July 1, 2008 for engines with a maximum engine power less than 500 HP are subject to 40 CFR Part 60, Subpart JJJJ. According to records provided by Mr. Baker, six of the emergency natural gas-fired engines at SANGB meet this criteria.

40 CFR Part 60, Subpart JJJJ establishes emissions limits for emergency natural gas-fired engines. Compliance with these emission limits can be demonstrated by purchasing an engine certified by the manufacturer to meet the emission limits and by operating the engines according to the manufacturer's emission-related written instructions or through performance testing conducted by the owner/operator. Records provided by Mr. Baker indicate each natural gas-fired engine at SANGB subject to 40 CFR 60 Subpart JJJJ is certified (Attachment 14). According to these records, five engines have a certification placard on the engine. The engine that doesn't note a certification placard is listed in Mr. Baker's records as a 470 HP, natural gas-fired emergency generator with Model Number D183L and Serial Number EZSOD700725 located at building 1429. Mr. Baker initially provided a specification sheet from Kohler as evidence the engine is certified (Attachment 15). This sheet states the generator is KOHLER Generator Model Number 300REZXB and contains a heading at the top stating "EPA-Certified for Stationary and Mobile Emergency and Non-Emergency Applications". Kohler's website indicates Model Number 300REZXB contains a 18.3 L Doosan engine with Model Number D183TIC and EPA Tier Level: 4i. Kohler's website also states under the "Options" tab for Model Number 300REZXB, that "Engine is Environmental Protection Agency (EPA)-certified" under "Accessories". Doosan's website does not list an engine model D183TIC. Other model number 18.3 L natural gas and diesel fired engines listed on Doosan's website do not have emissions data. According to 40 CFR 60.4248, a certified engine means an engine that belongs to an engine family that has a certificate of conformity that complies with the emission standards and requirements in 40 CFR 60 Subpart JJJJ, or of 40 CFR part 1048 or 1054, as appropriate. The statements on Kohler's website and spec sheet regarding EPA certification for Model Number 300REZXB are not certifications of conformity. Per 40 CFR 60.4243(b), if an owner or operator purchases a non-certified engine, an emissions test must be conducted on the engine to demonstrate compliance with the emission limits in 40 CFR Part 60, Subpart JJJJ. I informed SANGB on September 20, 2021 that they need to either get a copy of the certificate of conformity for the KOHLER Generator Model Number 300REZXB with the Doosan Model D183TIC engine or perform testing on the engine to demonstrate the engine meets the emission limits in 40 CFR 60 Subpart JJJJ. On September 22, 2021, Mr. Baker sent an EPA certification for a Power Solutions International, Inc (PSI), engine family HPSIB18.3NGP, natural gas-fired generator (Attachment 16) stating it was the certificate for the Kohler Generator Model 300REZXB engine. Though the certificate is not for a Doosan engine, Doosan's website states "PSI rolls out Doosan Infracore engines as power generation CNG engines tailored to the

prevailing emissions regulations in the North American engine market." Based on this information, it appears reasonable that PSI may be listed as the manufacturer on EPA certifications and that the certification provided is for the Doosan engine.

Per 40 CFR 60.4243(d), to be considered an emergency engine, each engine may be operated for no more than 100 hours per calendar year (CY) for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Each engine may be operated up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income. Mr. Baker provided records of each engine's operating hours for CY 2019 and CY 2020 (Attachment 17). Based on these records, it appears all engines subject to 40 CFR 60 Subpart JJJJ were operated for less than 100 hours for non-emergency purposes in calendar year 2019 and 2020.

### **WOOD SHOP**

During the inspection I observed a building with a dust collector outside. Mr. Baker indicated that woodworking activities are performed in the building. I did not observe any emissions from the building or dust collector. The area around the dust collector was free from dust as well. Per Rule 285(2)(l)(vi), equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, and planing paper board, wood, and wood products with externally vented emissions controlled by an appropriately designed and operated fabric filter collector are exempt from the requirement if Rule 201 to have a PTI.

### **CONCLUSION**

SANGB was not maintaining monthly and 12-month rolling basis as determined at the end of each calendar month. This indicates non-compliance with Special Conditions 1.5, 2.4, 3.2, 4.2, 5.2, 6.3, 8.2, and 9.3 of PTI 523-96A and Special Condition VI.1 of PTI 10-15. I decided not to issue a violation notice for this non-compliance during this compliance evaluation provided Selfridge keeps these records going forward and submits the records to me each month for the next six calendar months (September 2021 – February 2022) which they have agreed to do.

NAME

K. KellyDATE 9/23/21

SUPERVISOR

Joyce