

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

**MEMORANDUM**

**October 21, 2020**

**TO:** Phillip Fielder, P.E., Chief Engineer

**THROUGH:** Rick Groshong, Sr. Environmental Manager, Compliance and Enforcement

**THROUGH:** Phil Martin, P.E., Engineering Manager, Existing Source Permits Section

**THROUGH:** Joseph K. Wills, P.E., Engineering Section

**FROM:** Ryan Buntyn, P.E., Existing Source Permits Section

**SUBJECT:** Evaluation of Permit Application No. **2019-0987-TV2**  
McAlester Army Ammunition Plant  
Ammunition Manufacturing Facility (Facility ID 923)  
The facility covers large parts of T4N and T5N, R12E through R14E, Pittsburg County. The main entrance is near 34.8381°N, 95.8413°W.  
Directions: From the intersection of US 69 and the Indian Nations Turnpike, travel two miles southwest on US 69 to facility on right (northwest).

**SECTION I. INTRODUCTION**

McAlester Army Ammunition Plant (MCAAP) has applied for the renewal of their Title V operating permit for their Ammunition Manufacturing Facility (SIC 9711 / NAICS 928110). The facility is currently operating under Permit No. 2012-672-TV2 (M-19) issued June 23, 2020.

Since the facility emits more than 250 TPY of a regulated pollutant and is a major source for Prevention of Significant Deterioration (PSD). The facility also emits more than 25 TPY of Hazardous Air Pollutants (HAP), and is a major source of HAPs. Emission units (EUs) have been arranged into Emission Unit Groups (EUGs) in Section V.

**SECTION II. PROCESS DESCRIPTION**

The facility has the following five main operating functions: load and pack, renovation, demilitarization, disposal, and mobilization. The facility produces various types of ammunition. Although the type of ammunition produced varies, the basic load and pack operations contain similar equipment and operating procedures for each of the different types of munitions. The same is true for the renovation and demilitarization operations. Normal hours of operation at MCAAP are 10 hours per day, 4 days per week, 52 weeks per year, or 2,080 hours per year. However, the facility does have the capability of operating continuously; therefore, potential emissions are based on 8,760 hr/yr.

The facility contains numerous small emission points and operations are often modified or relocated to meet the operational needs at the facility. For purposes of the Title V permit, the

facility has been subdivided into several emission unit groups (EUG). These functional groups are based on similar facility operations and associated emission generation.

### **EUG 1G / 1P / 1N Boilers**

The facility boilers produce steam for the production areas throughout the facility. Boilers are located in and furnish production steam to the 40MM, Major Caliber, Medium Caliber, 20MM, Bomb and Mine, and Rocket Plant, production areas. All of the boilers operate on natural gas but have the ability to operate on No. 2 low sulfur diesel fuel.

### **EUG 2B / 2G Painting/Surface Coating - Booths**

MCAAP performs two types of coating operations, coating within paint booths, and maintenance painting, such as touch-up. Paint booths are primarily utilized to paint and stencil various types of ammunition items, equipment, and containers. The facility operates various types of paint booth operations with varying control technologies; refer to Section V for a detailed listing of equipment.

A building is utilized for the preparation of bomb bodies prior to load and pack operations in the "A" line. Operations include both internal and external coating of the bomb bodies. Bomb bodies received at the building are removed from the shipping packaging, cleaned, and attached to the building production line.

Once the bomb bodies are attached to the production line, they are given an interior tar (i.e., asphalt) lining. The purpose of the tar lining is to provide a protective barrier between the metal surface of the ammunition item and the explosive placed into the interior cavity of the ammunition. The asphalt is heated and injected into the cavity via a closed loop vacuum system.

After the tar lining operation, the bomb bodies receive an exterior surface coating. The bombs enter the paint booth where they are coated. The principal coating used in this booth is a thermal resin. This coating is applied to give the bombs a heat resistance during on-board fires; this is why the coating is referred to as thermal. The thermal resin coating contains 10-25% styrene monomers. Before application the styrene monomer is mixed with a catalyst, methyl ethyl ketone peroxide, which initiates a polymerization reaction of styrene monomers to form a cross-linked polystyrene compound. The thermal resin and catalyst are mixed on a 32 to 1 mass basis (i.e., 32 pounds of thermal resin component is mixed with 1 pound of catalyst). International Paint, thermal resin manufacturer, indicates emissions of un-reacted styrene monomer to be 84 grams per liter. This relates to a VOC weight percentage of 5.81%.

The thermal resin coating is applied to the bomb via a spray system where the bombs are mechanically rotated while the spray system applies the coating. The spray system moves along a vertical axis while applying the coating. The bottom and top ends of the bomb are coated with a hand held spray gun. Since the thermal resin coating has a high viscosity, the booth does not operate with booth filters. However, the paint booth thermal oxidation unit utilizes a mesh filter to protect the unit's catalyst bed.

After the bomb bodies are coated with the thermal resin, they proceed into the striping paint booth. The painting in this booth is for bomb identification purposes, where various numbers of stripes are painted on the bomb bodies. These stripes are applied via a hand held spray gun. The paint applied is a lacquer-based paint. The striping paint booth is used to paint bomb shipping covers

as well, for which gray enamel paint is typically used. The booth utilizes dry filters to remove overspray paint in the booth exhaust stream.

From the paint booths the bomb bodies are processed through a heat tunnel that cures the thermal paint using infra-red heating elements. After the bomb bodies exit the heat tunnel, they leave the building to go to explosive load and pack operations.

The booth (P-49224) has potential emissions before the baghouse greater than 5 TPY and is listed in this EUG. The booths (P-10301, P-10302, and P-10401) have uncontrolled emissions below 5 TPY, and are listed in EUG 16. Emissions of PM and VOC due to cement mixing and tar lining associated with these activities are very small, and are included in EUG 16.

Three old booths listed in EUG 2G are not permitted, and are treated as grandfathered.

### **EUG 2F Painting/Surface Coating - Fugitive**

The facility conducts miscellaneous painting operations in several different buildings. This painting includes painting of various munitions, associated munitions components, shipping containers, and other miscellaneous items. Typically this painting is performed using aerosol cans or by hand application using paint brushes and/or paint rollers.

Maintenance painting is conducted for building and structure maintenance. Maintenance painting is identified as a Trivial Activity in Appendix J of OAC 252:100.

### **EUG 3 Solvents**

Solvents are utilized at the facility in association with load and pack or renovation operations, as well as with vehicle maintenance or electric and pipe shop operations. The solvents are used to remove grease, adhesives, or old stencil inks from the ammunition. A majority of the solvent usage at the facility qualifies as an insignificant activity for hand wiping and spraying of solvents from containers with less than 1 liter of capacity used for spot cleaning and/or degreasing in ozone attainment areas or qualifies as a trivial activity for covered cold solvent degreasers not subject to federal emission standards. The two solvents that MCAAP utilizes the most are non-halogenated and petroleum-based PD-680 and PF-141. Each of these are denser than air and have vapor pressures at or below 1 mm Hg. Due to the low vapor pressure of the solvents, negligible amounts of VOC will evolve from PD-680 and PF-141. Therefore, solvent operations utilizing PD-680 and PF-141 are considered insignificant activities as defined in OAC 252:100 Appendix I for cold degreasing operations utilizing solvents that are denser than air and for the hand wiping and spraying activities discussed above. The only other solvent used at MCAAP in significant quantities is methyl propyl ketone (MPK). Maximum potential usage of MPK is estimated to be 50,000 lb/yr (25 TPY).

### **EUG 3B Sanitizer**

MCAAP will utilize its resources to fight the COVID-19 pandemic and start producing hand sanitizer. The expected rate of production is 18,000 to 20,000 gallons per week. The hand sanitizer will be a mixture of 75% Isopropyl Alcohol, 0.42% Hydrogen Peroxide, 7.25% Glycerol, and 17.33% purified water.

**EUG 4 Deactivation Furnace (DF)**

The technical name for the deactivation furnace, also known as the Munitions Destruction Furnace, is APE 1236M2 (Ammunition Peculiar Equipment). It is designed to destroy obsolete or unserviceable ammunition. It safely “demilitarizes” munitions by burning so that valuable metals can be recovered, reduces the workload at the Open Burn/Open Detonation (OB/OD) ground, and limits explosive noise and air emissions associated with OB/OD. Items that are disposed of through incineration include primers, detonators, fuses, propellants, and various types and sizes of ammunition. The unit is capable of processing ammunition ranging from small arms through 20-mm rounds. Ammunition larger than 20-mm must be sectioned or disassembled prior to feeding into the unit. MCAAP deactivation facility includes a Munitions Cryofracture Demilitarization Facility (MCDF) that disassembles the larger munitions prior to feeding them to the furnace. The cryofracture process freezes, fractures, punches, and exposes the energetic material prior to delivering it to the incineration system. Munitions can be fed from either an Automatic Waste Feed Conveyor that delivers ammunition smaller than 20-mm or a Positive Feed System (PFS) that delivers cryofractured items from the MCDF. The system is configured so that only one of the delivery systems can operate at any given time.

Major elements of the DF, in order, are a rotary kiln, cyclone scrubber, afterburner, evaporative cooler, conventional baghouse, HEPA filter, draft fan, and exhaust stack. The rotary kiln is equipped with a natural gas-fired burner that is used to pre-heat and maintain the combustion chamber temperature for ignition and incineration of the munitions. A combustion air fan provides oxygen for combustion of the fuel and munition streams. Ash and metal components that are not entrained in the flue gases are discharged at the burner end of the kiln onto a discharge conveyor. The discharge conveyor moves the remaining material to an adjacent accumulation area for subsequent removal.

From the kiln, the flue gas is transported to the cyclone to ensure that no sparks are conveyed to downstream equipment. After the cyclone, the flue gas enters an afterburner equipped with another natural gas-fired burner to further heat the combustion gases and destroy any remaining organics. Propane is used during the burner ignition sequence to ignite the afterburner. Following the afterburner, the flue gases pass through stainless steel ductwork to the evaporative cooler where the stream is cooled to a temperature that the baghouse can efficiently handle. An induced draft fan pulls the flue gases through the incineration system before discharge through the exhaust stack.

The DF is equipped with continuous monitoring systems that measure process parameters and emissions. This equipment enables the operators to maintain safe operation in compliance with the operating limits required by the Hazardous Waste Combustion (HWC) NESHAP. In accordance with 40 CFR § 63.1207(b)(1), an initial Comprehensive Performance Test (CPT) performed in November 2004 demonstrated compliance with the emission standards and established limits for the operating parameters provided by 40 CFR § 63.1209. Details of the test were presented in the initial TV permit and its modifications, as well as in Permit No. 2005-301-TV, a predecessor permit to the facility-wide Part 70 permit. Several subsequent tests have not achieved desired results. A CPT dated October 28 through November 1, 2013, with a retest June 9 through 12, 2014, demonstrated compliance, and establishes a different set of OPLs from those in the initial CPT.

**Operating Parameter Limits (OPL)**

In accordance with 40 CFR § 63.1209, the following operating parameter limits (OPLs) have been established to demonstrate continuous compliance with the HWC emission standards. Note that several OPLs may be required to demonstrate compliance with a particular standard. All required continuous monitoring systems (CMS), including required continuous emission monitoring systems (CEMS), have been installed, calibrated, and are operated continuously. “Hourly average” means rolling 60-minute average.

OPL Parameter	Emission Standard <sup>1</sup>
Minimum afterburner temperature, 1,610 °F, hourly average	HC, DRE, D/F
Minimum afterburner temperature, 1,805 °F, hourly average	SVM, LVM
Maximum combustion chamber pressure, 0.0 w.c. <sup>2,3</sup>	Fugitive emissions
Maximum propellant, explosive, and pyrotechnic (PEP) feed rate, 238 lb/hr <sup>4</sup>	HC, DRE, D/F
Maximum mercury feed rate, 0.00082 lb/hr <sup>4,5</sup>	Mercury
Maximum semi volatile metals feed rate, 1.2 lb/hr <sup>4</sup>	SVM
Maximum low volatility metals feed rate, 12 lb/hr <sup>4</sup>	LVM
Maximum total chlorine feed rate, 2.4 lb/hr <sup>4</sup>	SVM, LVM, HCl/Cl <sub>2</sub>
Maximum particulate matter generation rate, 61 lb/hr <sup>4</sup>	PM
Minimum baghouse inlet temperature, 600 °F, hourly average <sup>2</sup>	D/F
Minimum stack gas velocity, 25 fps, hourly average	Mercury
Maximum stack gas velocity, 65 fps, hourly average	HC, DRE, D/F, SVM, LVM, HCl/Cl <sub>2</sub> , PM

<sup>1</sup> Where HC means hydrocarbon, DRE means destruction and removal efficiency, D/F means dioxin/furan, SVM means semi-volatile metals (lead & cadmium), LVM means low-volatility metals (arsenic, beryllium and chromium), HCl/Cl<sub>2</sub> means hydrochloric acid/chlorine gas, and PM is particulate matter.

<sup>2</sup> Based upon manufacturer’s recommendations, upon design specifications, or upon HWC requirements, and not upon CPT demonstrations.

<sup>3</sup> There is no averaging period associated with this parameter. Compliance is demonstrated on an instantaneous basis.

<sup>4</sup> In lieu of continuously calculating the rolling average feed rate of this parameter, MCAAP determines the total item feed rate that will ensure compliance with the parameter feed rate limit at all times.

<sup>5</sup> Maximum allowable mercury feed rate was established by back-calculating from the HWC emission standard using the emission rates and stack gas conditions measured during the CPT.

**Automatic Waste Feed Cutoffs**

In accordance with 40 CFR § 63.1206(c)(3), the incinerator is operated with a functioning system that immediately and automatically cuts off the hazardous waste feed when OPLs or emission standards are exceeded. An immediate and automatic cutoff is also triggered when the span value of any process monitor is exceeded. Any malfunctions of the CMS or the automatic waste feed cutoff system will also initiate an immediate and automatic cutoff of hazardous waste feed.

Parameter	Trigger	Averaging Period <sup>1</sup>	Reason
Afterburner temperature	< 1,606°F	HRA	operating limit
	> 2,400°F	OMA	span value
Combustion chamber pressure	> -0.10 in. w.c.	Instantaneous	operating limit
	> 2.0 in. w.c.	OMA	span value
Total item feed rate	Variable <sup>2</sup>	- - - <sup>3</sup>	operating limit
	> 50 lb	OMA	span value
Baghouse inlet temperature	> 1,200°F	HRA	operating limit
	> 2,400°F	OMA	span value
Baghouse pressure drop	< 1.0 in. w.c.	HRA	operating limit
	> 30 in. w.c.	OMA	span value
Stack gas velocity	> 62 fps	HRA	operating limit
	> 100 fps	OMA	span value
Stack gas CO concentration	> 100 ppmv	HRA	operating limit

<sup>1</sup> HRA refers to hourly rolling average, as in the previous table, and OMA refers to one minute average.

<sup>2</sup> In lieu of continuously calculating the rolling average feed rate of each regulated parameter (e.g., LVM and SVM feed rates), MCAAP determines the total item feed rate that will ensure compliance with the parameter feed rate limit at all times. This maximum allowable feed rate to the incinerator will vary with each feed item.

<sup>3</sup> There is no averaging period associated with this parameter. At no time will the waste feed monitoring system permit an item to be fed at a rate greater than the calculated maximum allowable feed rate for the item.

**Fugitive Emissions**

40 CFR § 63.1209(p) requires that facilities initiate procedures for controlling combustion system leaks and minimizing fugitive emissions. Combustion system leaks are controlled by maintaining negative pressure in the combustion chamber and enclosing the chamber in a metal shroud to contain any fugitive emissions that may occur. Fugitive emissions captured in the metal shroud are then routed back into the furnace.

**Residence Time**

40 CFR § 63.1206(b)(11) requires that the hazardous waste residence time be calculated and documented in the facility operating record. HWC defines hazardous waste residence time as “the time elapsed from cutoff of the flow of hazardous waste into the combustor (including, for example, the time required for liquids to flow from the cutoff valve into the combustor) until solid, liquid, and gaseous materials from the hazardous waste, excluding residues that may adhere to combustion chamber surfaces, exit the combustion chamber” (40 CFR § 63.1201). The hazardous waste residence time must be calculated, and the calculation must be included in the CPT Plan and the operating log.

For the incinerator at MCAAP, the residence time in the combustion chamber is dependent upon the rotational speed, length, and flight spacing in the furnace. At a rotational speed of one revolution per minute (rpm), it takes a feed item approximately 8 minutes to process through the kiln. Because the distance between the flights and the length of the furnace do not vary, the residence time will vary inversely with rpm. Rotational speeds during normal operation vary between 1 and 3 rpm, which implies residence times vary between 8 and 2.7 minutes.

**Operating Requirements**

In accordance with 40 CFR § 63.8(d)(2), MCAAP has prepared a CMS Performance Evaluation (PE) Plan to implement the CMS quality control program and specify how the source will maintain calibration of the CMS and minimize malfunctions. The CEMS Quality Assurance/Quality Control (QA/QC) Program required by the Appendix to 40 CFR Part 63, Subpart EEE is included in the CMS PE Plan.

In accordance with 40 CFR § 63.1206(c)(2), the U.S. Army has prepared and at all times operates according to a Startup, Shutdown, and Malfunction (SSM) Plan as specified in 40 CFR § 63.6(e)(3). The SSM Plan includes a description of potential causes of malfunctions that may result in significant releases of HAPs. The purpose of the SSM Plan is to:

- ensure that, at all times, the incinerator, including the air pollution control equipment, is maintained in a manner consistent with safety and good air pollution control practices for minimizing emissions to the levels required by the standards;
- ensure that MCAAP is prepared to correct malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of HAPs; and
- reduce the reporting burden associated with periods of SSM by minimizing the number of occurrences of excess emissions of HAPs, including corrective action taken to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation.

In accordance with 40 CFR § 63.1206(c)(7), MCAAP has prepared and at all times operates according to an Operation and Maintenance (O&M) Plan. The plan includes detailed procedures for operation, maintenance, and corrective measures for all components of the combustor, including associated air pollution control equipment, that could affect emissions of regulated HAPs.

**Feedstream Analysis Plan and Feed Rate Control Program**

In accordance with 40 CFR § 63.1209(c)(2), the U.S. Army has developed and implemented a Feedstream Analysis Plan (FAP). The FAP is used to determine the maximum allowable feed rate for each specific munition item to ensure compliance with the OPLs. The FAP relies on information from the Munitions Item Disposition Action System (MIDAS), which is a database containing chemical constituent information for all ammunition, components, and parts. Information in the database is based on military specifications and specific production records.

Using information from the FAP and MIDAS, the Feed Rate Control (FRC) Program calculates the allowable feed rate of ammunition items to the furnace. Each feed item is analyzed and entered into the FRC Program before it is burned in the incinerator. The allowable feed rate for each item is determined and the lowest calculated rate is the limiting rate for that item based on the following criteria.

- PEP content
- Potential PM generation
- Total chlorine content
- Cadmium and lead content (SVM limit)

- Arsenic, beryllium, and chromium contents (LVM limit)

### **Operator Training and Certification**

In accordance with 40 CFR § 63.1206(c)(6), MCAAP has developed and implemented an Operator Training and Certification (OTC) Program. The OTC Program is designed to provide training to all personnel whose activities may reasonably be expected to directly affect the emission of HAPs from the incinerator. Control room operators are trained and certified in accordance with the requirements of 40 CFR § 63.1206(c)(6)(iii). One certified control room operator is on duty at the site at all times while the incinerator is in operation.

### **EUG 5 Open Burning/Open Detonation (OB/OD)**

The OB/OD grounds have been used since the start of operations for disposal of ammunition items and explosives that are deemed in excess, outdated, or unserviceable. MCAAP maintains and operates OB/OD areas under a 2013 Resource Conservation and Recovery Act (RCRA) permit for burning and detonation activities at the ranges. The RCRA permit sets net explosive weight (NEW) limitations on the Open Burning, Open Detonation, and Static Firing activities at MCAAP as follow.

Open Burning	6,400,000 lb/yr
Static Firing	1,280,000 lb/yr
Open Detonation	2,280,000 lb/yr

None of the operations on the OB/OD grounds has control devices installed. There are three main types of operations that occur on the OB/OD grounds.

- Open Burning (OB) operations involve disposal of propellants, explosives, and pyrotechnics (PEP) items. The operations at the OB grounds include two flash burning trenches, three earth bermed static fire pads, and an open burning range, which consists of five burning pads with associated steel burning pans. The burning pans have a capacity of 4,000 lbs NEW per pad per burn. Flash burning involves placing the items into an open trench (150'×12'× 8') on top of untreated excess wood and igniting the wood using No. 2 low sulfur (0.05% wt) diesel fuel as an accelerant.
- Outdated missile propellant is disposed of through static firing, which involves securing a missile to a stationary concrete pad and igniting the propellant. Static firing is performed on SRAMs, Hawks, MK12, MK56 and MK58 Missile Motors, and Mavericks.
- Open Detonation (OD) is a sister operation to OB. OD is performed by placing the ammunition in a bermed pit, covering it with soil, and igniting it using a donor charge of explosive. The OD grounds consist of two detonation areas, Area 1 and Area 2 (formerly referred to as Range 1 and Range 2). Both detonation areas contain 26 earth bermed explosive pits.

### **EUG 6 Explosive Mixing**

Explosive mixing is conducted at several locations at MCAAP. There are different types of explosive mixing conducted at the plant. Examples include conventional explosives such as Tritonol and the newer Plastic Bonded Explosives (PBX). Both explosive mixtures, solid and liquid, are placed in steam jacketed kettles to melt the explosive materials into a homogeneous mixture. Wet and venturi scrubbers control explosive mixing emissions.



**EUG 7 Grit Blasting**

Grit blasting is performed either to prepare the surfaces of metal items for new ablative coatings or for the removal of old paint and stenciling. Grit blasting is performed on bomb bodies, ammunition cans, and containers. Grit blasting emissions are controlled by baghouses or cartridge filters.

**EUG 8 Thermal Arc Spraying**

Thermal arc spray continually feeds metal wires through an electric arc. Compressed air is blown through the atomized metal to deposit metal droplets onto the bomb body. The wire is either a blend of 85 percent zinc and 15 percent aluminum (by weight) or is pure aluminum. Thermal arc spray operations were begun to minimize the amounts of metal primers in the painting operations at MCAAP and to reduce VOC emissions. During thermal arc spray operations, atomized sprays of aluminum/zinc wire particles adhere to the bare metal surfaces of bomb bodies to form substrates to which paints and ablative coatings can adhere. Each thermal arc spray unit has a baghouse or cartridge filter to collect particulate matter.

**EUG 9 Explosive Sifting**

Explosives are sifted to remove impurities and large particulates from the explosive prior to palletizing or loading into the various ammunition types which MCAAP loads and packs. Some of the explosives are treated with an additive to reduce PM emissions. PM emissions are controlled by baghouses and wet scrubbers.

**EUG 10 Explosive Dust Collection**

Explosive load and pack operations entail propellant loading, dumping, and weighing operations, which generate explosive dust and particulates. These emissions are collected in dust systems located in or near the production buildings. The dust systems, which may be stationary or portable, utilize various types of control equipment including wet scrubbers and baghouses.

**EUG 11 Miscellaneous Particulate Collection**

MCAAP conducts the following operations that produce particulate emissions.

- Wood processing is performed to cut, mill, assemble, and process wooden parts used to fabricate wood pallets, blocking and bracing, and miscellaneous crates and boxes for ammunition items. This is done to meet the Explosive Safety Regulations required for shipping and transporting explosive items. The wood processing equipment is controlled by cyclones or dust collectors.
- Inert bombs are display weapons that are purposely rendered incapable of explosion by having been loaded with cement. Training projectiles have limited explosive load, with most of the load being cement. Cement mixing is used to prepare the cement mixtures loaded into each of these devices.

**EUG 12 Explosive Meltout**

MCAAP conducts Ammunition Breakdown and Explosive Melt-out operations in two buildings. These operations demilitarize ammunition projectiles and conventional bombs. Projectiles are subject to a multi-step breakdown and melt-out process. Ammunition consists of a projectile and a cartridge case. Typical physical breakdown operations include the following steps.

- A. Propellant Dumping- Ammunition is received by boxcar in wooden boxes. Each box has two cardboard tubes containing one round, a projectile and cartridge, per tube. Each round is removed from the tube and the propellant is poured from the cartridge case. The propelling charge is emptied into a collection chamber. The charge is M67 smokeless propellant contained within 7 bags, or stages.
- B. Depriming Operation- An operator manually places a cartridge case into a primer removal machine. Primers are not fired during this process.
- C. Supplemental Charge/Fuse Removal Operation- Supplemental charges/fuses are removed from the projectile and packaged for renovation for military reuse or disposed at OB/OD grounds.
- D. Debanding Operation- involves removing the copper rotating bands from the projectile. The bands are disposed of as scrap metal. The debanded, defused projectile bodies are then ready for melt-out of explosives.

Explosive melt-out process is performed by utilizing steam jacketed autoclaves that melt the explosives. Two buildings operate 20 and 24 autoclaves respectively. Projectiles/bombs contain various amounts of explosives and chemical compounds, with trinitrotoluene (TNT), powdered aluminum, and cyclonite (RDX) the most common. Asphalt and wax may also be present.

As the explosive or other components are melted from the projectile or bomb, they collect in a common manifold system and are deposited into a vat separator, from which each material is decanted to its collection site. The explosive mixture drains from the vat onto a cooled metal flaker belt that solidifies the explosive. The flaker is cooled by chilled water sprayed onto the underside of the metal flaker belt. The water is recaptured and re-circulated through an ethylene glycol chiller for reuse. The solid explosive then falls into boxes located at the end of the flaker system. Wet scrubbers control particulate matter emissions from the melt-out process.

All empty projectiles, casings, and bomb bodies, are disposed of as scrap metal. All asphalt must be disposed of at the Open Burning Ground because it is contaminated with explosive.

### **EUG 13 Storage Tanks**

MCAAP operates 24 gasoline and diesel fuel storage tanks and fuel dispensing operations. In addition to the motor vehicle fueling areas, fuel storage tanks are placed at strategic locations for emergency purposes.

### **EUG 14 Engines Subject to NESHAP Subpart ZZZZ**

#### **14A Subject to NSPS Subpart IIII**

These engines are affected sources under NSPS, are considered new under NESHAP Subpart ZZZZ, and satisfy the requirements of NESHAP Subpart ZZZZ through compliance with NSPS Subpart IIII.

#### **14B Not Subject to NSPS Subpart IIII**

These engines are not affected sources under NSPS, but are subject to NESHAP Subpart ZZZZ. E-01GEN and E-02GEN are new engines under NESHAP Subpart ZZZZ and satisfy the requirements of Subpart ZZZZ through compliance with NSPS Subpart IIII, which means that they

have no compliance requirements (gap engines). E-03GEN is not subject to NSPS Subpart IIII but is subject to NESHAP Subpart ZZZZ.

**14D Not 14A or 14B, HP ≤ 500**

These engines are not affected sources under NSPS, are existing sources under NESHAP, and are rated at less than 500 HP.

**EUG 15 Empty**

Equipment under this EUG has been transferred to EUG 14A.

**EUG 16 Insignificant Activities**

- MCAAP generates classified documents that must be disposed of without jeopardizing the security of the material. Classified materials are destroyed by shredding, with no emissions.
- Chemical laboratory tests are performed on explosive mixtures to check for compliance with specifications, to conduct curing validations of the explosive mixtures, and to check the quality of the materials used in explosives production. The chemicals, solvents, and gases used to conduct the analyses are vented to the atmosphere.
- Defense Ammunition Center (DAC) Training Range operations involve training ammunition destroyers and technical personnel in the proper disposal techniques used in the OB/OD of outdated ammunition. The DAC Range has five bermed OD pits and one OB pan.
- Tar coating provides a tar lining of bomb bodies and 155 mm training projectiles.
- Wastewater flare at the sewage plant.
- Hoffman Vacuum Cleaning Systems.
- Three small paint booths.

**EUG 17 Plasma Arc Cutters**

This EUG contains plasma arc cutters used to cut steel plate into needed sizes and shapes. Six units were installed under Permit No. 99-112-TV (M-5) and four more under Permit No. 99-112-C (M-9).

**SECTION III. PERMIT HISTORY**

<b>Permits</b>	<b>Date Issued</b>	<b>Description</b>
2012-672-TVR	3/17/2015	First Title V Renewal
2012-672-TVR (M-1)	11/5/2015	Operating Permit for replacement grit blaster and new generator
2012-672-TVR (M-2)	11/6/2015	Operating Permit for replacing two boilers
2012-672-TVR (M-3)	12/17/2015	Operating Permit for replacing six boilers
2012-672-TVR (M-4)	8/23/2016	Operating Permit for one new boiler
2012-672-TVR (M-5)	3/21/2017	Operating Permit for replacing two boilers
2012-672-AD (M-6)	2/13/2017	Applicability Determination for static firing new missile types

Permits	Date Issued	Description
2012-672-C (M-7) PSD	6/11/2018	Construction Permit for static firing of new missile types
2012-672-TVR (M-8)	5/1/2017	Administrative Amendment to correct Permit Number on two pages
2012-672-TVR (M-9)	8/24/2017	Operating Permit for replacement grit blaster
2012-672-TVR (M-10)	11/13/2017	Operating Permit for replacing four boilers
2012-672-TVR (M-11)	2/12/2018	Operating Permit for six new explosive melting/mixing kettles and one venturi scrubber
2012-672-TVR (M-12)	2/7/2019	Operating Permit for one new explosive melting/mixing kettle and associated venturi scrubber and a baghouse for aluminum powder sifting
2012-672-TVR (M-13)	5/9/2019	Operating Permit for replacing one grit blaster and thermal arc
2012-672-TVR (M-14)	12/16/2019	Operating Permit for addition of two paint booths (one automated, one manual), one grit blaster, one thermal arc spraying unit and one tar lining station
2012-672-AD (M-15)	4/3/2019	Applicability Determination to evaluate a new fuel storage activity
2012-672-TVR (M-16)	4/28/2020	Operating Permit for addition of one paint booth and one grit blaster
2012-672-AD (M-17)	1/31/2020	Applicability Determination for the removal of five fuel storage tanks and additional of three fuel storage tanks
2012-672-TVR (M-18)	4/28/2020	Operating Permit for addition of emergency generator
2012-672-TVR (M-19)	6/23/2020	Operating Permit for addition of hand sanitizing operation

#### SECTION IV. REQUESTED CHANGES

MCAAP is requesting to update the fan motor ratings for nine units, shown following. This will result in no change to actual emissions and a decrease in potential emissions. There are no physical modifications taking place, only corrections to incorrectly listed ratings. For the three units increasing ratings (C-17TAS, C-1055, and C-09484), there are no current emission limits; therefore, this is not a pure relaxation of a limit to avoid an otherwise applicable requirement and no pure relaxation is occurring.

Emission Point ID	Control ID	Process	Control Description	Current Permit Fan Motor Rating (cfm)	Actual Motor Fan Rating (cfm)	Change (cfm)
P-33205	C-33205	Explosive Mixing	Wet Scrubber	9,670	9,000	-670
P-455GB	C-455GB	Grit Blasting	Cartridge Filter	6,500	2,770	-3,730
P-0419GB	C-0419GB	Grit Blasting	Cartridge Filter	840	300	-540

Emission Point ID	Control ID	Process	Control Description	Current Permit Fan Motor Rating (cfm)	Actual Motor Fan Rating (cfm)	Change (cfm)
P-175TAS	C-17TAS	Thermal Arc Spraying	Baghouse	6,627	6,630	3
P-01055	C-1055	Explosive Sifting	Baghouse	1,400	3,000	1,600
P-09484	C-09484	Explosive Sifting	Baghouse	1,905	3,000	1,095
P-01408	C-01408	Explosive Dust Collection	Baghouse	10,750	5,400	-5,350
P-AL01	C-AL01	Explosive Dust Collection	Baghouse	11,730	11,240	-490
P-07761	C-07761	Painting	Fiber Batts	4,875	5,500	625

Additionally, MCAAP is requesting the following changes to the Specific Conditions (SC):

SC1, EUG 2B: Add condition allowing the installation of new paint booths as long as no increase in the existing emission limit of 264.46 TPY VOC. MCAAP is requesting this for operational flexibility. The following condition will be added:

Additional paint booths may be added as long as the total VOC limits of Specific Condition 1, EUG2b are not exceeded and the addition is allowed under the operational flexibility criteria of OAC252:100 Subchapter 8. [252:100-8-6(f)]

Currently SC1, EUG5P requires the facility to record of the number and type of missiles/motors fired daily and as a monthly and 12-month rolling total. The facility is requesting to remove the monthly and 12-monthly rolling total requirements, keeping the daily requirement. The facility is requesting to demonstrate compliance using emissions calculations. Emissions are still required to be calculated and recorded monthly and as a 12-month rolling total.

SC5j: Remove monthly tracking requirements as there are no 12-month rolling emission limit for the applicable sources in EUG 2F and 2G.

SC5l: Remove monthly tracking requirements as there are no emission limit for the applicable sources in EUG 5G.

SC6c: Clarify that this SC applies to EUG3.

SC6d: Clarify the records kept are annual totals.

SC6e: Clarify the records kept are for DAC OD.

SC6h: Clarify the records kept are for Insignificant Activity E: Paint Booths.

Finally, building numbers have been removed from this permit. There are no conditions or requirements based on building numbers and MCAAP has requested to remove them for national security. Building numbers will not appear in any permit going forward.

**SECTION V. EQUIPMENT**

**EUG 1G Grandfathered and Permit Exempt Boilers**

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Construction / Mod. Date
E-001	P-001	FIA <sup>1</sup>	2.24	N/A	N/A	N/A	1971 <sup>3</sup>
E-002A	P-002A	Lochnivar <sup>1,2</sup>	0.5	328735	PBN0502	1837111851270	2018
E-002B	P-002B	Lochnivar <sup>1,2</sup>	0.5	328733	PBN0502	1837111851267	2018
E-003A	P-003A	Lochnivar <sup>1,2</sup>	0.50	328734	PBN0502	1837111851269	2018
E-003B	P-003B	Lochnivar <sup>1,2</sup>	0.50	328736	PBN0502	1837111851268	2018
E-004	P-004	FIA <sup>1,2</sup>	0.54	N/A	N/A	N/A	1971 <sup>3</sup>
E-005	P-005	FIA <sup>1,2</sup>	0.12	N/A	N/A	N/A	2016
E-006	P-006	FIA <sup>1,2</sup>	1.44	N/A	N/A	N/A	1943 <sup>3</sup>
E-008	P-008	FIA <sup>1,2</sup>	0.216	N/A	N/A	N/A	1942 <sup>3</sup>
E-014	P-013	FIA <sup>1</sup>	3.348	N/A	N/A	N/A	1942 <sup>3</sup>
E-025	P-019A	Cleaver Brooks	10.461	27441	CB 200-250	L-54363	1972
E-026	P-019B	Cleaver Brooks	10.461	27352	CB 200-250	L-54362	1972
E-036	P-023	RBI <sup>1,2</sup>	1.25	29976	CB 1250	051261819	2012
E-037	P-024	Williams & Davis <sup>1</sup>	1.26	N/A	780	6939	1991
E-038	P-025	Williams & Davis <sup>1</sup>	1.26	N/A	780	6941	1991
E-039	P-039	RITE <sup>1,2</sup>	0.75	12038	76 WG	26266	1997/2018
E-039A	P-039A	RITE <sup>1,2</sup>	0.75	12037	76 WG	26265	1997/2018
E-036A	P-036A	Lochnivar <sup>1,2</sup>	0.399	N/A	KBN399	C10H10131171	2007
E-036B	P-036B	Lochnivar <sup>1,2</sup>	0.399	N/A	KBN399	C10H10128674	2007
E-054	P-054	RITE <sup>1,2</sup>	0.85	16081	85 WE	30309	2007
E-055	P-055	RAYPAK <sup>1,2</sup>	1.22	202656	H3-1223	0212202656	Unknown

<sup>1</sup>FIA = Formerly Insignificant Activities; <sup>2</sup>Unit is a hot water boiler below 1.6 MMBTUH and is not subject to NESHAP Subpart DDDDD; <sup>3</sup>Currently out of service or non-operational.

**EUG 1P Permitted Boilers**

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Const./ Mod. Date
E-017	P-015A	York-Shipley	6.1	14458	SPHC-150-N2 95872	74-8455H-60612	1974
E-018	P-015B	York-Shipley	6.1	14459	SPHC-150-N2 95872	74-8455H-60612	1974
E-021	P-017A	Kewanee Boiler	10.463	26629	H2S-250-GO	P-3430	1975
E-022	P-017B	Kewanee Boiler	10.463	26628	H2S-250-GO	P-3429	1975
E-040	P-040	Cleaver Brooks	8.165	19712	CBEX Elite-200-200-150ST	T5334-1-2	2016
E-041	P-041	Cleaver Brooks	8.165	19709	CBEX Elite-200-200-150ST	T5334-1-1	2016
TEMP	TEMP	Abco	10.04	2425	NA	8651	1987

**EUG 1N NSPS Boilers**

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Construction/Mod. Date
E-042	P-042	Cleaver Brooks	14.287	19416	CBEX200-350-150ST	T5096-1-1	2015
E-043	P-043	Cleaver Brooks	14.287	19429	CBEX200-350-150ST	T5096-1-4	2015
E-044	P-044	Cleaver Brooks	14.287	19419	CBEX200-350-150ST	T5096-1-3	2015
E-045	P-045	Cleaver Brooks	14.287	19426	CBEX200-350-150ST	T5096-1-2	2015
E-046	P-046	Cleaver Brooks	20.410	19439	CBEX200-500-150ST	T5096-2-1	2015
E-047	P-047	Cleaver Brooks	20.410	19445	CBEX200-500-150ST	T5096-2-2	2015
E-048	P-048	Cleaver Brooks	12.247	20128	CBEX200-500-150ST	T5902-1-1	2017
E-049	P-049	Cleaver Brooks	12.247	20129	CBEX200-500-150ST	T5902-1-2	2017
E-050	P-050	Cleaver Brooks	14.287	20267	CBEX200-350-150ST	T6075-1-1	2017
E-051	P-051	Cleaver Brooks	14.287	20271	CBEX200-350-150ST	T6075-1-2	2017
E-052	P-052	Cleaver Brooks	14.287	20254	CBEX200-350-150ST	T6076-1-1	2017
E-053	P-053	Cleaver Brooks	14.287	20256	CBEX200-350-150ST	T6076-1-2	2107

**EUG 2B Permitted Coating Booths**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-20569	P-190PB	Paint Booth	A Line Bomb Production	1978/1990
E-20570	P-190PB	Stenciling Paint Booth	A Line Bomb Production	1978/1990
E-2503500	P-2503500	Robotic Paint Booth	A Line West Bomb Production	2019
E-20571	P-190WPB	Paint Booth	A Line West Bomb Production	2019
E-01101	P-01101	Paint Booth	Miscellaneous Painting	1943/1992/2007
E-47757	P-47757	Paint Booth	Bomb renovation painting	2003
E-49224	P-49224	Paint Booth	155 mm Projectile painting	2011
E-40093	P-40093	Paint Booth	Paint & Stencil Harpoon Missile	1993
E-31679	P-31679	Paint Booth Heat Tunnel	Metal Ammo Boxes and Containers	1943/1989
E-14201	P-14201	Paint Booth	Special Bombs	2006
E-45619	P-45619	Paint Booth	B Line Bomb Production	1988
E-45619	P-45619	Paint Booth	B Line Bomb Production	1984
E-19801	P-19801	Paint Booth	Integrated Ammunition Maintenance	1998
E-19802	P-19802	Paint Booth	Integrated Ammunition Maintenance	1943/1998
E-19803	P-19803	Paint Booth	Integrated Ammunition Maintenance	1943/1998
E-08128	P-08128	Paint Booth	Inert Bomb Production	1983
E-44482	P-44482	Paint Booth	Inert Bomb Production	1999
E-419F	P-419F	Paint Booth	DAC Paint Booth	1999
E-11399	P-11399	Paint Booth	Special Weapons Paint Booth	1991
E-17662	P-17662	Paint Booth	Special Weapons Paint Booth	2020

**EUG 2F Coating Fugitives**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-FUG1	P-FUG1	Various paint and thinner usage	Aerosol, Brush, Roller, etc. Painting Operations	1943

**EUG 2G Grandfathered Coating Booths**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-07761	P-07761	Paint Booth	Medium Caliber Production	1964
E-05149	P-05149	Paint Booth	Medium Caliber Production	1960
E-32484	P-32484	Paint Booth	In Storage	1990

**EUG 3 Solvent**

Equipment ID	Emission Point ID	Description	Process Rate	Const/ Mod Date
E-SOL	P-SOL	Solvent Usage	Various	1943

**EUG 3B Sanitizer**

Equipment ID	Emission Point ID	Description	Process Rate	Const/ Mod Date
E-SAN	P-SAN	Sanitizer Production	20,000 gal/week	2020

**EUG 4 Munitions Deactivation Furnace**

Equipment ID	Emission Point ID	Description	Process Rate	Const/ Mod Date
E-0452	P-0452	Deactivation Furnace	Various	1943 / 1997

**EUG 5G Grandfathered OB/OD/Static Firing**

Equipment ID	Emission Point ID	Description	Process Rate	Const/ Mod Date
E-990	P-990	Flash Burning Trench	520 TPY wood, 1300 GPY diesel	1942
E-991	P-991	Flash Burning Trench	520 TPY wood, 1300 GPY diesel	1942
E-997	P-997	Open Burning Range	OB Total = 6,400,000 lb/yr of NEW	1942
E-998	P-998	Open Detonation Area 1	OD Total = 2,280,000 lb/yr of NEW	1942
E-999	P-999	Open Detonation Area 2		1942

**EUG 5P Permitted OB/OD/Static Firing**

Equipment ID	Emission Point ID	Description	Process Rate	Const/ Mod Date
E-994	P-994	Static Firing Pad #1	Total SF = 147 MK 56 missiles, 100 SRAM rockets, 300 MK 58 missiles, 509 Hawk missiles per year, 699 MK 12 missiles per year and/or 96 Mavericks per day or 4,250 per year.	1996/2014/ 2017/2018
E-995	P-995	Static Firing Pad #2		
E-996	P-996	Static Firing Pad #3		

**EUG 6G Grandfathered Explosive Mixing**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-34252	P-33205	B-Line Exp Mix	TNT mixing (inactive)	1966
E-34253				
E-34254				
E-34255				
E-34256				
E-34257				
E-34332	P-32650	B-Line Exp Mix	TNT mixing	1966
E-34333				1943
E-57692				1971
E-57693				1971
E-34336				1966
E-57691				1971

**EUG 6P Permitted Explosive Mixing**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-34200	P-39786	40 MM Production Area Exp. Mix	TNT mixing	1978
E-34300	P-19584	A-Line Exp Mix	PBX mixing	1989
E-34298				
E-34299	P-19563			



Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-34297				
E-41994	P-14202	Medium Caliber Production Exp Mix	PBX mixing	2000
E-41995				
E-41997				
E-34197				
E-49114	P-49497	Exp Mix	PBX mixing	2013
E-49116	P-49497	Exp Mix	PBX mixing	2013
E-49492	P-49485	Wet Scrubber	PBX mixing	2012
P-99583-1-1	C-27160	Wet Scrubber	AFX mixing	2017
P-99583-1-2	C-27160	Wet Scrubber	AFX mixing	2017
P-99583-1-3	C-27160	Wet Scrubber	AFX mixing	2017
P-104492-1-8	C-27160	Wet Scrubber	AFX mixing	2017
P-104492-1-1	C-27160	Wet Scrubber	AFX mixing	2017
P-104492-1-9	C-27160	Wet Scrubber	AFX mixing	2017
P-96327-1	C-22798	Wet Scrubber	AFX mixing	2018

**EUG 7G Grandfathered Grit Blasting**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-39451	P-48509	Grit Blasting	Renovate ammo containers	1947
E-39452	P-48509	Grit Blasting	Renovate ammo containers	1943
E-34302	P-34302	Weld Shop Grit	Grit blast various metal parts prior to weld	1944
E-33494	P-A95024	Medium Caliber Production Grit	Grit blast ammo for renovation	1943
E-03550	P-03550	Old Weld Shop Grit	Grit blast various metal parts prior to weld	1948

**EUG 7P Permitted Grit Blasting**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-48660	P-48509	Grit Blasting	Renovate ammo containers	2005
E-52448	P-48509	Grit Blasting	Renovate ammo containers	2017
E-455GB	P-455GB	Inert Bomb Grit	Grit blasting bomb bodies prior to TAS	2018
E-17501	P-17501	Grit Blasting	Grit blasting bomb bodies prior to TAS	2000
E-19001	P-19001	Grit Blasting	Grit blasting bomb bodies prior to TAS	2000
E-19002	P-19002	Grit Blasting	Grit blasting bomb bodies prior to TAS	2019
E-198GB	P-198GB	Bomb & Mine Production Grit	Grit blasting ammo for renovation	1944/1998
E-0419GB	P-0419GB	DAC TTF Grit	Various grit blasting activities	1999
E-44730	P-44730	Bomb Grit Blasting	Grit blast of bomb bodies	2004
E-4T0901	P-4T0901	Pneumatic Blast Room	Various grit blasting activities	2015
E-TBD	P-TBD	Pneumatic Blast Room	Various grit blasting activities	2020

**EUG 8 Thermal Arc Spraying (TAS)**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-455TAS	P-455TAS	Inert Bomb TAS		2018
E-175TAS	P-175TAS	B-Line TAS		2000

E-190WTAS	P-190WTAS	Thermal Arc Spraying	Spraying of Al/Zn wire on bomb bodies	2019
E-190TAS	P-190TAS			2004
E-48TAS	P-48TAS			

**EUG 9G Grandfathered Explosive Sifting**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-31237	P-31888	Major Caliber Production Exp Sift	Exp sifting to remove impurities	1942
E-31238	P-31889			
E-01060	P-01060	B-Line Exp Sift	Exp sifting to remove impurities	1942
E-179SIF	P-179SIF			
E-01055	P-01055	B-Line Exp Sift	Aluminum powder sifting	1944
E-09484	P-09484			

**EUG 9P Permitted Explosive Sifting**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-194AS	P-194AS	A-Line Exp Sift	Exp sifting to remove impurities	1989
177B baghouse	P-49455	PBX sifting	Exp sifting to remove impurities	2013
E-21525	P-21525	Venturi Scrubber	Exp sifting to remove impurities	2017
E-21038	P-21038	Baghouse	Aluminum powder sifting	2017
E-22798	P-22798	Venturi Scrubber	Exp sifting to remove impurities	2018
E-22577	P-22577	Baghouse	Aluminum powder sifting	2018

**EUG 10G Grandfathered Explosive Dust Collection**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-0140B	P-0140B	40 MM Production	Explosive dust collection from load & pack operations	1943
E-05172	P-05172	Explosive Dust Collection		
E-31652	P-31652			
E-08915	P-31650		(Not Operational)	

**EUG 10P Permitted Explosive Dust Collection**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-AL01	P-AL01	A-Line Exp Mix	Aluminum Powder Mixing	1989

**EUG 11G Grandfathered Miscellaneous Particulate Collection**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-0009C	P-0009C	Wood Processing	Munitions container preparations	1943

**EUG 11P Permitted Miscellaneous Particulate Collection**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-31973	P-31973	Wood Processing	Munitions container preparations	1993
E-40824	P-40824			
E-49233	P-49233	155 mm Projectile	Cement Mixing	2011
E-43744	P-43744	Inert Bomb	Cement Mixing	1943/1998
E-43745	P-43745			
E-637/760L	P-637/760L	Wood Processing	Munitions container preparation	2001
E-637/760S	P-637/760S			

**EUG 12 Explosive Meltout**

Equipment ID	Emission Point ID	Description	Process Rate	Const/ Mod Date
E-17101 thru 17123	P-44217	Explosive Meltout	Various	1943/1996
E-18601 thru 18623	P-44216	Explosive Meltout	Various	1943/1996
E-18624 thru 18629	P-44239	Explosive Meltout	Various	2007

**EUG 13G Grandfathered Fuel Storage and Dispensing**

Equipment ID	Emission Point ID	Description	Capacity (gallons)	Construction Date
E-733F	P-733F	Diesel	5,000	1943
E-732	P-732	Diesel	1,100	1943
E-735	P-735	Heavy Oil	8,000	1943

**EUG 13P Permitted Fuel Storage and Dispensing**

Equipment ID	Emission Point ID	Description	Capacity (gallons)	Construction Date
E-0476P	P-0476P	Diesel	12,000	1999
E-746F	P-746F	Diesel	850	1979
E-790P	P-790P	Diesel	4,000	1979
E-756F	P-756F	Diesel	6,000	1992
E-742F	P-742F	Diesel	5,200	1979
E-741F	P-741F	Diesel	7,900	1979
E-738P	P-738P	Diesel	10,000	1979
E-744F	P-744F	Diesel	5,200	1979
E-737F	P-737F	Diesel	10,000	1979
E-739F	P-739F	Diesel	20,000	1979
E-755F	P-755F	Diesel	2,100	1979
E-736F	P-736F	Diesel	10,000	1979
E-743F	P-743F	Diesel	3,800	1979
E-775	P-775	Diesel	200	1979
E-800	P-800	Diesel	575	1990
E-801F	P-801F	Gasoline	12,000	2009

**EUG 14A Engines Subject to NSPS Subpart IIII**

Equipment ID	Emission Point ID	Description	Serial Number	Const/ Mod Date
E-0105G	P-0105G	Cummins 80.5 hp	D080169373	2008
E-0110G	P-0110G	Cummins 201.2 hp	D080169379	2008
E-0136G	P-0136G	Cummins 80.5 hp	D080169374	2008
E-036G	P-036G	Cummins 335 hp	73067723	2009
E-390G	P-0390G	John Deere 96 hp	PE5030L103204	8/2012
E-036F	P-036F	John Deere 4045HFC 104 kW	N/A	2/2010
E-RTG	P-RTG	John Deere 54 hp	SGM32DCMT	10/2013
E-HAY	P-HAY	FPT Industrial 279 hp	F4HE9685A	2020

**EUG 14B Engines Not Subject to NSPS Subpart IIII**

Equipment ID	Emission Point ID	Description	Serial Number	Const/ Mod Date
E-01GEN	P-01GEN	Cummins QSK60-G6 2,922 hp	K050851178	2006*
E-02GEN	P-02GEN	Cummins QSK60-G6 2,922 hp	K050851179	2006**
E-03GEN	P-03GEN	Generac 972 hp	2069093	2002

\*Manufactured 10/26/05, \*\*10/20/05.

**14D Engines Not 14A or 14B, with HP ≤ 500**

Description	HP	Date	Description	HP	Date
Generac	235	1993	Cummins	268	2004
Generac	268	1993	Kohler	107	N/A
Cummins	134	2004	Cummins	80	2004
Generac	201	1995	Cummins	134	2004

Description	HP	Date
Generac	268	2000
Onan	35	1998
Onan	35	1998
Generac	268	1989
Onan	15	1999
Magnaone	489	1981
Armstrong	148	2003
Cummins	80	2004
Cummins	80	2004

Description	HP	Date
Cummins	47	2004
Cummins	80	2004
Generac	235	1993
Kohler	349	N/A
Onan	60	1974
Onan	34	1998
Marathon	67	1991
Cummins	47	2004
Generac	402	2000

**EUG 16 Insignificant Activities**

See list of “Insignificant Activities” in Section V.

**EUG 17 Plasma Arc Cutters**

EU ID	Booth Description	Cutting Operation
Booth 1	Low Amp Plasma Arc Cutting	Power Max 1650 (90 Amp)
Booth 2	Oxy-Acetylene Cutting	Oxy-Acetylene Torch
Booth 3	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)
Booth 4	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)
Booth 5	Low Amp Plasma Arc Cutting & Oxy-Acetylene Cutting	Power Max 1650 (90 Amp) & Oxy-Acetylene Torch
Booth 6	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)
Booth 7	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)
Booth 8	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)
Booth 9	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)
Booth 10	High Amp Plasma Arc Cutting	Black Max 200 (200 Amp)

**SECTION VI. EMISSIONS**

The emission estimates presented in this section serve only quantitative purposes and do not represent emission limitations. For emission limitations, refer to the Specific Conditions of this permit. The following emission factors were used to determine potential emissions from the facility. EUG-5A emission factors for open detonation of munitions (lb/lb Net Explosive Weight) and EUG-5B emission factors for open burning (lb/lb) are listed in extensive detail in the original TV permit and in the documents available for inspection at the facility. These factors were generated in 2005 by Bill Mitchell & Associates, but add little to the discussion and are not repeated here.

Emission Factors and References

ID	Emission Unit	Pollutant	Emission Factor	Units	Factor Reference
EUG 1 – Scenario I Gas fired	Boilers	NO <sub>x</sub>	100	lb/MMscf	U.S. EPA AP-42 (7/98) Fifth Edition Chapter 1.4
		CO	84		
		SO <sub>2</sub>	0.6		
		PM/PM <sub>10</sub>	7.6		
		VOC	5.5		
EUG 1 – Scenario II Oil fired	Boilers	NO <sub>x</sub>	20	lb/10 <sup>3</sup> gal, with 0.140 MMBTU per gallon	U.S. EPA AP-42 (7/98) Fifth Edition Chapter 1.3
		CO	5		
		SO <sub>2</sub>	7.1		
		PM/PM <sub>10</sub>	3.3		
		VOC	0.2		
EUG 1 – Scenario I Gas fired	E-040, E-041, E-042, E-043, E-044, E-045, E-046 & E-047	NO <sub>x</sub>	0.01	lb/MMBTU	Manufacturer’s Data
		CO	0.035		
		SO <sub>2</sub>	0.0075		
		PM/PM <sub>10</sub>	0.001		
		VOC	0.0032		
EUG 1 – Scenario II Oil fired	E-040, E-041, E-042, E-043, E-044, E-045, E-046 & E-047	NO <sub>x</sub>	0.025	lb/MMBTU	Manufacturer’s Data
		CO	0.12		
		SO <sub>2</sub>	0.008		
		PM/PM <sub>10</sub>	0.10		
		VOC	0.002		
EUG 1 – Scenario I Gas fired	E-048 & E-049	NO <sub>x</sub>	0.035	lb/MMBTU	Manufacturer’s Data
		CO	0.018		
		SO <sub>2</sub>	0.001		
		PM/PM <sub>10</sub>	0.002		
		VOC	0.0036		
EUG 1 – Scenario II Oil fired	E-048 & E-049	NO <sub>x</sub>	0.115	lb/MMBTU	Manufacturer’s Data
		CO	0.008		
		SO <sub>2</sub>	0.100		
		PM/PM <sub>10</sub>	0.014		
		VOC	0.002		
EUG 1 – Scenario I Gas fired	E-050, E-051, E-052 & E-053	NO <sub>x</sub>	0.035	lb/MMBTU	Manufacturer’s Data
		CO	0.0075		
		SO <sub>2</sub>	0.001		
		PM/PM <sub>10</sub>	0.01		
		VOC	0.0032		
EUG 1 – Scenario II Oil fired	E-050, E-051, E-052 & E-053	NO <sub>x</sub>	0.12	lb/MMBTU	Manufacturer’s Data
		CO	0.008		
		SO <sub>2</sub>	0.1		
		PM/PM <sub>10</sub>	0.025		
		VOC	0.002		
EUG 2B, G, & F	Booths only	PM/PM <sub>10</sub>	2004 mass balance, with filter efficiency of 92% and transfer efficiency of 50%.	%	Manufacturer’s Data
EUG 2B	A Line West Booths	PM/PM <sub>10</sub>	Mass balance with drop out efficiency of 80%, filter efficiency of 94% and transfer efficiency of 50%.	lb PM/ lb Coating	Manufacturer’s Data
		VOC	Various	lb VOC/ lb coating	Manufacturer’s Data

ID	Emission Unit	Pollutant	Emission Factor	Units	Factor Reference
EUG 2B, G, & F	Uncontrolled Paint Booths Base-wide	VOC	Mass balance of materials used in 2004	%	Safety factor of 30% authorized by Consent Order 05-371 for the booths.
EUG 2B	Booth	PM/PM <sub>10</sub>	Mass balance	lb PM/ lb Coating	Manufacturer's Data
		VOC	Mass balance	lb VOC/ lb coating	Manufacturer's Data
EUG 2C	Base-wide Fugitive Emissions from Painting /Surface Coating	VOC	Various	%	Material usage and VOC content scaled up from CY 2004 data.
EUG 3	Base-wide Solvent Emissions	VOC	Various	%	Material usage and VOC content scaled up from CY 2004 data.
EUG 3B	Sanitizer	VOC	Mass Balance	lb VOC/ gal	Manufacturer's Data
EUG 4	Munitions Deactivation Furnace	Various	Various	Various	Stack Test (CPT) and MACT limits

Emission factors for the firing of a single Maverick rocket motor were presented in 99-112-AD (M-6), a determination that considered whether permitting was necessary for the added firing of such motors. Nineteen individual or groups of pollutants were listed, but the following table lists only those whose emissions exceeded one pound per year, based on firing 4,250 motors per year.

Pollutant	TPY
PM <sub>10</sub>	19.4
NO <sub>x</sub>	0.43
Acetylene	<.01
Magnesium	0.52

Pollutant	TPY
CO	0.06
SO <sub>2</sub>	25.5
Aluminum	0.11
Iron	0.60

Pollutant	TPY
CO <sub>2</sub>	25.8
HCl	27.0
Boron	<.01
Potassium	0.07

It should be noted that the emission of 25.46 TPY of SO<sub>2</sub> is a conservatively high estimate, based on a non-classified propellant constituent analysis. The renewal permit included a limit of 32 TPY for SO<sub>2</sub> for this EUG to account for emissions from the Maverick and for the MK58, which has an emission factor of 2.15 pounds of SO<sub>2</sub> per motor.

**Additional Emission Factors**

Group	Process	Pollutant	EF	Units	Reference
EUG 5C	Open Burning - Solvent	CO	0.1096	lb/gal	U.S. Army Center for Health Promotion and Preventative Medicine through use of the POLU13L computer model.
		PM <sub>10</sub>	3.6227		
EUG 5D	Static Firing - MK56 Rockets	CO	1.875	lb/rocket	NSWC <sup>1</sup> , data from 2005
		Hydrochloric Acid	135.144		
EUG 5E	Static Firing - MK58 Rockets	CO	25.57	lb/rocket	NSWC <sup>1</sup>
		Hydrochloric Acid	31.07		
EUG 5E	Static Firing - SRAM	CO	250	lb/missile	NSWC <sup>1</sup>
		Hydrochloric Acid	205		
		Chromium Cmpds	0.06		
EUG 5E	Static Firing - Hawk	CO	142.95	lb/missile	U.S. Army Materiel Test Directorate, White Sands Missile Range
		Hydrochloric Acid	132.28		
		Hydrogen Sulfide	0.24		
		Others (PM)	8.11		
EUG 5E		PM <sub>10</sub>	0.15 lb/lb	9.13 lb/event	Manufacturer's Data

Group	Process	Pollutant	EF	Units	Reference
	Static Firing - Maverick	Sulfur Dioxide	2.0 lb/lb S	12 lb/event	
		Hydrogen Chloride	0.89 lb/lb Cl	12.7 lb/event	
EUG 5E	Static Firing - MK12 Rockets	CO	0.3788	lb/missile	Manufacturer's Data
		NOx	8.7012		
		PM	55.499		
		Pb	18.703		
EUG 6	Explosive Mixing	PM <sub>10</sub>	0.2 gr/acf inlet loading & 95% control efficiency	--	Air Pollution Control Technology Fact Sheet (EPA-452/F-03-015), 7/15/2003
EUG 7	Grit Blasting	PM <sub>10</sub>	3 gr/acf inlet loading & 99% control efficiency	--	Conservative PM loading rate and typical baghouse PM control efficiency.
EUG 7	Grit Blasting	PM <sub>10</sub>	13 lb/1,000 lb abrasive & 99% control efficiency	--	AP-42 (9/97) Table 13.2.6-1
EUG 8	Thermal Arc Spraying	PM <sub>10</sub>	3 gr/acf inlet loading & 99% control efficiency	--	Conservative PM loading rate and typical baghouse PM control efficiency.
			0.2 gr/acf inlet loading & 95% control efficiency	--	Conservative PM loading rate and typical venture scrubber PM control efficiency.
EUG 9	Explosive Sifting	PM <sub>10</sub>	Scrubber Controlled - 0.2 gr/acf inlet loading & 95% control efficiency & Baghouse Controlled - 3 gr/acf inlet loading & 99% control efficiency	--	Air Pollution Control Technology Fact Sheet (EPA-452/F-03-015), 7/15/2003, Conservative PM loading rate and typical baghouse PM control efficiency.
EUG 10	Explosive Dust Collection	PM <sub>10</sub>	Scrubber Controlled - 0.2 gr/acf inlet loading & 95% control efficiency & Baghouse Controlled - 3 gr/acf inlet loading & 99% control efficiency	--	Air Pollution Control Technology Fact Sheet (EPA-452/F-03-015), 7/15/2003, Conservative PM loading rate and typical baghouse PM control efficiency.
EUG 11	Miscellaneous PM Control	PM <sub>10</sub>	3 gr/acf inlet loading & 99% control efficiency	--	Conservative PM loading rate and typical baghouse PM control efficiency.
EUG 12	Explosive Meltout	PM <sub>10</sub>	1.351*10 <sup>-4</sup>	lb/lb of NEW	Stack Testing August 16/17, 2005
EUG 13	Petroleum Storage Tanks	VOC	--	--	U.S.EPA TANKS 4.09
EUG 14A & E-03GEN in 14B	Emergency Generators	NOx	0.031	lb/hp-hr	AP-42 (10/96) Table 3.3-1 <sup>2</sup>
		CO	0.00668		
		PM	0.0022		
		SO <sub>2</sub>	0.00205		
		VOC	0.00247		
EUG 14A	Emergency Generator	NOx	3.53	g/hp-hr	EPA Nonroad CI 2017
		CO	1.10		EPA Nonroad CI 2017
		PM	0.08		EPA Nonroad CI 2017
		SO <sub>2</sub>	0.92		AP-42 (10/96) 3.3
		VOC	0.18		EPA Nonroad CI 2017
EUG 14B	Emergency Generators	Emission Unit	P-01, 02	P-03	Manufacturer's data with safety factors for C-1 and C-
		NOx	0.012	0.024	

Group	Process	Pollutant	EF		Units	Reference
		CO	0.0022	0.0055		2; Ap-42 (10/96) Table 3.4-1 For C-3
		PM	0.00022	0.0007		
		SO <sub>2</sub>	0.00033	0.0004		
		VOC	0.0022	0.00064		
EUG 14D	Emergency Generators	NO <sub>x</sub>	0.024		lb/hp-hr	AP-42 (96) Table 3.3-1
		CO	0.0055			
		PM	0.0007			
		SO <sub>2</sub>	0.0004			
		VOC	0.00064			
EUG 16A	Chemical Laboratory	VOC	--		--	SDS, usage, mass balance
EUG 16B	Open Detonation DAC.Training	Criteria pollutants, HAPs	Various		lb/lb NEW	U.S. Army Dugway Proving Ground "Bang Box" testing data from August 1998
EUG 16C	Wastewater Flare	NO <sub>x</sub>	100		lb/MMscf	AP-42 (7/98) Chapter 1.3
		CO	84			
		SO <sub>2</sub>	0.6			
		PM/PM <sub>10</sub>	7.6			
		VOC	5.5			
EUG 16D	Tar Coating	VOC	0.26		lb/hr	Stack testing plus safety factor
EUG 16E	Paint Booths	VOC	1.92		lb/gallon	SDS
EUG 17	Cutters	PM <sub>10</sub> /PM <sub>2.5</sub>	0.22		lb/hr	Onsite testing
		NO <sub>x</sub>	2.69			

<sup>1.</sup> Naval Surface Warfare Center utilizing data from the Chemical Propulsion Information Agency (CPIA) Solid Propellant Manual and the POLU13M model.

<sup>2.</sup> John Deere engines use NSPS IIII factors for NO<sub>x</sub>, CO, and PM.



EMISSION RATES

EUG 1G, 1P, 1N Boilers Scenario I – Natural Gas

Equipment ID	Point ID	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
E-001	P-001	0.22	0.96	0.18	0.81	0.01	0.01	0.02	0.07	0.01	0.05
E-002A	P-002A	0.05	0.22	0.04	0.18	0.01	0.01	0.01	0.02	0.01	0.01
E-002B	P-002B	0.05	0.22	0.04	0.18	0.01	0.01	0.01	0.02	0.01	0.01
E-003A	P-003A	0.05	0.22	0.04	0.18	0.01	0.01	0.01	0.02	0.01	0.01
E-003B	P-003B	0.05	0.22	0.04	0.18	0.01	0.01	0.01	0.02	0.01	0.01
E-004	P-004	0.05	0.23	0.04	0.2	0.01	0.01	0.01	0.02	0.01	0.01
E-005	P-005	0.01	0.05	0.01	0.04	0.01	0.01	0.01	0.01	0.01	0.01
E-006	P-006	0.14	0.62	0.12	0.52	0.01	0.01	0.01	0.05	0.01	0.03
E-008	P-008	0.02	0.09	0.02	0.08	0.01	0.01	0.01	0.01	0.01	0.01
E-014	P-013	0.33	1.44	0.28	1.21	0.01	0.01	0.03	0.11	0.02	0.08
E-017	P-015A	0.49	2.16	0.41	1.81	0.00	0.01	0.04	0.16	0.03	0.12
E-018	P-015B	0.49	2.16	0.41	1.81	0.00	0.01	0.04	0.16	0.03	0.12
E-021	P-017A	0.82	3.59	0.69	3.02	0.00	0.02	0.06	0.27	0.05	0.2
E-022	P-017B	0.82	3.59	0.69	3.02	0.00	0.02	0.06	0.27	0.05	0.2
E-025	P-019A	0.82	3.59	0.69	3.02	0.00	0.02	0.06	0.27	0.05	0.2
E-026	P-019B	0.82	3.59	0.69	3.02	0.00	0.02	0.06	0.27	0.05	0.2
E-036	P-023	0.12	0.54	0.1	0.45	0.01	0.01	0.01	0.04	0.01	0.03
E-037	P-024	0.12	0.54	0.1	0.45	0.01	0.01	0.01	0.04	0.01	0.03
E-038	P-025	0.12	0.54	0.1	0.45	0.01	0.01	0.01	0.04	0.01	0.03
E-039	P-039	0.07	0.32	0.06	0.27	0.00	0.00	0.01	0.02	0.00	0.02
E-039A	P-039A	0.07	0.32	0.06	0.27	0.00	0.00	0.01	0.02	0.00	0.02
E-036A	P-036A	0.04	0.17	0.03	0.14	0.00	0.00	0.00	0.01	0.00	0.01
E-036B	P-036B	0.04	0.17	0.03	0.14	0.00	0.00	0.00	0.01	0.00	0.01
E-054	P-054	0.08	0.37	0.07	0.31	0.00	0.00	0.01	0.03	0.00	0.02
E-055	P-055	0.12	0.52	0.10	0.44	0.00	0.00	0.01	0.04	0.01	0.03
E-040	P-040	0.29	1.28	0.06	0.28	0.01	0.04	0.08	0.37	0.03	0.12
E-041	P-041	0.29	1.28	0.06	0.28	0.01	0.04	0.08	0.37	0.03	0.12
E-042	P-042	0.5	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-043	P-043	0.5	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-044	P-044	0.5	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-045	P-045	0.5	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-046	P-046	0.71	2.06	0.15	0.44	0.02	0.06	0.2	0.59	0.07	0.19
E-047	P-047	0.71	2.06	0.15	0.44	0.02	0.06	0.2	0.59	0.07	0.19
E-048	P-048	0.43	1.88	0.22	0.97	0.01	0.05	0.02	0.11	0.04	0.19
E-049	P-049	0.43	1.88	0.22	0.97	0.01	0.05	0.02	0.11	0.04	0.19
E-050	P-050	0.5	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.2
E-051	P-051	0.5	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.2
E-052	P-052	0.5	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.2
E-053	P-053	0.5	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.2
TEMP	TEMP	0.98	4.29	0.82	3.6	0.01	0.03	0.08	0.33	0.05	0.24
<b>TOTALS</b>		<b>13.86</b>	<b>55.70</b>	<b>7.61</b>	<b>32.31</b>	<b>0.30</b>	<b>0.97</b>	<b>2.31</b>	<b>8.64</b>	<b>1.15</b>	<b>4.02</b>

**EUG 1G, 1P, 1N Boilers Scenario II – No. 2 Fuel Oil**

Equipment	Point	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
ID	ID	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
E-001	P-001	0.32	1.40	0.08	0.35	0.11	0.50	0.05	0.21	0.01	0.01
E-002A	P-002A	0.07	0.31	0.02	0.08	0.03	0.11	0.01	0.05	0.01	0.01
E-002B	P-002B	0.07	0.31	0.02	0.08	0.03	0.11	0.01	0.05	0.01	0.01
E-003A	P-003A	0.07	0.31	0.02	0.08	0.03	0.11	0.01	0.05	0.01	0.01
E-003B	P-003B	0.07	0.31	0.02	0.08	0.03	0.11	0.01	0.05	0.01	0.01
E-004	P-004	0.08	0.34	0.02	0.08	0.03	0.12	0.01	0.05	0.01	0.01
E-005	P-005	0.02	0.08	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01
E-006	P-006	0.21	0.90	0.05	0.23	0.07	0.32	0.03	0.14	0.01	0.01
E-008	P-008	0.03	0.14	0.01	0.03	0.01	0.05	0.01	0.02	0.01	0.01
E-014	P-013	0.48	2.10	0.12	0.52	0.17	0.74	0.07	0.31	0.01	0.02
E-017	P-015A	0.87	3.82	0.22	0.96	0.31	1.36	0.13	0.57	0.01	0.04
E-018	P-015B	0.87	3.82	0.22	0.96	0.31	1.36	0.13	0.57	0.01	0.04
E-021	P-017A	1.50	6.55	0.37	1.64	0.53	2.32	0.22	0.98	0.02	0.07
E-022	P-017B	1.50	6.55	0.37	1.64	0.53	2.32	0.22	0.98	0.02	0.07
E-025	P-019A	1.50	6.55	0.37	1.64	0.53	2.32	0.22	0.98	0.02	0.07
E-026	P-019B	1.50	6.55	0.37	1.64	0.53	2.32	0.22	0.98	0.02	0.07
E-036	P-023	0.18	0.78	0.04	0.20	0.06	0.28	0.03	0.13	0.01	0.01
E-037	P-024	0.18	0.79	0.05	0.20	0.06	0.28	0.03	0.12	0.01	0.01
E-038	P-025	0.18	0.79	0.05	0.20	0.06	0.28	0.03	0.12	0.01	0.01
E-039	P-039	0.11	0.47	0.03	0.12	0.04	0.17	0.02	0.08	0.00	0.00
E-039A	P-039A	0.11	0.47	0.03	0.12	0.04	0.17	0.02	0.08	0.00	0.00
E-036A	P-036A	0.06	0.25	0.01	0.06	0.02	0.09	0.01	0.04	0.00	0.00
E-036B	P-036B	0.06	0.25	0.01	0.06	0.02	0.09	0.01	0.04	0.00	0.00
E-054	P-054	0.12	0.53	0.03	0.13	0.04	0.19	0.02	0.09	0.00	0.01
E-055	P-055	0.17	0.76	0.04	0.19	0.06	0.27	0.03	0.13	0.00	0.01
E-040	P-040	1.00	4.39	0.07	0.29	0.84	3.66	0.21	0.92	0.02	0.07
E-041	P-041	1.00	4.39	0.07	0.29	0.84	3.66	0.21	0.92	0.02	0.07
E-042	P-042	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-043	P-043	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-044	P-044	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-045	P-045	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-046	P-046	2.45	7.05	0.16	0.47	2.04	5.88	0.51	1.47	0.04	0.12
E-047	P-047	2.45	7.05	0.16	0.47	2.04	5.88	0.51	1.47	0.04	0.12
E-048	P-048	1.41	6.17	0.10	0.43	1.22	5.36	0.17	0.75	0.02	0.11
E-049	P-049	1.41	6.17	0.10	0.43	1.22	5.36	0.17	0.75	0.02	0.11
E-050	P-050	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
E-051	P-051	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
E-052	P-052	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
E-053	P-053	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
<b>Totals</b>		<b>33.72</b>	<b>130.15</b>	<b>4.13</b>	<b>17.01</b>	<b>23.30</b>	<b>87.29</b>	<b>6.21</b>	<b>23.46</b>	<b>0.64</b>	<b>1.97</b>

**EUG 2A Painting/Surface Coating – A-Line**

Equipment ID	Emission Point ID	Component	Emission (lb/hr)	Emission (TPY)
E-20569 E-20570	P-190PB	VOC (total)	3.67	16.08
		PM <sub>10</sub>	13.07	57.25
		Xylene	0.04	0.16
		Ethylene Glycol Monobutyl Ether	0.01	0.03
		1,2,4-trimethylbenzene	<0.01	0.02
		Toluene	0.01	0.02
		Styrene	2.04	8.93
		Epichlorohydrin	0.04	0.15

**EUG 2A Painting/Surface Coating – A-Line West**

PTE was estimated based on 8,760 hours per year.

Equipment ID	Emission Point ID	Component	Emission (lb/hr)	Emission (TPY)
E-2503500 E-20571	P-2503500 P-190WPB	VOC (total)	2.40	10.51
		PM <sub>10</sub> <sup>1</sup>	0.11	0.47
		Ethylene Glycol	0.56	2.46
		Diuron	0.01	0.04

<sup>1</sup> – Includes drop out, transfer and filter efficiencies.

**EUGs 2B & 2G Painting/Surface Coating – Paint Booths**

PTE was estimated for the original permit based on extrapolation to 8,760 hours per year.

Equipment ID	Emission Point ID	2004 VOC Emissions	2004 PM <sub>10</sub> Emissions	2004 Hours of Operation	Potential VOC Emission Rate		Potential PM <sub>10</sub> Emission Rate	
		TPY	TPY	hr/yr	lb/hr	TPY	lb/hr	TPY
E-01101	P-01101	1.02	--	500	1.35	5.91	<0.01	<0.01
E-47757	P-47757	--	--	--	9.60	42.05	<0.01	<0.01
E-49244	P-49244	NA	NA	New	0.60	2.62	1.35	5.92
E-40093	P-40093	0.00	0.00	1000	9.60	42.05	<0.01	<0.01
E-07761	P-07761	4.71	0.001	660	14.28	62.52	<0.01	<0.01
E-05149	P-05149	0.00	0.00	450	9.60	42.05	<0.01	<0.01
E-31679	P-31679	0.33	0.001	120	5.43	23.79	0.02	0.10
E-14201	P-14201	--	--	--	0.60	2.63	<0.01	<0.01
E-45619	P-45619	3.71	0.030	1720	4.32	18.91	0.04	0.15
E-45619	P-45619							
E-19801	P-19801	0.30	0.002	80	7.38	32.31	0.05	0.24
E-19802	P-19802							
E-19803	P-19803							
E-32484	P-32484	1.49	0.001	500	5.94	26.02	<0.01	<0.01
E-44482	P-44482	9.02	0.013	1880	9.60	42.05	0.014	0.061
E-419F	P-419F	0.09	2.05E-04	500	0.37	1.64	0.001	0.004
E-11399	P-11399	0.08	1.80E-04	500	0.31	1.37	0.001	0.003
E-08128	P-08128	12.93	0.036	1630	15.87	69.49	0.04	0.19
E-TBD	P-TBD	---	---	---	---	3.57	---	3.71
<b>TOTALS</b>					<b>94.9</b>	<b>420</b>	<b>1.57</b>	<b>10.45</b>

**EUG 2F Fugitive Paint Emissions**

PTE was estimated for the original permit based on extrapolation to 8,760 hours per year.

Emission Point ID	Pollutant	2004 Emissions (TPY)	Potential Emissions (TPY)
P-FUG1	VOC (Total)	10.43	45.68
	Ethylbenzene	0.01	0.04
	MEK	0.30	1.29
	Styrene	1.65	7.21
	Toluene	0.53	2.32
	Xylene	0.18	0.78

**EUG 3 Solvent Emissions**

PTE for VOC was estimated for the original permit based on extrapolating 2004 emissions to 8,760 hours per year. Thus, 4.49 tons of VOC divided by 2,080 hours of operation suggests average emissions of 4.32 lb/hr, which implies 18.91 TPY for continuous operation. The facility expects actual emissions to be less than 5 TPY based on past emission inventories (EI) (2018 EI – 3.17 TPY VOC & 2017 EI - 4.22 TPY VOC).

**EUG 3B Sanitizer Emissions**

Potential emissions from the production of hand sanitizer are based on mass balance of materials and a conservative estimate that 2% of mixture is released as VOC emissions (Isopropyl alcohol is only material defined as a VOC).

	Density	Mixture Percentage	VOC	VOC
Components	(lb/gal)	(%)	(lb/batch)	(TPY)
Isopropyl alcohol	7.16	75.00%	10.74	13.81
Hydrogen peroxide(30%)	9.28	0.42%	--	--
Glycerol (food grade)	10.43	7.25%	--	--
Water (purified USP)	8.35	17.33%	--	--
<b>Total</b>		<b>100.00%</b>	<b>10.74</b>	<b>13.81</b>

**EUG 4 Munitions Deactivation Furnace**

As discussed in the original Part 70 permit, emissions for this EUG were determined by an initial Comprehensive Performance Test in 2004 per the HWC NESHAP (HWC). The following totals represent continuous operation (8,760 hours per year) under the extreme conditions of the test.

Pollutant	TPY
Dioxin / Furan	$6.8 \times 10^{-10}$ (TEQ)
2,4-DNT	$2.5 \times 10^{-4}$
HCl	3.12
Cl <sub>2</sub>	0.066
HVM	$5.05 \times 10^{-4}$
SVM	$6.135 \times 10^{-3}$

Pollutant	TPY
LVM	$1.2 \times 10^{-4}$
PM	$9.65 \times 10^{-3}$
NO <sub>x</sub>	132.9
CO	0.31
Total HC	0.088
SO <sub>2</sub>	0.93

**EUG 5G  
OB Munitions Emissions**

<b>Emission Point ID</b>	<b>Pollutant</b>	<b>Emission Rate (TPY)</b>
P-990, P-991, P-997	VOC (total)	0.049
	Naphthalene	0.011
	Phenol	0.032
	Benzene	0.006
	Carbon Monoxide	0.000
	Nitrogen Dioxide	2.477
	Sulfur Dioxide	0.563
	PM <sub>10</sub>	71.322
	Lead	0.798

**OB Secondary (Wood & Diesel) Emissions**

<b>Emission Point ID</b>	<b>Pollutant</b>	<b>Emission Rate</b>	
		<b>lb/hr</b>	<b>TPY</b>
P-990, P-991, P-997	CO	16.3	17.00
	NO <sub>x</sub>	1.27	1.32
	PM <sub>10</sub>	3.08	3.20
	VOC	5.77	6.00
	SO <sub>2</sub>	0.196	0.20

**OB Secondary (Solvent) Emissions**

<b>Emission Point ID</b>	<b>Pollutant</b>	<b>Emission Rate</b>	
		<b>lb/hr</b>	<b>TPY</b>
P-990, P-991, P-997	CO	6.03	0.08
	NO <sub>x</sub>	<0.01	<0.01
	PM <sub>10</sub>	199.25	2.49
	VOC	<0.01	<0.01
	SO <sub>2</sub>	<0.01	<0.01

**OD Munitions Emissions (2005 data)**

<b>Emission Point ID</b>	<b>Pollutant</b>	<b>Emission Rate (TPY)</b>
P-998 & P-999	Carbon Monoxide	13.93
	Nitrogen Dioxide	4.22
	Sulfur Dioxide	0.18
	PM <sub>10</sub>	393
	Lead	0.02
	Cadmium	0.02

**EUG 5P Static Firing Emissions (TPY)**

Emission Point ID	Pollutant	MK56	MK58	SRAM	Hawk	Maverick	MK12	Static Firing Emission Limits
P-994 P-995 P-996	CO	0.14	3.84	12.5	36.4	0.06	0.21	41.5
	PM	11.4	2.82	15.0	29.2	19.4	24.40 <sup>a</sup>	24.4
	Aluminum oxide	11.4	2.82	15.0	26.9	-	-	29.2
	Iron chloride	0.03	0.20	0.65	0.00	-	-	0.88
	Hydrochloric acid	9.93	4.66	10.3	33.7	27.0	-	34.7
	Zirconium oxide	0.13	0.00	0.00	0.00	-	-	0.13
	Chromium compounds	0.00	0.00	0.00	0.00	-	-	0.00
	Copper (PM)	0.00	0.00	0.00	0.16	-	-	0.16
	H <sub>2</sub> S	0.00	0.00	0.00	0.24	-	-	0.24
	Other (PM)	0.00	0.00	0.00	2.10	-	-	2.10
	SO <sub>2</sub>	-	0.32	-	-	25.5	0.01	32.0
	Lead	-	-	-	-	-	6.54	6.54
	NO <sub>x</sub>	-	-	-	-	0.43	4.78	4.78

<sup>a</sup> - Potential emissions of PM from the MK12 rocket are 30.47 TPY; however, MCAAP requested a limit of 24.40 TPY in order to avoid PSD review of PM.

Emissions are calculated based on 147 MK56 items/yr, 300 MK58 items/yr, 100 SRAM items/yr, and 4,250 Mavericks/yr, 1,098 MK12 items/yr, but these are not limits on the items fired. Emission factors are found in a table presented earlier in this memorandum. Any combination of missiles/rockets may be fired, including types not listed in this table, provided that emission limits are not exceeded. However, no more than 509 Hawk missiles may be fired in one year, excluding any other items.

**EUG 6 Explosive Mixing Emissions**

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency (%)	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-39786	C-39786	Wet Scrubber	2,000	0.2	95	0.17	0.75
None	None	None	Explosive Mixing is Inactive				
P-33205	C-33205	Wet Scrubber	9000	0.2	95	0.77	3.38
P-32650	C-32650	Wet Scrubber	8,730	0.2	95	0.75	3.28
P-19584	C-19584	Venturi Scrubber	2,200	0.2	95	0.19	0.83
P-19563	C-19563	Venturi Scrubber	2,200	0.2	95	0.19	0.83
P-14202	C-14202	None	No control needed due to lack of small particulates in material				
P-19200	C-19590	Venturi Scrubber	4,800	0.2	95	0.41	1.80
P-49497	C-49497	Wet Scrubber	3,700	0.2	95	0.32	1.40
P-49497	C-49497	Wet Scrubber	3,700	0.2	95	0.32	1.40
P-49485	C-49485	Wet Scrubber	2,000	0.2	95	0.17	0.75
P-99583-1-1	C-27160	Wet Scrubber	1,200	0.2	95	0.10	0.45
P-99583-1-2	C-27160	Wet Scrubber	1,200	0.2	95	0.10	0.45
P-99583-1-3	C-27160	Wet Scrubber	1,200	0.2	95	0.10	0.45
P-104492-1-8	C-27160	Wet Scrubber	1,200	0.2	95	0.10	0.45
P-104492-1-1	C-27160	Wet Scrubber	1,200	0.2	95	0.10	0.45
P-104492-1-9	C-27160	Wet Scrubber	1,200	0.2	95	0.10	0.45
P-96327-1	C-22798	Wet Scrubber	800	0.2	95	0.07	0.30
<b>TOTALS</b>						<b>3.96</b>	<b>17.42</b>

**EUG 7 Grit Blasting Emissions**

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-52448	C-48509	Cartridge Filter	800	3	99	0.21	0.90
P-34302	C-34302	Baghouse	300	3	99	0.08	0.34
P-455GB	C-455GB	Cartridge Filter	2770	3	99	0.71	3.12
P-17501	C-17501	Cartridge Filter	6,000	3	99	1.54	6.76
P-19001	C-19001	Cartridge Filter	2,200	3	99	0.57	2.48
P-19002	C-19002	Cartridge Filter	13 <sup>a</sup>	162 <sup>b</sup>	99	0.02	0.09
P-A95024	C-A95024	Baghouse	3,160	3	99	0.81	3.56
P-198GB	C-198GB	Mesh Filter	8,300	3	97	6.40	28.03
P-03550	C-03550	Baghouse	500	3	99	0.13	0.56
P-4T0901	C-4T0901	Cartridge Filter	10,000	3	99	0.82	3.60
P-44730	C-44730	Cartridge Filter	3,000	3	99	0.77	3.38
P-0419GB	C-0419GB	Cartridge Filter	300	3	99	0.08	0.34
P-1043-01	C-1043-01	Cartridge Filter	1,570	3	99	0.40	1.77
<b>TOTALS</b>						<b>12.54</b>	<b>54.93</b>

<sup>a</sup> – Units are in lb emissions/1,000 lb abrasive; <sup>b</sup> – Abrasive throughput (lb/hr).

**EUG 8 Thermal Arc Spraying Emissions**

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-455TAS	C-455TAS	Venturi Scrubber	4,000	0.2	95	0.34	1.50
P-175TAS	C-175TAS	Baghouse	6,630	3	99	1.70	7.47
P-190TAS	C-190TAS	Baghouse	6,627	3	99	1.70	7.46
P-190WTAS	C-190WTAS	Cartridge Filter	5,000	3	99	1.29	5.63
P-48GB	C-48GB	Baghouse	7,296	3	99	1.88	8.22
<b>TOTALS</b>						<b>6.91</b>	<b>30.28</b>

**EUG 9 Explosive Sifting Emissions**

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-31888	C-31888	Baghouse	2,400	3	99	0.62	2.70
P-31889	C-31889	Baghouse	2,400	3	99	0.62	2.70
P-01060	C-01060	Wet Scrubber	2,510	0.2	95	0.22	0.94
P-179SIF	C-179SIF	Wet Scrubber	12,900	0.2	95	0.98	4.29
P-01055	C-01055	Baghouse	3,000	3	99	0.77	3.38
P-09484	C-09484	Baghouse	3,000	3	99	0.77	3.38
P-49455	C-49455	Baghouse	2,500	3	99	0.64	2.82
E-194AS	P-194AS	No control needed due to lack of small particulates in CXM7 material					
E-21525	P-21525	Wet Scrubber	6,000	0.2	95	0.51	2.25
E-21038	P-21038	Baghouse	3,000	3	99	0.77	3.38
P-22798	C-22798	Wet Scrubber	2,125	0.2	95	0.18	0.80
P-22577	C-22577	Baghouse	4,000	3	99	1.03	4.51
<b>TOTALS</b>						<b>7.11</b>	<b>31.15</b>

**EUG 10 Explosive Dust Collection Emissions**

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-0140B	C-0140B	Baghouse	5400	3	99%	1.39	6.08
P-05172	C-05172	Wet Scrubber	2,000	0.2	95%	0.17	0.75
P-31650	C-31650	Baghouse	1,800	3	99%	0.46	2.03
P-31652	C-31652	Wet Scrubber	7,500	0.2	95%	0.64	2.82
P-AL01	C-AL01	Baghouse	11,240	3	99%	2.89	12.66
<b>TOTALS</b>						<b>5.55</b>	<b>24.34</b>

**EUG 11 Miscellaneous PM Emissions**

Emission Point ID	Control ID	Description	Control Description	Fan Rating CFM	PM <sub>10</sub>		PM <sub>10</sub> Emissions	
					Loading (gr/cf)	Control Efficiency	Lb/hr	TPY
P-31973	C-31973	Wood Processing	Baghouse	5,840	3	99%	1.50	6.58
P-40824	C-40824	Wood Processing	Baghouse	5,840	3	99%	1.50	6.58
P-49233	C-49233	Cement Mixing	Baghouse	10,000	3	99%	2.57	11.3
P-31600	C-31600	Cement Mixing	Baghouse	2,200	3	99%	0.57	2.48
P-19259	C-19259	Cement Mixing	Baghouse	2,200	3	99%	0.57	2.48
P-637/760L	C-637/760L	Wood Processing	Baghouse	24,700	3	99%	6.35	27.8
P-637/760S	C-637/760S	Wood Processing	Baghouse	2,500	3	99%	0.64	2.82
P-0009C	N/A	Wood Processing	Baghouse	5,000	3	99%	1.29	5.63
<b>TOTALS</b>							<b>15.0</b>	<b>65.7</b>

**EUG 12 Explosive Melt-out Emissions**

Item	Description	Explosive Weight lb NEW/item	Processing Rate			Emission Rate Maximum		PM <sub>10</sub> Total Emissions <sup>1</sup>	
			items/shift	items/hr	lb NEW/hr	Unit	lb/hr	lb/hr	TPY
MK82	500 lb Bomb	180	120	10	1800	$1.35 \times 10^{-4}$ Lb/lb NEW	4,800	1.14	5.0
M117 A2	750 lb Bomb	300	90	8	2400				
MK83	1000 lb Bomb	410	60	5	2050				
MK84	2000 lb Bomb	923	10	1	923				
BLU113	5,000 lb Bomb	As determined	As req.	As req.	As req.				
M106	8 inch Projectile	38	700	58	2204				
M650	8 inch Projectile	26	700	58	1508				
105-mm	105-mm Projectile	5	2880	240	1200				
155-mm	155-mm Projectile	23	672	56	1288				
Bulk TNT	TNT Re-melt	19,000	--	--	1583				
Various	Munitions	As determined	As req.	As req.	As req.				

<sup>1</sup> Combined emission rates for P-17123 and P-18623. The annual limit is a conservatively high value requested by the facility; the lb/hr figure assumes continuous operation to achieve 5 TPY.

**EUG 13 Storage Tank Emissions**

Emission Point ID	Description	Tank Diameter (ft)	Tank Height/Length (ft)	Tank Capacity (gallons)	2004 Throughput (gallons)	Potential Throughput (gallons)	VOC Emissions (TPY)
P-0476P	Diesel	8	33	12,000	209,017	880,283	<0.01
P-746F	Diesel	5	6	850	--	10,000	<0.01
P-790P	Diesel	7	14	4,000	5,811	24,473	<0.01
P-756F	Diesel	8	16	6,000	2,498	10,520	<0.01
P-733F	Diesel	7	23	5,000	535	2,253	<0.01
P-742F	Diesel	8	14	5,200	--	10,000	<0.01



Emission Point ID	Description	Tank Diameter (ft)	Tank Height/Length (ft)	Tank Capacity (gallons)	2004 Throughput (gallons)	Potential Throughput (gallons)	VOC Emissions (TPY)
P-741F	Diesel	8	21	7,900	--	10,000	<0.01
P-738P	Diesel	8	32	10,000	700	2,948	<0.01
P-744F	Diesel	8	14	5,200	1,590	6,696	<0.01
P-737F	Diesel	8	32	10,000	600	2,527	<0.01
P-739F	Diesel	10	33	20,000	4,100	17,267	<0.01
P-755F	Diesel	6	10	2,100	--	10,000	<0.01
P-736F	Diesel	8	32	10,000	900	3,790	<0.01
P-743F	Diesel	8	10	3,800	--	10,000	<0.01
P-732	Diesel	4	12	1,100	--	10,000	<0.01
P-735	Heavy Oil	11	17	8,000	--	10,000	<0.01
P-775	Diesel	2.5	6	200	--	10,000	<0.01
P-800	Diesel	4	6	575	--	10,000	<0.01
P-801F	Gasoline	7.92×7.08	36.67	12,000	--	48,000	N/A
<b>TOTAL</b>							<b>8.94</b>

**EUG 14A Engines Subject to NSPS Subpart IIII**

Emission Point ID	NO <sub>x</sub>		CO		PM		SO <sub>2</sub>		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-0105G	2.50	0.63	0.54	0.13	0.18	0.04	0.17	0.04	0.20	0.05
P-0110G	6.24	1.56	1.34	0.34	0.44	0.11	0.41	0.10	0.50	0.12
P-0136G	2.50	0.63	0.54	0.13	0.18	0.04	0.17	0.04	0.20	0.05
P-036G	10.4	2.60	2.24	0.56	0.74	0.18	0.69	0.17	0.83	0.21
P-390G	0.71	0.18	0.88	0.22	0.05	0.01	0.20	0.05	0.24	0.06
P-036F	0.92	0.23	1.15	0.29	0.19	0.05	0.16	0.04	0.20	0.05
P-RTG	0.41	0.10	0.44	0.11	0.04	0.01	0.11	0.03	0.13	0.03
P-HAY	2.17	0.54	0.68	0.17	0.05	0.01	0.57	0.14	0.11	0.03
<b>Totals</b>	<b>25.85</b>	<b>6.47</b>	<b>7.81</b>	<b>1.95</b>	<b>1.87</b>	<b>0.45</b>	<b>2.48</b>	<b>0.61</b>	<b>2.41</b>	<b>0.60</b>

Emissions are calculated for 500 hrs/yr of operation for each generator.

**EUG 14B Engines new under NESHAP Subpart ZZZZ, but not subject to NSPS Subpart IIII**

Emission Point ID	NO <sub>x</sub>		CO		PM		SO <sub>2</sub>		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-01GEN	35.1	35.1 <sup>1</sup>	6.43	6.43 <sup>1</sup>	0.64	0.64 <sup>1</sup>	0.96	0.96 <sup>1</sup>	6.43	6.43 <sup>1</sup>
P-02GEN	35.1		6.43		0.64		0.96		6.43	
<b>Totals</b>	<b>97.1</b>	<b>41.8</b>	<b>19.0</b>	<b>7.97</b>	<b>2.06</b>	<b>0.84</b>	<b>2.42</b>	<b>1.09</b>	<b>13.6</b>	<b>6.61</b>

<sup>1</sup> These subtotals are the combined emissions for P-01 and P-02 generators operating for a combined total of 2,000 hrs/yr.

Emission Point ID	NO <sub>x</sub>		CO		PM		SO <sub>2</sub>		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-03GEN	26.88	6.72	6.16	1.54	0.78	0.20	0.50	0.13	0.72	0.18

Emissions are calculated for 500 hrs/yr of operation for each generator.

**EUG 14D Engines “Existing” under NESHAP Subpart ZZZZ, BHP < 500**

Although small engine emission factors are used, the calculations use the aggregate 4,166 hp of all engines to simplify the table.

Emission Point ID	NO <sub>x</sub>		CO		PM		SO <sub>2</sub>		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
26 engines	100	25.0	22.9	5.73	2.92	0.73	1.67	0.42	2.67	0.67

**EUG 16 Insignificant Activities**

**Laboratory Emissions**

The initial Part 70 permit used 2004 emissions as a starting point to extrapolate potential emissions of 4.68 TPY of VOC from points P-34425, 26, and 27 and P-0020F. More than half of the VOC is HAP, with 2.4 TPY of methanol being the most heavily represented.

**DAC OD Emissions P-993**

Pollutant	Annual	Pollutant	Annual
VHAP	15 lb/year	Sulfur Dioxide	39 lb/year
Carbon Monoxide	3.41TPY	PM <sub>10</sub>	1.49 TPY
Nitrogen Dioxide	0.114 TPY	Metal HAP	5 lb/year

**Tar Coating**

The initial Part 70 permit used 2003 emission testing as a starting point to extrapolate potential emissions of 4.73 TPY of VOC from points P-190P, P-49249, and P-34261, P-34262 and P-190WTAR.

**Low Volume Paint Booths**

Emission Point ID	PM (lb/hr)	PM PTE (TPY)	VOC (lb/hr)	VOC PTE (TPY)
P-10301	--	--	0.56	2.47
P-10302	--	--	0.56	2.47
P-10401	0.45	1.99	0.19	0.84

**EUG 17 Plasma Arc Cutters**

The principal emissions from arc cutting are NO<sub>x</sub> and particulate matter. There is little literature available on the topic, so MCAAP measured the flow of the existing low amp cutters. A TSI Model AM 510 aerosol monitor was used to conduct short-term sampling of both pollutants at the face of the cutting exhaust. Using an air flow meter to measure velocity, and given the area of the exhaust, a calculation of flow rate and therefore of concentrations was possible. Emission rates of 0.10 lb/hr of PM<sub>10</sub> and 1.21 lb/hr of NO<sub>x</sub> were determined for the low amp units. An assumption was made that these rates could be scaled up linearly to determine rates for the 200 amp operations. A further assumption was made that all PM<sub>10</sub> is PM<sub>2.5</sub>. Emission rates for each cutter are 2.69 lb/hr of NO<sub>x</sub> and 0.22 lb/hr of PM<sub>10/2.5</sub>. PTE for the combination of all four units added under Permit No. 99-112-C (M-9) is 47.12 TPY of NO<sub>x</sub> and 3.88 TPY of PM<sub>10/2.5</sub>.

Emissions for the six booths previously added under Permit No. 99-112-TV (M-5) use the same logic as for the newer booths. The oxy-acetylene cutting operations are assumed to have the same amount of emissions as the low amp plasma cutting equipment. Permitted emissions are based on use of the high amp plasma cutting equipment for all of the cutting booths to assure conservatively

high results. Using the previously accepted federally-enforceable limit of 3,120 hours per year for each unit yields 25.20 TPY of NO<sub>x</sub> and 2.04 TPY of PM<sub>10/2.5</sub>.

The following summary combines PTE for some equipment with permitted amounts for other, thus representing maximum possible emissions, rather than authorized or even expected emission amounts.

**Emissions Summary**

EUG	Description	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
		(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)
1	Main Boilers I Nat. Gas	13.86	55.70	7.61	32.31	0.30	0.97	2.31	8.64	1.15	4.02
1	Main Boilers II Diesel	33.72	130.15	4.13	17.01	23.30	87.29	6.21	23.46	0.64	1.97
2A	A Line Painting	--	--	--	--	--	--	13.18	57.72	6.07	26.59
2B	Paint Booths	--	--	--	--	--	--	1.57	10.45	94.9	420
2C	Fugitive	--	--	--	--	--	--	--	--	10.43	45.68
3	Solvent	--	--	--	--	--	--	--	--	4.32	18.91
3B	Sanitizer	--	--	--	--	--	--	--	--	--	13.81
4	Deactivation Furnace	30.34	132.9	0.07	0.31	0.21	0.93	0.002	0.01	0.02	0.06
5A	OB Munitions	--	2.48	--	--	--	0.56	--	71.32	--	0.05
5B	OB - Wood & Diesel	1.27	1.32	16.30	17.00	0.20	0.20	3.08	3.20	5.77	6.00
5C	OB - Solvent	--	--	6.03	0.08	--	--	199.25	2.49	--	--
5D	OD Munitions	--	4.22	--	13.93	--	0.18	--	393.00	--	--
5E	Static Firing	--	--	--	41.5	--	32.0	--	24.40	--	--
6	Explosive Mixing	--	--	--	--	--	--	3.96	17.42	--	--
7	Grit Blasting	--	--	--	--	--	--	12.54	54.93	--	--
8	Thermal Arc Spray	--	--	--	--	--	--	6.91	30.28	--	--
9	Explosive Sifting	--	--	--	--	--	--	7.11	31.16	--	--
10	Explosive Dust	--	--	--	--	--	--	5.55	24.32	--	--
11	Miscellaneous PM	--	--	--	--	--	--	15.0	65.70	--	--
12	Explosive Melt-out	--	--	--	--	--	--	1.14	5.00	--	--
13	Storage Tanks	--	--	--	--	--	--	--	--	--	8.94
14	Engines	255	81.3	56.7	17.4	8.70	2.65	9.14	2.59	21.29	8.53
16	Insignificant Sources	--	0.11	--	3.41	--	<0.01	--	3.48	--	15.24
17	Plasma arc cutters (10)	26.9	64.5	--	--	--	--	2.20	5.27	--	--
<b>TOTAL – (Boilers Nat. Gas)</b>		<b>327.37</b>	<b>342.53</b>	<b>86.71</b>	<b>125.94</b>	<b>9.41</b>	<b>37.49</b>	<b>282.942</b>	<b>811.38</b>	<b>143.95</b>	<b>567.83</b>
<b>TOTAL – (Boilers Diesel)</b>		<b>347.23</b>	<b>416.98</b>	<b>83.23</b>	<b>110.64</b>	<b>32.41</b>	<b>123.81</b>	<b>286.842</b>	<b>826.2</b>	<b>143.44</b>	<b>565.78</b>

**Greenhouse Gas (GHG) Emissions**

Calculating emissions of carbon dioxide equivalents (CO<sub>2e</sub>) using only the PTE for EUG 1 combustion devices and factors from Tables A-1, A-2, C-1, and C-2 of 40 CFR § 98.33 indicates that MCAAP is a major source of GHGs.

**SECTION VII. INSIGNIFICANT ACTIVITIES**

The insignificant activities identified and justified in the application and found in OAC 252:100-8, Appendix I, are listed following. Recordkeeping for activities indicated with an asterisk, “\*”, is listed in the Specific Conditions. Any activity to which a state or federal applicable requirement applies is not insignificant, even if included below.

1. Space heaters, boilers, process heaters, and emergency flares less than or equal to 5 MMBTUH heat input (commercial natural gas). Although numerous boilers have been identified in previous permits, all are now affected sources under NESHAP Subpart DDDDD, and have been moved to the appropriate section of EUG 1.
2. Emissions from stationary internal combustion engines rated less than 50 hp output. Any engines meeting these requirements are now affected sources under NESHAP Subpart ZZZZ, and are treated in EUG 14.
3. \*Emissions from fuel storage/dispensing equipment operated solely for facility owned vehicles if fuel throughput is not more than 2,175 gallons/day, averaged over a 30-day period.
4. \*Storage tanks with less than or equal to 10,000 gallons capacity that store volatile organic liquids with a true vapor pressure less than or equal to 1.0 psia at maximum storage temperature.
5. \*Bulk gasoline or other fuel distribution with a daily average throughput less than 2,175 gallons per day, including dispensing, averaged over a 30-day period.
6. Gasoline and aircraft fuel handling facilities, equipment, and storage tanks except those subject to New Source Performance Standards and standards in 252:100-37-15, 252:100-39-30, 252:100-39-41, and 252:100-39-48.
7. \*Emissions from storage tanks constructed with a capacity less than 39,894 gallons which store VOC with a vapor pressure less than 1.5 psia at maximum storage temperature.
8. Cold degreasing operations utilizing solvents that are denser than air.
9. \*Welding and soldering operations utilizing less than 100 pounds of solder and 53 tons per year of electrodes.
10. Wood chipping operations not associated with the primary process operation.
11. \*Torch cutting and welding of under 200,000 tons of steel fabricated per year.

- 12. Site restoration and/or bioremediation activities of <5 years expected duration. None listed but may be conducted in the future.
- 13. Hydrocarbon-contaminated soil aeration pads utilized for soils excavated at the facility only.
- 14. Emissions from the operation of groundwater remediation wells including but not limited to emissions from venting, pumping, and collecting activities subject to de minimis limits for air toxics (252:100-41-43) and HAPs (§112(b) of CAAA90).
- 15. \*Non-commercial water washing operations and drum crushing operations (less than 2,250 barrels/year) of empty barrels less than or equal to 55 gallons with less than three percent by volume of residual material.
- 16. Hazardous waste and hazardous materials drum staging areas.
- 17. Sanitary sewage collection and treatment facilities other than incinerators and Publicly Owned Treatment Works (POTW). Stacks or vents for sanitary sewer plumbing traps are also included (e.g., lift station).
- 18. Emissions from landfills and land farms unless otherwise regulated by an applicable state or federal regulation.
- 19. Exhaust systems for chemical, paint, and/or solvent storage rooms or cabinets, including hazardous waste satellite (accumulation) areas.
- 20. Hand wiping and spraying of solvents from containers with less than 1 liter capacity used for spot cleaning and/or degreasing in ozone attainment areas. These operations are conducted as part of routine maintenance.
- 21. \*Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant (see instructions in Title V application). The following activities qualify.

Equipment ID	Emission Point ID	Description	Activity	Construction/Modification Date
Various	Various	Asphalt Kettles	Tar lining of bombs/projectiles	Various
E-0042	P-0042F	Waste Water Flare	Combust digester off-gases	1943
E-10301	P-10301	Paint Booth	Painting munitions	2011
E-10302	P-10302	Paint Booth	Painting munitions	2011
E-10401	P-10401	Paint Booth	Painting munitions	2011
None	None	Hoffman Vacuums	Minor cleanup	1990s
E-0020F	P-0020F	Lab Operations	Chemical analysis	1943/1990
E-34425	P-34425	Lab Fume Hood	Explosive testing	1997
E-34426	P-34426	Lab Fume Hood	Explosive testing	1997
E-34427	P-34427	Lab Fume Hood	Explosive testing	1997

**SECTION VIII. OKLAHOMA AIR POLLUTION CONTROL RULES**

OAC 252:100-1 (General Provisions) [Applicable]  
Subchapter 1 includes definitions but there are no regulatory requirements.

OAC 252:100-2 (Incorporation by Reference) [Applicable]  
This subchapter incorporates by reference applicable provisions of Title 40 of the Code of Federal Regulations listed in OAC 252:100, Appendix Q. These requirements are addressed in the “Federal Regulations” section.

OAC 252:100-3 (Air Quality Standards and Increments) [Applicable]  
Subchapter 3 enumerates the primary and secondary ambient air quality standards and the significant deterioration increments. At this time, all of Oklahoma is in “attainment” of these standards.

OAC 252:100-5 (Registration, Emissions Inventory and Annual Operating Fees) [Applicable]  
Subchapter 5 requires sources of air contaminants to register with Air Quality, file emission inventories annually, and pay annual operating fees based upon total annual emissions of regulated pollutants. Emission inventories were submitted and fees paid for previous years as required.

OAC 252:100-8 (Permits for Part 70 Sources) [Applicable]  
Part 5 includes the general administrative requirements for Part 70 permits. Any planned changes in the operation of the facility that result in emissions not authorized in the permit and that exceed the “Insignificant Activities” or “Trivial Activities” thresholds require prior notification to AQD and may require a permit modification. Insignificant activities refer to those individual emission units either listed in Appendix I or whose actual calendar year emissions do not exceed the following limits.

- 5 TPY of any one criteria pollutant
- 2 TPY of any one hazardous air pollutant (HAP) or 5 TPY of multiple HAPs or 20% of any threshold less than 10 TPY for a HAP that the EPA may establish by rule

Emission limitations and operational requirements necessary to assure compliance with all applicable requirements for all sources are taken from the existing operating permit or are developed from the applicable requirement.

OAC 252:100-9 (Excess Emissions Reporting Requirements) [Applicable]  
Except as provided in OAC 252:100-9-7(a)(1), the owner or operator of a source of excess emissions shall notify the Director as soon as possible, but no later than 4:30 p.m. the following working day of the first occurrence of excess emissions in each excess emissions event. No later than (30) calendar days after the start of any excess emission event, the owner or operator of an air contaminant source from which excess emissions have occurred, shall submit a report for each excess emission event describing the extent of the event and the actions taken by the owner or operator of the facility in response to this event. Request for mitigation, as described in OAC 252:100-9-8, shall be included in the excess emission event report. Additional reporting may be required in the case of ongoing emission events and in the case of excess emission reporting required by 40 CFR Parts 60, 61, or 63.

OAC 252:100-13 (Open Burning) [Applicable]  
 Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in this subchapter. The OB/OD range is an approved method for the “elimination of hazards.”

OAC 252:100-17 (Incinerators) [Applicable]  
Part 3 applies to any new and existing incinerator not subject to 40 CFR Part 60, Subparts E, Ea, Eb, Ec, AAAA, CCCC, or EEEE, or Parts 4, 5, 7, 9, or 11 of this subchapter. The incinerator in EUG 4 is not subject to any of the previous listed subparts or parts of this subchapter. The incinerator is therefore subject to Part 3 of this subchapter. The facility has demonstrated compliance with the PM limits of OAC 252:100-17-4 in past CPTs. In accordance with 40 CFR § 63.1209, OPLs have been established to demonstrate continuous compliance with the HWC emission standards. Continued compliance with this subchapter is demonstrated through continued testing and monitoring of OPLs.

Part 11 applies to each individual existing other solid waste incineration (OSWI) unit or air curtain incinerator for which construction was commenced on or before December 9, 2004. However, OAC 252:100-17-93(5)(B) states that units regulated under NESHAP Subpart EEE are excluded from this part. The deactivation furnace in EUG 4 was constructed before December 9, 2004, but is subject to NESHAP Subpart EEE and is exempt from this part.

OAC 252:100-19 (Particulate Matter (PM)) [Applicable]  
 Section 19-4 regulates emissions of PM from new and existing fuel-burning equipment, with emission limits based on maximum design heat input rating. Appendix C specifies a PM emission limitation of 0.60 lb/MMBTU for all equipment with a heat input rating of 10 MMBTUH or less. For heat input greater than 10 MMBTUH and less than 1,000 MMBTUH, the allowable emission rate E for heat input X (in MMBTUH) is determined from  $E = 1.042808 X^{-0.238561}$  as defined in OAC 252:100 Appendix C.

Equipment ID	Heat Input MMBTUH	Fuel Type	PM Emissions in lb/MMBTU	
			Expected	Allowable
E-001	2.24	Gas	0.0075	0.600
E-002A	0.5	Gas	0.0075	0.600
E-002B	0.5	Gas	0.0075	0.600
E-003A	0.5	Gas	0.0075	0.600
E-003B	0.5	Gas	0.0075	0.600
E-004	0.54	Gas	0.0075	0.600
E-005	0.12	Gas	0.0075	0.600
E-006	1.44	Gas	0.0075	0.600
E-008	0.216	Gas	0.0075	0.600
E-009	1.62	Oil	0.0214	0.600
E-014	3.348	Gas-Oil	0.0214	0.600
E-017	6.1	Gas-Oil	0.0214	0.600
E-018	6.1	Gas-Oil	0.0214	0.600
E-021	10.463	Gas-Oil	0.0214	0.596
E-022	10.463	Gas-Oil	0.0214	0.596
E-025	10.461	Gas-Oil	0.0214	0.596
E-026	10.461	Gas-Oil	0.0214	0.596
E-036	1.25	Gas-Oil	0.0214	0.600
E-037	1.26	Gas-Oil	0.0214	0.600
E-038	1.26	Gas-Oil	0.0214	0.600

Equipment ID	Heat Input MMBTUH	Fuel Type	PM Emissions in lb/MMBTU	
			Expected	Allowable
E-039	0.75	Gas	0.0075	0.600
E-039A	0.75	Gas	0.0075	0.600
E-036A	0.399	Gas	0.0075	0.600
E-036B	0.399	Gas	0.0075	0.600
E-054	0.85	Gas	0.0075	0.600
E-055	1.22	Gas	0.0075	0.600
E-040	8.165	Gas-Oil	0.0250	0.600
E-041	8.165	Gas-Oil	0.0250	0.600
E-042	14.645	Gas-Oil	0.0214	0.550
E-043	14.645	Gas-Oil	0.0214	0.550
E-044	14.645	Gas-Oil	0.0214	0.550
E-045	14.645	Gas-Oil	0.0214	0.550
E-046	20.925	Gas-Oil	0.0214	0.505
E-047	20.925	Gas-Oil	0.0214	0.505
E-048	12.247	Gas-Oil	0.0140	0.577
E-049	12.247	Gas-Oil	0.0140	0.577
E-050	14.287	Gas-Oil	0.0250	0.553
E-051	14.287	Gas-Oil	0.0250	0.553
E-052	14.287	Gas-Oil	0.0250	0.553
E-053	14.287	Gas-Oil	0.0250	0.553
TEMP	10.04	Gas	0.0075	0.600

Section 19-12 limits emissions of industrial processes based upon their process weight rates. The emission rate in pounds per hour (E) is not to exceed the rate calculated using the process weight rate in tons per hour (P), for process rates up to 60,000 lb/hr using the formula in Appendix G ( $E = 4.10 \times P^{0.67}$ ) and for process rates over 60,000 lb/hr ( $E = 55 \times P^{0.11} - 40$ ). The following table lists the process weight rates and the allowable emissions for each process.

Emission Point ID	Process Weight Rate (tons/hr)	PM Emissions (lb/hr)	
		Expected	Allowable
P-39786	13	0.17	22.863
P-33205	13	0.77	22.863
P-32650	13	0.75	22.863
P-19584	13	0.19	22.863
P-19563	13	0.19	22.863
P-14202	13	0.15	22.863
P-19200	13	0.41	22.863
P-48509	13	0.90	22.863
P-34302	13	0.08	22.863
P-455GB	13	0.71	22.863
P-0419GB	13	0.34	22.863
P-17501	13	1.54	22.863
P-19001	13	0.57	22.863
P-19002	13	0.02	22.863
P-190WTAS	13	5.63	22.863
P-A95024	13	0.81	22.863
P-198GB	13	6.40	22.863
P-03550	13	0.13	22.863
P-4T0901	13	0.82	22.863
P-48GRIT	13	0.77	22.863
P-455TAS	13	0.34	22.863



Emission Point ID	Process Weight Rate (tons/hr)	PM Emissions (lb/hr)	
		Expected	Allowable
P-175TAS	13	1.70	22.863
P-190TAS	13	1.70	22.863
P-48TAS	13	1.88	22.863
P-31888	13	0.62	22.863
P-31889	13	0.62	22.863
P-01060	13	0.22	22.863
P-179SIF	13	0.98	22.863
P-01055	13	0.77	22.863
P-09484	13	0.77	22.863
P-0140B	13	2.76	22.863
P-39453	13	0.13	22.863
P-31652	13	0.64	22.863
P-40824	0.5	1.50	2.577
P-31600	0.5	0.57	2.577
P-19259	0.5	0.57	2.577
P-0009C	0.5	1.29	2.577
P-637/760L	2	6.35	6.523
P-637/760S	2	0.64	6.523
Melt Out	2.40	1.14	7.371
P-17662	1043	3.44	22.863

The facility maintains process and/or particulate control devices such that the PM emissions are well within the allowable for the process weight of materials.

OAC 252:100-25 (Visible Emissions and Particulates) [Applicable]

No discharge of greater than 20% opacity is allowed except for short-term occurrences that consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity. The facility fuel-burning equipment is maintained properly to ensure that normal operation results in zero opacity. PM emitting sources are controlled by various PM control devices, so that normal operation results in zero opacity. OB/OD/Static firing operations take less than the six-minute averaging period and thus will also meet these restrictions. A unit subject to a federal standard opacity limit is not subject to Subchapter 25.

OAC 252:100-29 (Fugitive Dust) [Applicable]

Subchapter 29 prohibits the handling, transportation, or disposition of any substance likely to become airborne or windborne without taking “reasonable precautions” to minimize emissions of fugitive dust. No person shall cause or permit the discharge of any visible fugitive dust emissions beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of adjacent properties, or cause air quality standards to be exceeded, or to interfere with the maintenance of air quality standards. Under normal operating conditions, this facility will not cause a problem in this area due to the size of the facility and the distance to surrounding boundaries. Therefore, it is not necessary to require specific precautions be taken.

OAC 252:100-31 (Sulfur Compounds) [Applicable]

Part 2 limits the ambient air impact of hydrogen sulfide (H<sub>2</sub>S) emissions from any new or existing source to 0.2 ppmv (24-hour average) which is equivalent to 283 µg/m<sup>3</sup>. Fuel-burning equipment fired with commercial natural gas will not have the potential to exceed the H<sub>2</sub>S ambient air

concentration limit. No other units have H<sub>2</sub>S emissions and the facility is expected to be in compliance with the ambient standard.

Part 5 limits sulfur dioxide emissions from new equipment (constructed after July 1, 1972). All of the generator engines and all but a few of the boilers at the facility are “new.” For gaseous fuels, the limit is 0.2 lbs/MMBTU heat input; and for liquid fuels, the limit is 0.8 lbs/MMBTU. AP-42 (10/96) lists SO<sub>2</sub> emissions from diesel-powered engines at 0.29 lb/MMBTU. Table 1.4-2 of AP-42 (7/98) lists SO<sub>2</sub> emissions at 0.0006 lb/MMBTU for natural gas fuel and Table 1.3-1 of AP-42 (5/10) lists SO<sub>2</sub> emissions at 0.007 lb/MMBTU for diesel fuel. The permit requires the use of commercial pipeline-grade natural gas or No. 2 diesel with a sulfur content of less than or equal to 0.05% wt for all fuel-burning equipment to ensure compliance with Subchapter 31.

OAC 252:100-33 (Nitrogen Oxides)

[Not Applicable]

This subchapter limits new gas-fired and liquid-fired fuel-burning equipment with rated heat input greater than or equal to 50 MMBTUH to emissions of 0.20 and 0.30 lbs (respectively) of NO<sub>x</sub> per MMBTU, three-hour average. There are no equipment items that exceed the 50 MMBTUH threshold.

OAC 252:100-35 (Carbon Monoxide)

[Not Applicable]

This subchapter affects gray iron cupolas, blast furnaces, basic oxygen furnaces, petroleum catalytic cracking units, and petroleum catalytic reforming units. There are no affected sources.

OAC 252:100-37 (Volatile Organic Compounds)

[Applicable]

Part 3 requires storage tanks constructed after December 28, 1974, with a capacity of 400 gallons or more and storing a VOC with a vapor pressure greater than 1.5 psia to be equipped with a permanent submerged fill pipe or with an organic vapor recovery system. Most facility gasoline storage tanks were constructed in 1971. The 12,000-gallon gasoline storage tank is subject. All other tanks store diesel or heavy oil with a vapor pressure less than 1.5 psia.

Part 3 requires loading facilities with a throughput equal to or less than 40,000 gallons per day to be equipped with a system for submerged filling of tank trucks or trailers if the capacity of the vehicle is greater than 200 gallons. This facility does not load vehicles with a capacity greater than 200 gallons. Therefore, this requirement is not applicable.

Part 5 limits the VOC content of alkyd primer, epoxy, and maintenance finish coatings to 4.8 lbs/gallon, vinyl and acrylic coatings to 6.0 lbs/gallon, lacquers to 6.4 lbs/gallon, and custom product finishes to 6.5 lbs/gallon less water. The permit requires all coatings to comply with the solvent limitations including solvents used to cleanup any article, machine, or equipment used in applying coatings.

Part 5 requires all emissions of VOC from the cleanup of any article, machine, or equipment used in applying coatings to be included when determining compliance with the above stated solvent limitations and emission limits. All solvent usage not incorporated into the coatings as they are applied is averaged over coating usage and all coatings still comply with the VOC limitations.

Part 7 requires fuel-burning equipment to be operated and maintained to minimize emissions of VOC. The equipment at this location is subject to this requirement.

Part 7 requires effluent water separators which receive water containing more than 200 gallons per day of any VOC to be equipped with vapor control devices. The small separators do not receive more than 200 gallons of any VOC.

OAC 252:100-42 (Control of Toxic Air Contaminants (TAC)) [Applicable]  
 This subchapter regulates toxic air contaminants (TAC) that are emitted into the ambient air in areas of concern (AOC). Any work practice, material substitution, or control equipment required by the Department prior to June 11, 2004, to control a TAC, shall be retained unless a modification is approved by the Director. Since no AOC has been designated anywhere in the state, there are no specific requirements for this facility at this time.

OAC 252:100-43 (Sampling and Testing Methods) [Applicable]  
 This subchapter provides general requirements for testing, monitoring and recordkeeping and applies to any testing, monitoring or recordkeeping activity conducted at any stationary source. To determine compliance with emissions limitations or standards, the Air Quality Director may require the owner or operator of any source in the state of Oklahoma to install, maintain and operate monitoring equipment or to conduct tests, including stack tests, of the air contaminant source. All required testing must be conducted by methods approved by the Air Quality Director and under the direction of qualified personnel. A notice-of-intent to test and a testing protocol shall be submitted to Air Quality at least 30 days prior to any EPA Reference Method stack tests. Emissions and other data required to demonstrate compliance with any federal or state emission limit or standard, or any requirement set forth in a valid permit shall be recorded, maintained, and submitted as required by this subchapter, an applicable rule, or permit requirement. Data from any required testing or monitoring not conducted in accordance with the provisions of this subchapter shall be considered invalid. Nothing shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

**The following Oklahoma Air Quality Rules are not applicable to this facility.**

OAC 252:100-7	Minor Source	not in source category
OAC 252:100-11	Alternative Emissions Reduction	not requested
OAC 252:100-23	Cotton Gins	not type of emission unit
OAC 252:100-24	Grain Elevators	not in source category
OAC 252:100-39	VOC in Non-Attainment Areas	not in source category
OAC 252:100-47	Landfills	not type of source category

**SECTION IX. FEDERAL REGULATIONS**

PSD, 40 CFR Part 52 [Not Applicable]  
 The facility has emissions of NO<sub>2</sub>, PM<sub>10</sub>, and VOC in excess of 250 TPY and is a major stationary source. Any future emission increases must be evaluated for PSD if they exceed a significance level (100 TPY CO, 40 TPY NO<sub>x</sub>, 40 TPY SO<sub>2</sub>, 40 TPY VOC, 25 TPY PM, 15 TPY PM<sub>10</sub>, 0.6 TPY lead, and 75,000 TPY CO<sub>2e</sub>).

NSPS, 40 CFR Part 60 [Subparts Dc & IIII Applicable]  
Subpart D (Fossil Fuel Fired Steam Generators) affects steam generating units (boilers) with a rated heat input greater than 250 MMBTUH that commenced construction, reconstruction, or modification after August 17, 1971. All boilers are rated at less than 250 MMBTUH, so none are affected.

Subpart Db (Industrial-Commercial-Institutional Steam Generating Units) affects boilers with a rated heat input above 100 MMBTUH that commenced construction, reconstruction, or modification after June 19, 1984. All boilers are rated at less than 100 MMBTUH, so none is affected.

Subpart Dc, (Small Industrial-Commercial-Institutional Steam Generating Units) affects steam generating units constructed after June 9, 1989, and with capacity between 10 and 100 MMBTUH. Except for the twelve Cleaver-Brooks boilers (E-042 thru E-053) constructed in 2015 and 2017, all boilers rated greater than 10 MMBTUH were constructed prior to June 9, 1989. These twelve units are subject to 30-day rolling average SO<sub>2</sub> limits when combusting oil. Compliance may be demonstrated through supplier's certification of the fuel.

Subpart K, (Volatile Organic Liquid (VOL) Storage Vessels) regulates hydrocarbon storage tanks larger than 40,000 gallons capacity and commenced after June 11, 1973, and prior to May 19, 1978. Tank 672 (the only tank above the size threshold) was constructed in 1971, prior to the effective date.

Subpart Ka, (VOL Storage Vessels) regulates hydrocarbon storage tanks larger than 40,000 gallons capacity and commenced after May 18, 1978, and prior to July 23, 1984. Twelve tanks were constructed during this period, but none has a capacity of 40,000 gallons or greater, so no tank is an affected facility.

Subpart Kb, (VOL Storage Vessels) regulates hydrocarbon storage tanks larger than 19,813 gallons capacity and built after July 23, 1984. Four tanks were constructed after July 1984, but none has a capacity equal to or exceeding the threshold volume, so there are no affected facilities.

Subpart VVa, (Equipment Leaks of VOC in the Synthetic Organic Chemical Manufacturing Industry) affects equipment constructed, reconstructed or modified after November 7, 2006. This facility is not manufacturing any chemicals.

Subpart IIII (Stationary Compression Ignition Internal Combustion Engines) affects stationary CI ICE that commence construction after July 11, 2005, that are manufactured after April 1, 2006, that are not fire pump engines or that modify or reconstruct their stationary CI ICE after July 11, 2005. Most of the engines at the facility were constructed before the earliest date of any applicable section of this subpart and are not affected. Eight of the emergency generators at MCAAP are "new" engines subject to this subpart.

The Cummins engines and the John Deere engines are associated with emergency generators and are affected under 40 CFR §60.4200(a)(2)(i). Fuel requirements are found in §60.4207. The new engines are currently subject to §60.4207(b), which states that the diesel fuel must meet the requirements of 40 CFR §80.510(b). Certification that the engines meet the emission standards for new marine CI engines in 40 CFR §89.112, per §60.4202(a)(2), is required by §60.4205(b). Operating and maintenance provisions are described in §60.4211. An initial notification is not needed for emergency stationary internal combustion engines, per §60.4214(b). The 279-hp FPT Industrial HFPXL06.7DGS emergency generator is subject to this subpart.

NESHAP, 40 CFR Part 61

[Not Applicable]

There are no emissions of any of the regulated pollutants: arsenic, asbestos, benzene, beryllium, coke oven emissions, mercury, radionuclides, or vinyl chloride [except for trace amounts of benzene, mercury, beryllium, and arsenic].

NESHAP, 40 CFR Part 63 [Subparts EEE, ZZZZ, and DDDDD Applicable]  
Subpart EEE (Hazardous Waste Combustor) affects operations and emissions of the Deactivation Furnace. The source is subject to testing, recordkeeping and work practice requirements. An extensive review of these requirements was presented in the Section II discussion of EUG 4.

Subpart MMMM (Surface Coating of Miscellaneous Metal Parts & Products) exempts United States military facilities.

Subpart ZZZZ (Reciprocating Internal Combustion Engines (RICE)) affects new and existing engines at major and area sources. There are eight engines that are classified as “new” under §63.6590(a)(2) of this subpart. As emergency engines, they are exempt from all requirements of the subpart but initial notification, per §63.6600(c). These engines are required to comply with NSPS Subpart IIII. All other engines are “existing” engines, for which §63.6602 shows that emission limits and operating and maintenance requirements are listed in Table 2c. Fuel requirements for all CI engines rated at more than 100 hp are found in §63.6604, and became effective January 1, 2015. General monitoring requirements for these engines are found in §63.6625(e), while (f) requires that each have a non-resettable hour meter. §63.6625(i) and (j) offer alternatives to certain conditions contained in Table 2c. Table 6 displays requirements for demonstrating continuous compliance. Application for this permit satisfies the notification required by §63.6645. Recordkeeping requirements are addressed in §63.6655. Operations of emergency engines are limited to those occasions when electric power from the local utility is interrupted plus 50 hours per year in non-emergency situations. If any of these generators is used beyond the restrictions for “emergency” use, MCAAP must comply with the applicable requirements.

Subpart DDDDD, (Industrial, Commercial and Institutional Boilers and Process Heaters). On January 31, 2013, the EPA took final action on its reconsideration of certain issues in the emission standards for the control of HAP from industrial, commercial, and institutional boilers and process heaters at major sources of HAP. The compliance dates for the rule are January 31, 2016, for existing sources and, January 31, 2013, or upon startup, whichever is later, for new sources. A boiler or process heater is new or reconstructed if construction or reconstruction of the boiler or process heater commenced on or after June 4, 2010.

Most of the affected sources at the facility are considered units designed to burn gas 1 fuels. *Unit(s) designed to burn gas 1 subcategory* includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory must conduct tune-ups as a work practice for all regulated emissions under Subpart DDDDD as indicated:

<b>Heat Input Capacity</b>	<b>Tune-up</b>
≤ 5 MMBTUH	Every 5 years
> 5 MMBTUH < 10 MMBTUH	Every 2 years
> 10 MMBTUH Without O <sub>2</sub> Trim System	Annually
> 10 MMBTUH With O <sub>2</sub> Trim System	Every 5 years
Limited Use	Every 5 years

Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of Subpart DDDDD, or the operating limits

in Table 4 of Subpart DDDDD. All applicable requirements have been incorporated into the permit.

Subpart XXXXXX, (Nine Metal Fabrication and Finishing Source Categories) affects area sources that are primarily engaged in the operations in one of the nine source categories listed below:

- (1) Electrical and Electronic Equipment Finishing Operations;
- (2) Fabricated Metal Products;
- (3) Fabricated Plate Works (Boiler Shops);
- (4) Fabricated Structural Metal Manufacturing;
- (5) Heating Equipment, except Electric;
- (6) Industrial Machinery and Equipment Finishing Operations;
- (7) Iron and Steel Forging;
- (8) Primary Metal Products Manufacturing; and
- (9) Valves and Pipe Fittings.

This facility is not one of the affected source categories and is also not an area source of HAP.

Defense Land Systems and Miscellaneous Equipment (Military MACT) may potentially be applicable, but has not been proposed as of 2020.

CAM, 40 CFR Part 64

[Applicable]

Compliance Assurance Monitoring (CAM), as published in the Federal Register on October 22, 1997, applies to any pollutant specific emission unit at a major source that is required to obtain a Title V permit, if it meets all of the following criteria.

- It is subject to an emission limit or standard for an applicable regulated air pollutant
- It uses a control device to achieve compliance with the applicable emission limit or standard
- It has potential emissions, prior to the control device, greater than major source levels for the applicable regulated air pollutant.

The Deactivation Furnace has a control device that controls HAP emissions. Units subject to a MACT for HAP emissions are exempt from CAM for those pollutants. Criteria pollutant emissions from the Deactivation Furnace are exempt because they do not meet the criteria of CAM; no control device is used to achieve compliance with a standard or applicable limit for which emissions are greater than major source levels. Therefore, the Deactivation Furnace is exempt from CAM.

Numerous activities in EUGs 7, 8, 9, 10, and 11 meet the three criteria, and are subject to CAM effective with the TVR permit, issued March 17, 2015. A Specific Condition addresses CAM.

Chemical Accident Prevention Provisions, 40 CFR Part 68

[Not Applicable]

This facility does not process or store more than the threshold quantity of any regulated substance (Section 112r of the Clean Air Act 1990 Amendments). More information on this federal program is available on the web page: [www.epa.gov/rmp](http://www.epa.gov/rmp).

Stratospheric Ozone Protection, 40 CFR Part 82

[Subpart A and F Applicable]

These standards require phase out of Class I & II substances, reductions of emissions of Class I & II substances to the lowest achievable level in all use sectors, and banning use of nonessential products containing ozone-depleting substances (Subparts A & C); control servicing of motor vehicle air conditioners (Subpart B); require Federal agencies to adopt procurement regulations which meet phase out requirements and which maximize the substitution of safe alternatives to Class I and Class II substances (Subpart D); require warning labels on products made with or containing Class I or II substances (Subpart E); maximize the use of recycling and recovery upon disposal (Subpart F); require producers to identify substitutes for ozone-depleting compounds under the Significant New Alternatives Program (Subpart G); and reduce the emissions of halons (Subpart H).

Subpart A identifies ozone-depleting substances and divides them into two classes. Class I controlled substances are divided into seven groups; the chemicals typically used by the manufacturing industry include carbon tetrachloride (Class I, Group IV) and methyl chloroform (Class I, Group V). A complete phase-out of production of Class I substances is required by January 1, 2000 (January 1, 2002, for methyl chloroform). Class II chemicals, which are hydrochlorofluorocarbons (HCFCs), are generally seen as interim substitutes for Class I CFCs. Class II substances consist of 33 HCFCs. A complete phase-out of Class II substances, scheduled in phases starting by 2002, is required by January 1, 2030. This facility does not utilize any Class I & II substances.

Subpart F requires that any persons servicing, maintaining, or repairing appliances except for motor vehicle air conditioners; persons disposing of appliances, including motor vehicle air conditioners; refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment comply with the standards for recycling and emissions reduction.

The Standard Conditions of the permit address the requirements specified at §82.156 for persons opening appliances for maintenance, service, repair, or disposal; §82.158 for equipment used during the maintenance, service, repair, or disposal of appliances; §82.161 for certification by an approved technician certification program of persons performing maintenance, service, repair, or disposal of appliances; §82.166 for recordkeeping; § 82.158 for leak repair requirements; and §82.166 for refrigerant purchase records for appliances normally containing 50 or more pounds of refrigerant.

## **SECTION X. COMPLIANCE**

### **Inspection**

A Full Compliance Evaluation was performed by DEQ Environmental Specialists, Michael Provence, Allie Foster, and Matt Webb on April 4, 2019. Leah Thomas and Darrell Elliott were present for the facility. Small issues of noncompliance were observed but no violations were noted.

## **SECTION XI. TIER CLASSIFICATION, PUBLIC AND EPA REVIEW**

### **Tier Classification and Public Review**

This application has been determined to be a Tier II, based on the request for a permit renewal for an existing major source.

The applicant has submitted an affidavit that they are not seeking a permit for land use or for any operation upon land owned by others without their knowledge. The affidavit certifies that the applicant owns the real property.

The applicant has submitted a “Notice of Filing a Tier II Application” in the *McAlester News-Capital* in Pittsburg County on October 3, 2019. The notice stated that the application was available for public review at a Public Library and the DEQ office in Oklahoma City.

The applicant will also publish a “Notice of Tier II Draft Permit” in a local newspaper in Pittsburg County where the facility is located. The notice will state that the draft permit will be available for public review at on the DEQ website or the DEQ office in Oklahoma City.

The proposed permit will be sent to EPA Region VI for a 45-day review. Information on all permit actions is available for review by the public in the Air Quality section of the DEQ Web page at <https://www.deq.ok.gov>. This site is not within 50 miles of the Oklahoma border.

If the Administrator does not object in writing during the 45-day EPA review period, any person that meets the requirements of this subsection may petition the Administrator within 60 days after the expiration of the Administrator's 45-day review period to make such objection. Any such petition shall be based only on objections to the permit that the petitioner raised with reasonable specificity during the public comment period provided for in 27A O.S. § 2-14-302.A.2., unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period. If the Administrator objects to the permit as a result of a petition filed under this subsection, the DEQ shall not issue the permit until EPA's objection has been resolved, except that a petition for review does not stay the effectiveness of a permit or its requirements if the permit was issued after the end of the 45-day review period and prior to an EPA objection. If the DEQ has issued a permit prior to receipt of an EPA objection under this subsection, the DEQ will modify, terminate, or revoke such permit, and shall do so consistent with the procedures in 40 CFR §§ 70.7(g)(4) or (5)(i) and (ii) except in unusual circumstances. If the DEQ revokes the permit, it may thereafter issue only a revised permit that satisfies EPA's objection. In any case, the source will not be in violation of the requirement to have submitted a timely and complete application.

**Fee Paid**

Part 70 renewal permit application fee of \$7,500 is still owed.

**SECTION XII. SUMMARY**

This facility was constructed as described in the permit application. There are no active Air Quality compliance or enforcement issues that would affect the issuance of this permit. Issuance of the renewal Title V operating permit modification is recommended, contingent on public and EPA review.



**PERMIT TO OPERATE  
AIR POLLUTION CONTROL FACILITY  
SPECIFIC CONDITIONS**

**McAlester Army Ammunition Plant  
Ammunition Manufacturing Plant**

**Permit No. 2019-0987-TVR2**

The permittee is authorized to operate in conformity with the specifications submitted to Air Quality Division on September 6, 2019. The Evaluation Memorandum dated October 21, 2020, explains the derivation of applicable permit requirements and estimates of emissions; however, it does not contain operating limitations or permit requirements. Continuing operation under this permit constitutes acceptance of and consent to the conditions contained herein.

1. Points of emissions and emission limitations for each point. [OAC 252:100-8-6(a)]

**EUG 1 Boilers**

- a) The boilers are subject to NESHAP Subpart DDDDD shall comply with all applicable provisions, including but not limited to [40 CFR Part 63, Subpart DDDDD]
- i. Emission Limits and Work Practice Standards [40 CFR §63.7499 and §63.7500]
  - ii. General Compliance Requirements [40 CFR §63.7505]
  - iii. Testing, Fuel Analyses, and Initial Compliance Requirements [40 CFR §63.7510 to 63.7533]
  - iv. Continuous Compliance Requirements [40 CFR §§63.7535 to 63.7541]
  - v. Notification, Reports, and Records [40 CFR §§63.7545 to 63.7560]
  - vi. Other Requirements and Information [40 CFR §§63.7565 to 63.7575]
- b) Facility boilers may burn commercial grade natural gas or No. 2 low sulfur diesel (<0.05%wS). [OAC 252:100-31-25]

**EUG 1G Grandfathered/Insignificant Boilers**

These units are limited to the existing equipment as it is.

<b>Equip. ID</b>	<b>Point ID</b>	<b>Manufacturer</b>	<b>Heat Input MMBTUH</b>	<b>National Board #</b>	<b>Model No.</b>	<b>Serial No.</b>	<b>Construction/Mod. Date</b>
E-001	P-001	FIA <sup>1</sup>	2.24	N/A	N/A	N/A	1971 <sup>3</sup>
E-002A	P-002A	Lochnivar <sup>1,2</sup>	0.5	328735	PBN0502	1837111851270	2018
E-002B	P-002B	Lochnivar <sup>1,2</sup>	0.5	328733	PBN0502	1837111851267	2018
E-003A	P-003A	Lochnivar <sup>1,2</sup>	0.50	328734	PBN0502	1837111851269	2018
E-003B	P-003B	Lochnivar <sup>1,2</sup>	0.50	328736	PBN0502	1837111851268	2018
E-004	P-004	FIA <sup>1,2</sup>	0.54	N/A	N/A	N/A	1971 <sup>3</sup>
E-005	P-005	FIA <sup>1,2</sup>	0.12	N/A	N/A	N/A	2016
E-006	P-006	FIA <sup>1,2</sup>	1.44	N/A	N/A	N/A	1943 <sup>3</sup>
E-008	P-008	FIA <sup>1,2</sup>	0.216	N/A	N/A	N/A	1942 <sup>3</sup>
E-014	P-013	FIA <sup>1</sup>	3.348	N/A	N/A	N/A	1942 <sup>3</sup>
E-025	P-019A	Cleaver Brooks	10.461	27441	CB 200-250	L-54363	1972
E-026	P-019B	Cleaver Brooks	10.461	27352	CB 200-250	L-54362	1972
E-036	P-023	RBI <sup>1,2</sup>	1.25	29976	CB 1250	051261819	2012
E-037	P-024	Williams & Davis <sup>1</sup>	1.26	N/A	780	6939	1991

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Construction/Mod. Date
E-038	P-025	Williams & Davis <sup>1</sup>	1.26	N/A	780	6941	1991
E-039	P-039	RITE <sup>1,2</sup>	0.75	12038	76 WG	26266	1997/2018
E-039A	P-039A	RITE <sup>1,2</sup>	0.75	12037	76 WG	26265	1997/2018
E-036A	P-036A	Lochnivar <sup>1,2</sup>	0.399	N/A	KBN399	C10H10131171	2007
E-036B	P-036B	Lochnivar <sup>1,2</sup>	0.399	N/A	KBN399	C10H10128674	2007
E-054	P-054	RITE <sup>1,2</sup>	0.85	16081	85 WE	30309	2007
E-055	E-055	RAYPAK <sup>1,2</sup>	1.22	202656	H3-1223	0212202656	Unknown

<sup>1</sup>FIA = Formerly Insignificant Activities; <sup>2</sup>Unit is a hot water boiler below 1.6 MMBTUH and is not subject to NESHAP Subpart DDDDD; <sup>3</sup>Currently out of service or non-operational.

### EUG 1P Permitted Boilers

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Const./Mod. Date
E-017	P-015A	York-Shipley	6.1	14458	SPHC-150-N2 95872	74-8455H-60612	1974
E-018	P-015B	York-Shipley	6.1	14459	SPHC-150-N2 95872	74-8455H-60612	1974
E-021	P-017A	Kewanee Boiler	10.463	26629	H2S-250-GO	P-3430	1975
E-022	P-017B	Kewanee Boiler	10.463	26628	H2S-250-GO	P-3429	1975
E-040	P-040	Cleaver Brooks	8.165	19712	CBEX Elite-200-200-150ST	T5334-1-2	2016
E-041	P-041	Cleaver Brooks	8.165	19709	CBEX Elite-200-200-150ST	T5334-1-1	2016
TEMP	TEMP	Abco	10.04	2425	NA	8651	1987

### Limits for EUG 1P Boilers Scenario I – Natural Gas

Equipment ID	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY
E-017	0.49	2.16	0.41	1.81	0.00	0.01	0.04	0.16	0.03	0.12
E-018	0.49	2.16	0.41	1.81	0.00	0.01	0.04	0.16	0.03	0.12
E-021	0.82	3.59	0.69	3.02	0.00	0.02	0.06	0.27	0.05	0.20
E-022	0.82	3.59	0.69	3.02	0.00	0.02	0.06	0.27	0.05	0.20
E-040	0.29	1.28	0.06	0.28	0.01	0.04	0.08	0.37	0.03	0.12
E-041	0.29	1.28	0.06	0.28	0.01	0.04	0.08	0.37	0.03	0.12
TEMP	0.98	4.29	0.82	3.60	0.01	0.03	0.08	0.33	0.05	0.24

### Limits for EUG 1P Boilers Scenario II – No. 2 Fuel Oil

Equipment ID	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY
E-017	0.87	3.82	0.22	0.96	0.31	1.36	0.13	0.57	0.01	0.04
E-018	0.87	3.82	0.22	0.96	0.31	1.36	0.13	0.57	0.01	0.04
E-021	1.50	6.55	0.37	1.64	0.53	2.32	0.22	0.98	0.02	0.07
E-022	1.50	6.55	0.37	1.64	0.53	2.32	0.22	0.98	0.02	0.07
E-040	1.00	4.39	0.07	0.29	0.84	3.66	0.21	0.92	0.03	0.12
E-041	1.00	4.39	0.07	0.29	0.84	3.66	0.21	0.92	0.03	0.12

### EUG 1N NSPS Boilers

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Construction/Mod. Date
E-042	P-042	Cleaver Brooks	14.287	19416	CBEX200-350-150ST	T5096-1-1	2015
E-043	P-043	Cleaver Brooks	14.287	19429	CBEX200-350-150ST	T5096-1-4	2015

Equip. ID	Point ID	Manufacturer	Heat Input MMBTUH	National Board #	Model No.	Serial No.	Construction/Mod. Date
E-044	P-044	Cleaver Brooks	14.287	19419	CBEX200-350-150ST	T5096-1-3	2015
E-045	P-045	Cleaver Brooks	14.287	19426	CBEX200-350-150ST	T5096-1-2	2015
E-046	P-046	Cleaver Brooks	20.410	19439	CBEX200-500-150ST	T5096-2-1	2015
E-047	P-047	Cleaver Brooks	20.410	19445	CBEX200-500-150ST	T5096-2-2	2015
E-048	P-048	Cleaver Brooks	12.247	20128	CBEX200-300-150ST	T5902-1-1	2017
E-049	P-049	Cleaver Brooks	12.247	20129	CBEX200-300-150ST	T-5902-1-2	2017
E-050	P-050	Cleaver Brooks	14.287	20267	CBEX200-350-150ST	T-6075-1-1	2017
E-051	P-051	Cleaver Brooks	14.287	20271	CBEX200-350-150ST	T-6075-1-2	2017
E-052	P-052	Cleaver Brooks	14.287	20254	CBEX200-350-150ST	T6076-1-1	2017
E-053	P-053	Cleaver Brooks	14.287	20256	CBEX200-350-150ST	T6076-1-2	2017

**Limits for EUG 1N Boilers Scenario I – Natural Gas**

Equipment ID	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY
E-042	0.50	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-043	0.50	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-044	0.50	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-045	0.50	1.44	0.11	0.31	0.01	0.04	0.14	0.41	0.05	0.13
E-046	0.71	2.06	0.15	0.44	0.02	0.06	0.20	0.59	0.07	0.19
E-047	0.71	2.06	0.15	0.44	0.02	0.06	0.20	0.59	0.07	0.19
E-048	0.43	1.88	0.22	0.97	0.01	0.05	0.02	0.11	0.04	0.19
E-049	0.43	1.88	0.22	0.97	0.01	0.05	0.02	0.11	0.04	0.19
E-050	0.50	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.20
E-051	0.50	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.20
E-052	0.50	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.20
E-053	0.50	2.19	0.11	0.47	0.01	0.06	0.14	0.63	0.05	0.20

**Limits for EUG 1N Boilers Scenario II – No. 2 Fuel Oil**

Equipment ID	NO <sub>x</sub>		CO		SO <sub>2</sub>		PM/PM <sub>10</sub>		VOC	
	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY	Lb/hr	TPY
E-042	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-043	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-044	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-045	1.71	4.94	0.11	0.33	1.43	4.11	0.36	1.03	0.03	0.08
E-046	2.45	7.05	0.16	0.47	2.04	5.88	0.51	1.47	0.04	0.12
E-047	2.45	7.05	0.16	0.47	2.04	5.88	0.51	1.47	0.04	0.12
E-048	1.41	6.17	0.10	0.43	1.22	5.36	0.17	0.75	0.02	0.11
E-049	1.41	6.17	0.10	0.43	1.22	5.36	0.17	0.75	0.02	0.11
E-050	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
E-051	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
E-052	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13
E-053	1.71	7.51	0.11	0.50	1.43	6.26	0.36	1.56	0.03	0.13

- a) The 1N boilers are subject to NSPS Subpart Dc and shall comply with all applicable standards including but not limited to the following.
  - i. Standards for sulfur dioxide [40 CFR §60.42c]
  - ii. Recording sulfur content of fuel deliveries instead of CEMS [40 CFR §60.46c]
  - iii. Reporting and recordkeeping [40 CFR §60.48c]

**EUG 2B Permitted Coating Booths**

Equipment ID	Emission Point ID	VOC Emission Rate	
		lb/hr	TPY
E-20569, E-20570	P-190PB	3.67	16.1
E-2503500, E-20571	P-2503500, P-190WPB	2.40	10.51
E-01101	P-01101	1.35	1.4
E-08128	P-08128	16.0	69.5
E-47757	P-47757	9.62	42.1
E-49224	P-49224	0.60	2.62
E-40093	P-40093	9.62	10.0
E-31679	P-31679	5.43	23.8
E-14201	P-14201	0.60	2.63
E-45619	P-45619	4.32	18.9
E-45619	P-45619		
E-19801	P-19801	7.38	32.3
E-19802	P-19802		
E-19803	P-19803		
E-44482	P-44482	9.60	42.1
E-419F	P-419F	0.37	1.64
E-11399	P-11399	0.31	1.37
E-17622	P-17622	---	3.57

- a) Dry mesh filters shall be used in the paint booths to control PM emissions. Alternative pollution control devices may be used provided that the emissions control efficiency is the same (90%) or better. A permit limit of 57.72 TPY of PM<sub>10</sub> applies to the Bldg. 190 booths (E-20569 & E-20570).
- b) Material usage and calculation records shall be maintained monthly to determine compliance with the EUG 2B VOC emission limit of 278.54 TPY (12-month rolling total). There is no limit on material usage.
- c) Emission limits for each booth may be disregarded, as long as the EUG 2B VOC limit of (b) is not exceeded.
- d) The VOC content of coatings used in a coating line or operation that was constructed after December 28, 1974, or an existing coating line or operation that was modified, replaced, or reconstructed after December 28, 1974, such that the amount of emissions is increased, as applied shall not exceed the following limits, excluding the volume of any water and exempt organic compounds:

Coating	lb VOC/gallon Coating
Alkyd Primers	4.8
Epoxies	4.8
Maintenance Finishes	4.8
Vinyls	6.0
Acrylics	6.0
NC lacquers	6.4
Custom Product Finishes	6.5

- e) Emissions from the clean-up with VOC of any article, machine, or equipment used in applying the coatings shall be counted in determining the compliance with the lb of VOC per gallon of coating limitations above.
- f) Additional paint booths may be added as long as the total VOC limits of Specific Condition 1, EUG2b are not exceeded and the addition is allowed under the operational flexibility criteria of OAC252:100 Subchapter 8. [252:100-8-6(f)]

### EUG 2F Coating Fugitives

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Const/ Mod Date
E-FUG1	P-FUG1	Various paint and thinner usage	1943

### EUG 2G Grandfathered Coating Booths

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-07761	P-07761	Paint Booth	Medium Caliber Production	1964
E-05149	P-05149	Paint Booth	Medium Caliber Production	1960
E-32484	P-32484	Paint Booth	In Storage	1990

### EUG 3 Solvent

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Const/ Mod Date
E-SOL	P-SOL	Solvent Usage	1943

### EUG 3B Sanitizer

Equipment ID	Emission Point ID	Description	Const/ Mod Date	VOC Limit (TPY)
E-SAN	P-SAN	Hand Sanitizer	2020	13.81

- a) Sanitizer production emissions are limited to 13.81 TPY of VOC. Emissions shall be calculated and recorded monthly and as a 12-month rolling total.

### EUG 4 Deactivation Furnace

EU ID#	Point ID#	Description	Installation / Mod Date
E-0452	P-0452	APE 1236M2	1996 / 2001

Pollutant	Emission Limit TPY (12-month rolling)
PM	2.5
NO <sub>x</sub>	133
CO	7.1
VOC	2.5
SO <sub>2</sub>	2.5

Pollutant	TPY
Dioxin / Furan	$6.8 \times 10^{-10}$ (TEQ)
HCl	3.12
Cl <sub>2</sub>	0.066

Pollutant	TPY
Mercury	$5.05 \times 10^{-4}$
SVM	$6.135 \times 10^{-3}$
LVM	$1.2 \times 10^{-4}$

Where SVM means semi-volatile metals (lead & cadmium), LVM means low-volatility metals (arsenic, beryllium and chromium), and HCl/Cl<sub>2</sub> means hydrochloric acid/chlorine gas.

- a) The furnace is authorized to operate continuously (24 hours per day, every day). [OAC 252:100-8-6(a)]
- b) The furnace is an affected source under the NESHAP for Hazardous Waste Incinerators, 40 CFR 63, Subpart EEE, and shall comply with all requirements, including but not limited to the following. [40 CFR §63.1200 et seq]
  - i. Emissions standards and operating limits [§§63.1203 and 1219]
  - ii. Monitoring and compliance provisions [§§63.1206 to 1209]
  - iii. Notification, reporting, and recordkeeping [§§63.1210 to 1211]
  - iv. Other requirements [§§63.1212 to 1215]
- c) The following records shall be maintained on-site for a minimum of five years after the date of recording and made available to regulatory personnel upon request. [OAC 252:8-6(a)(3)(b)]
  - i. Quantity of munitions fed to the incinerator by weight and type (daily)
  - ii. Quantity of supplemental fuels used monthly in the incinerator (by usage or purchase records)
  - iii. Records of each performance test that establishes, revises, or refines Operating Parameter Limits (OPLs)
  - iv. Records of any exceedance of OPLs (date, duration, cause)
  - v. Calculations of Criteria Pollutants every month and a 12-month rolling total of each.
  - vi. Records required by 40 CFR Part 63, Subpart EEE.
- d) The furnace is an affected source under OAC 100-17, and shall comply with the following requirements:
  - i. The incinerator shall comply with the PM emission rates contained in Appendix A of OAC 252:100 based on the as-loaded rate which the incinerator is charged. [OAC 252:100-17-4]

**EUG 5G Grandfathered Open Burn/Open Detonation/Static Firing**

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Emission Point ID	Construction/ Modification Date 1942
P-990, P-991	Flash burning trench/ wood/ diesel
P-997	Open burning (OB) range

P-998, P-999	OD of munitions Area 1 and Area 2
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- a) Pursuant to OAC 252:100-25, the permittee shall conduct OB and OD operations only during daylight hours when climatic conditions meet the criteria set by Army Regulations.
- b) Although there are no Air Quality limits, OB is limited by a RCRA permit to a total net explosive weight (NEW) throughput of 6,400,000 lb/yr.
- c) Although there are no Air Quality limits, OD is limited by a RCRA permit to a total NEW throughput of 2,280,000 lb/yr.
- d) Records to support secondary emissions from combustion of wood, solvents, and other combustible materials shall be maintained.

**EUG 5P Permitted Open Burn/Open Detonation/Static Firing**

- b) Static firing emissions are limited to 41.5 TPY of CO, 24.4 TPY of PM<sub>10</sub>, 19.4 TPY of PM<sub>2.5</sub>, 34.8 TPY of hydrochloric acid, 32 TPY of SO<sub>2</sub>, and 6.54 TPY of Pb. Emissions shall be calculated and recorded monthly and as a 12-month rolling total.
- c) Static firing emissions are limited to 9.54 lb/hr of Pb, 4-hour average, calculated daily.
- d) Pursuant to OAC 252:100-25, the permittee shall conduct open burning/detonation operations only during daylight hours when climatic conditions meet the criteria set by Army Regulations.
- e) Static firing is limited by a RCRA permit to a total net explosive weight (NEW) throughput of 1,280,000 lb/yr.
- f) Any combination of missiles/rockets may be fired, including types not listed in this table, provided that emission limits are not exceeded.
- g) The number and type of missiles/motors fired daily shall be recorded.
- h) Emissions shall be calculated based off manufacturer’s data and emission factors stated in the memo of this permit.
- i) Static firing of the MK12 missiles shall be conducted using good operating practices.

**EUG 6 Explosive Mixing**

**EUG 6G Grandfathered Explosive Mixing**

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-34252	P-33205	B-Line Exp Mix	TNT mixing (inactive)	1966
E-34253				
E-34254				
E-34255				
E-34256				
E-34257				
E-34332	P-32650	B-Line Exp Mix	TNT mixing	1966
E-34333				1943
E-57692				1971
E-57693				1971
E-34336				1966
E-57691				1971

**EUG 6P Permitted Explosive Mixing**

Equipment ID	Emission Point ID	Description	Function	Const/ Mod Date
E-34200	P-39786	40 MM Production Area Exp. Mix	TNT mixing	1978
E-34300	P-19584	A-Line Exp Mix	PBX mixing	1989
E-34298				
E-34299	P-19563	A-Line Exp Mix	PBX mixing	1989
E-34297				
E-14200	P-14202	Medium Caliber Production Exp Mix	PBX mixing	2000
E-14201				
E-14202				
E-34197	P-19200	A-Line Exp Mix	TNT mixing	1999
E-49114	P-49497	Exp Mix	PBX mixing	2009
E-49116	P-49497	Exp Mix	PBX mixing	2009
E-49492	P-49485	Wet Scrubber	PBX mixing	2012
P-99583-1-1	P-27160	Venturi Scrubber	AFX mixing	2017
P-99583-1-2	P-27160	Venturi Scrubber	AFX mixing	2017
P-99583-1-3	P-27160	Venturi Scrubber	AFX mixing	2017
P-104492-1-8	P-27160	Venturi Scrubber	AFX mixing	2017
P-104492-1-1	P-27160	Venturi Scrubber	AFX mixing	2017
P-104492-1-9	P-27160	Venturi Scrubber	AFX mixing	2017
P-96327-1	P-22798	Venturi Scrubber	AFX mixing	2018

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency (%)	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-39786	C-39786	Wet Scrubber	2,000	0.2	95	0.17	0.75
P-19584	C-19584	Venturi Scrubber	2,200	0.2	95	0.19	0.83
P-19563	C-19563	Venturi Scrubber	2,200	0.2	95	0.19	0.83
P-19200	C-19590	Venturi Scrubber	4,800	0.2	95	0.41	1.80
P-49497	C-49497	Wet Scrubber	3,700	0.2	95	0.32	1.40
P-49497	C-49497	Wet Scrubber	3,700	0.2	95	0.32	1.40
P-49485	C-49485	Wet Scrubber	2,000	0.2	95	0.17	0.75
P-99583-1-1	C-27160	Venturi Scrubber	1,200	0.2	95	0.10	0.45
P-99583-1-2	C-27160	Venturi Scrubber	1,200	0.2	95	0.10	0.45
P-99583-1-3	C-27160	Venturi Scrubber	1,200	0.2	95	0.10	0.45
P-104492-1-8	C-27160	Venturi Scrubber	1,200	0.2	95	0.10	0.45
P-104492-1-1	C-27160	Venturi Scrubber	1,200	0.2	95	0.10	0.45
P-104492-1-9	C-27160	Venturi Scrubber	1,200	0.2	95	0.10	0.45
P-96327-1	C-22798	Venturi Scrubber	800	0.2	95	0.07	0.30

- a) All stack discharges from the listed explosive mixing operations shall be vented to a wet scrubber, venturi scrubber, or equivalent air pollution control device (95% or greater PM emission control efficiency).
- b) Explosive Mixing activities may be moved among these and other emission points as needed. The moved activities remain subject to a).

### EUG 7 Grit Blasting

#### EUG 7G Grandfathered Grit Blasting

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.



Equipment ID	Emission Point ID	Description	Function	Const/Mod Date
E-39451	P-39451	Grit Blasting	Renovate ammo containers	1947
E-39452	P-39452	Grit Blasting	Renovate ammo containers	1943
E-33494	P-A95024	Medium Caliber Production Grit	Grit blast ammo for renovation	1943
E-34302	P-34302	Weld Shop Grit	Grit blast various metal parts prior to welding	1944
E-03550	P-03550	Old Weld Shop Grit	Grit blast various metal parts prior to welding	1948

**EUG 7P Permitted Grit Blasting Emissions**

Emission Point ID	Control ID	Control Description	Fan Rating (cfm)	PM Loading (gr/cf)	PM Control Efficiency	PM <sub>10</sub> Emissions (lb/hr)	PM <sub>10</sub> Emissions (TPY)
P-455GB	C-455GB	Cartridge Filter	2,770	3	0.99	0.71	3.12
P-17501	C-17501	Cartridge Filter	6,000	3	99	1.54	6.76
P-19001	C-19001	Cartridge Filter	2,200	3	99	0.57	2.48
P-19002	C-19002	Cartridge Filter	13 <sup>a</sup>	162 <sup>b</sup>	99	0.02	0.09
P-198GB	C-198GB	Mesh Filter	8,300	3	99	6.40	28.03
P-44730	C-44730	Cartridge Filter	3,000	3	99	0.77	3.38
P-0419GB	C-0419GB	Cartridge Filter	300	3	0.99	0.08	0.34
P-34309	C-48509	Cartridge Filter	11,500	3	99	2.96	12.95
P-48660	C-48509	Cartridge Filter	11,500	3	99	2.96	12.95
P-4T0901	C-4T0901	Cartridge Filter	10,000	3	99	0.82	3.60
P-1043-01	C-1043-01	Cartridge Filter	1,570	3	99	0.40	1.77

<sup>a</sup> – Units are in lb emissions/1,000 lb abrasive; <sup>b</sup> – Abrasive throughput (lb/hr).

a) All stack discharges from the listed grit blasting operations shall be vented to a baghouse, cartridge filter, or equivalent air pollution control device (99% or greater PM emission control efficiency).

**EUG 8 Thermal Arc Spraying (TAS)**

Emission Point ID	PM <sub>10</sub> Emission Rate	
	lb/hr	TPY
P-455TAS	0.34	1.50
P-175TAS	1.70	7.46
P-190TAS	1.70	7.46
P-190WTAS	1.29	5.63
P-48TAS	1.88	8.22

- a) All stack discharges from the listed thermal arc spraying operations (P-175TAS, P-190TAS, P-48TAS, & P-190WTAS) shall be vented to a baghouse, cartridge filter, or equivalent air pollution control device (99% or greater PM emission control efficiency).
- b) All stack discharges from the listed thermal arc spraying operations (P-455TAS) shall be vented to a venture scrubber or equivalent air pollution control device (95% or greater PM emission control efficiency).
- c) Thermal Arc Spraying activities and emissions may be moved among these and other emission points as needed, provided that total emissions authorized for EUG 8 are not exceeded. Moved activities remain subject to Specific Condition a).

**EUG 9 Explosive Sifting**

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Const/ Mod Date
E-31237	P-31888	Major Caliber Production	1942
E-31238	P-31889	Major Caliber Production	1942
E-01060	P-01060	B-Line Exp Sift	1942
E-179SIF	P-179SIF	B-Line Exp Sift	1942
E-01055	P-01055	B-Line Exp Sift	1944
E-09484	P-09484	B-Line Exp Sift	1944
E-194AS	P-194AS	A-Line Exp Sift	1989
E-49455	P-49455	PBX Sifting	2013
E-21525	P-21525	Explosive Sifting	2017
E-21038	P-21038	Aluminum Sifting	2017
E-22798	P-22798	Explosive Sifting	2018
E-22577	P-22577	Aluminum Sifting	2018

- a) All stack discharges from the sifting operations (excluding E-194AS) shall be vented to a baghouse, cartridge filter, venture wet scrubber or equivalent air pollution control device (95% or greater PM emission control efficiency for wet scrubbers and 99% or greater PM emission control efficiency for baghouses or cartridge filters).
- b) Explosive Dust Collection activities and emissions may be moved among these and other emission points as needed. Moved activities remain subject to Specific Condition (a).

**EUG 10 Explosive Dust Collection Emissions**

**EUG 10G Grandfathered Explosive Dust Collection**

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Const/ Mod Date
E-0140B	P-0140B	40 MM Production	1943

E-05172	P-05172	Explosive Dust Collection	1943
E-31652	P-31652	Explosive Dust Collection	1943
E-08915	P-31650	Explosive Dust Collection	1943

**EUG 10P Permitted Explosive Dust Collection Emissions**

Emission Point ID	Control ID	PM <sub>10</sub> Emission Rate	
		lb/hr	TPY
P-AL01	C-AL01	2.89	12.66

- a) All stack discharges from the Explosive Dust Collection operations shall be vented to a baghouse, cartridge filter, or equivalent air pollution control device (99% or greater PM emission control efficiency).
- b) Explosive Dust Collection activities and emissions may be moved among these and other emission points as needed. Moved activities remain subject to Specific Condition a).

**EUG 11 Miscellaneous Particulate Collection**

**EUG 11G Grandfathered Miscellaneous Particulate Collection**

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Emission Point ID	Description	Const/ Mod Date
E-0009C	P-0009C	Wood Processing	1943

**EUG 11P Permitted Miscellaneous Particulate Collection**

Emission Point ID	Description	PM <sub>10</sub> Emission Rate	
		lb/hr	TPY
P-31973	Wood Processing	1.50	6.58
P-40824	Wood Processing	1.50	6.58
P-49233	Cement Mixing	0.57	2.08
P-43744	Cement Mixing	0.57	2.48
P-43745	Cement Mixing	0.57	2.48
P-637/760/L	Wood Processing	6.35	27.82
P-637/760S	Wood Processing	0.64	2.82

- a) All stack discharges from the listed operations shall be vented to a baghouse, cartridge filter, or equivalent air pollution control device (99% or greater PM emission control efficiency).
- b) Wood processing and cement mixing operations and emissions may be moved among these and other emission points as needed as long as the EUG 11P emission limit is not exceeded. Moved activities remain subject to Specific Condition a).

**EUG 12 Explosive Meltout**

Emission Point ID	Description	Combined PM Emissions	
		lb/hr	TPY
P-44217	Wet Scrubber	1.14	5.0
P-44216	Wet Scrubber		
P-44239	Wet Scrubber		

- a) Particulate emissions from the explosive material collection systems shall be ducted through a functioning wet scrubber or equivalent air pollution control device (99% efficiency) prior to release to the atmosphere.
- b) Explosive meltout operations and emissions may be moved among these and other emission points as needed as long as the EUG 12 emission limit is not exceeded. Moved activities remain subject to Specific Condition a).

**EUG 13 Fuel Storage and Dispensing**

**EUG 13G Grandfathered Fuel Storage and Dispensing**

There are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is.

Equipment ID	Description	Construction Date
E-733F	5,000-gallon diesel storage	1943
E-732	1,100-gallon diesel storage	1943
E-735	8,000-gallon heavy oil storage	1943

**EUG 13P Permitted Fuel Storage and Dispensing**

Although these tanks have previously been the subjects of permitting, there are no emission limits applied to these units under Title V. However, they are limited to the existing equipment as it is. Three gasoline tanks have annual throughput limits, as noted below. All four gasoline tanks shall have submerged fill.

Emission Point ID	Description	Capacity (gallons)	Annual throughput (gallons)
P-0476P	Diesel	12,000	N/A
P-746F	Diesel	850	N/A
P-790P	Diesel	4,000	N/A
P-756F	Diesel	6,000	N/A
P-742F	Diesel	5,200	N/A
P-741F	Diesel	7,900	N/A
P-738P	Diesel	10,000	N/A
P-744F	Diesel	5,200	N/A
P-737F	Diesel	10,000	N/A
P-739F	Diesel	20,000	N/A
P-755F	Diesel	2,100	N/A

Emission Point ID	Description	Capacity (gallons)	Annual throughput (gallons)
P-736F	Diesel	10,000	N/A
P-743F	Diesel	3,800	N/A
P-775	Diesel	200	N/A
P-800	Diesel	575	N/A
P-801F	Gasoline	12,000	N/A

**EUG 14 Engines Subject to NESHAP Subpart ZZZZ**

a) All engines are affected sources under ZZZZ, and the permittee shall comply with all applicable requirements of 40 CFR Part 63 (NESHAP) Subpart ZZZZ, Reciprocating Internal Combustion Engines (RICE), including but not limited to the following.

[40CFR63 §63.6580 - §63.6675]

- i. §§63.6580, 85, 90 Applicability criteria.
- ii. §63.6595 Compliance date.
- iii. §§63.6601, 02, 03 Emission and operating limitations.
- iv. §63.6604 Fuel requirements.
- v. §63.6605 General requirements.
- vi. §§63.6610, 11, 12, 15, 20 Testing requirements.
- vii. §63.6625 Monitoring requirements.
- viii. §§63.6630, 35, 40 Compliance demonstrations.
- ix. §§63.6645, 50, 55, 60 Notification, reporting, and recordkeeping requirements.
- x. §63.6665 General Provisions.
- xi. §63.6670 Who implements and enforces this subpart?
- xii. §63.6675 Definitions.
- xiii. Appendices Tables 1 – 8.

b) Each generator shall be equipped with a non-resettable hour meter and records kept of dates and times of operation.

**14A New Engines Under ZZZZ, Subject to NSPS Subpart IIII**

Emission Point ID	NO <sub>x</sub>		CO		PM		SO <sub>2</sub>		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-0105G	2.50	0.63	0.54	0.13	0.18	0.04	0.17	0.04	0.20	0.05
P-0110G	6.24	1.56	1.34	0.34	0.44	0.11	0.41	0.10	0.50	0.12
P-0136G	2.50	0.63	0.54	0.13	0.18	0.04	0.17	0.04	0.20	0.05
P-036G	10.4	2.60	2.24	0.56	0.74	0.18	0.69	0.17	0.83	0.21
P-390G	0.71	0.18	0.88	0.22	0.05	0.01	0.20	0.05	0.24	0.06
P-036F	0.92	0.23	1.15	0.29	0.19	0.05	0.16	0.04	0.20	0.05
P-RTG	0.41	0.10	0.44	0.11	0.04	0.01	0.11	0.03	0.13	0.03
P-HAY	2.17	0.54	0.68	0.17	0.05	0.01	0.57	0.14	0.11	0.03

c) The permittee shall comply with all applicable requirements of 40 CFR Part 60 (NSPS) Subpart IIII, Stationary Compression Ignition Internal Combustion Engines (CI ICE) concerning generator engines in EUG 14A, including but not limited to the following.

[40 CFR 60 §60.4200 - §60.4219]

- i. §60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

- ii. §60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?
- iii. §60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?
- iv. §60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?
- v. §60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?
- vi. §60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

**14B New Engines Under ZZZZ, Not Subject to NSPS**

Emission Point ID	NO <sub>x</sub>		CO		PM		SO <sub>2</sub>		VOC	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
P-01GEN	35.43	38.97 <sup>1,2</sup>	6.44	7.09 <sup>1,2</sup>	0.64	2.82 <sup>1,2</sup>	0.97	4.23 <sup>1,2</sup>	6.44	7.09 <sup>1,2</sup>
P-02GEN	35.43		6.44		0.64		0.97		6.44	

- 1 These subtotals are the combined emissions for P-01 and P-02 generators operating for a combined total of 2,200 hrs/yr.
- 2 The TPY numbers for each pollutant listed above are the annual emission limits when applicable unless a modification for more hours of operation is approved.

Equipment ID	Emission Point ID	Description	Serial Number	Const/ Mod Date
E-03GEN	P-03GEN	Generac 972 hp	2069093	2002

- d) P-01GEN and P-02GEN are subject to NESHAP Subpart ZZZZ and shall demonstrate compliance with ZZZZ through compliance with NSPS Subpart IIII.

**14D Engines Not 14A or 14B, with HP ≤ 500**

Description	HP	Date
Generac	235	1993
Generac	268	1993
Cummins	134	2004
Generac	201	1995
Generac	268	2000
Onan	35	1998
Onan	35	1998
Generac	268	1989
Onan	15	1999
Magnaone	489	1981
Armstrong	148	2003
Cummins	80	2004
Cummins	80	2004

Description	HP	Date
Cummins	268	2004
Kohler	107	N/A
Cummins	80	2004
Cummins	134	2004
Cummins	47	2004
Cummins	80	2004
Generac	235	1993
Kohler	349	N/A
Onan	60	1974
Onan	34	1998
Marathon	67	1991
Cummins	47	2004
Generac	402	2000

**EUG 16 Insignificant Activities**

Activities having the potential to emit no more than 5 TPY (actual) of any criteria pollutant. Demonstration methods are listed as follows. [OAC 252:100-43]

- a) Laboratory, emission points P-0020F and P-34425, 34426, and 34427. Permittee shall keep an inventory of volatile chemical purchases through Air Programs Information Mgt System Software or a similar system.
- b) DAC OD, Emission point P-993. Records of munitions exploded (OD) shall be maintained (annual)
- c) Wastewater Treatment Flare, emission point E-0042 (calendar year).
- d) Tar Coating, asphalt kettle emission points E-34261 and 34262 -, E-20624 and E-190WTAR, and 49224 (calendar year).
- e) Paint Booths, emission points E-10301 and 10302 and E-10401 (calendar year).
- f) Hoffman Vacuum Cleaning Systems, (calendar year).

**EUG 17 Plasma Arc Cutters**

Subgroup	EU	NO <sub>x</sub>		PM <sub>10</sub>		PM <sub>2.5</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
17a	Booth 1	2.69	25.20	0.22	2.04	0.22	2.04
	Booth 2	2.69		0.22		0.22	
	Booth 3	2.69		0.22		0.22	
	Booth 4	2.69		0.22		0.22	
	Booth 5	2.69		0.22		0.22	
	Booth 6	2.69		0.22		0.22	
Subgroup	EU	NO <sub>x</sub>		PM <sub>10</sub>		PM <sub>2.5</sub>	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
17b	Booth 7	2.69	39.28	0.22	3.24	0.22	3.24
	Booth 8	2.69		0.22		0.22	
	Booth 9	2.69		0.22		0.22	
	Booth 10	2.69		0.22		0.22	

These limits are predicated on the use of the cutting equipment in booths 1 through 6 not to exceed 3,120 hours per year per unit, and of cutting equipment in booths 7 through 10 not to exceed 7,300 hours per year per unit. Hours may be shared among units in each subgroup. Total hours for Subgroup 17a shall not exceed 18,720 per year. Total hours for Subgroup 17b shall not exceed 29,200 per year.

- 2. The facility is authorized to operate continuously (24 hours per day, every day of the year). [OAC 252:100-8-6(a)]
- 3. A model number or another acceptable form of permanent (non-removable) identification shall be on each engine, boiler, and generator. [OAC 252:100-43]
- 4. Major items of control equipment as listed below shall have a meter, gauge, or other method that measures the performance of the associated control equipment according to manufacturers' recommendations. A copy of the manufacturer's recommendations or an equivalent study supporting engineering judgment shall be maintained at the facility and available for inspection.

Records shall be maintained (for each operating day) that confirm that each listed control item is operating properly. Control equipment and performance measuring devices of the same or better performance may be substituted for the listed equipment. [OAC 252:100-43]

Operation	Control Description	Blower Rating	Blower Size	Blower RPM	Model	Operational Indicator Device
Painting	Fiber Batts	5000	4 1/2	967	Buffalo Limit Load, Class1, 5hp, NYB GI 294LS equiv.	Manometer
Painting (Main)	H2O/Fiber Batts	9492	18	3591	NYB Tubular ACF, SBS, 15hp	Pump Pressure Gage
Cement Mix	Baghouse	10,000	10	1284	AGET Manufacturing FH58S-3D-SP, NY Blower 28.7 hp	Manometer
Painting	Fiber Batts	7480	34	1445	JB Propellor 13241/8049, 3hp	Manometer
Painting	Fiber Batts	5500	32	1740	Duct Fan, 3 hp	Manometer
Painting	Fiber Batts	7100	32	1755	Duct Fan, 3 hp	Manometer
Painting	Fiber Batts	10,200	18	4379	Am Fan Co. BCS-182, 25hp. 30JAN06	Manometer
Explosive Meltout	Wet Scrubber	19,706	30	1320	NYB 30PLR Class IV Blower, 100hp	Pump Pressure Gage/ Water Sight Glass
Painting	H2O/Fiber Batt	30,000	42	1683	NYB Tublr ACF, 50 hp, SBS	Magnehelic
Grit Blasting	Cartridge House	6000	15	1755	Donaldson Torit DFT3-12, 15 hp	Magnehelic
ThermArc Spray	Dual Baghouse	6630	18	3698	NYB 18PLR, 25hp, 2 x AGET FH58S-6	Magnehelic
Explosive Meltout	Wet Scrubber	15,530	30	1320	NYB 30PLR Class IV Fan, 100hp	Pump Pressure Gage/ Water Sight Glass/ Automatic Water Dump System
Explosive Meltout	Wet Scrubber	3,300	15	2678	Cantech Enviro Systems 6CV-4, 15 hp	Magnehelic
Painting	Fiber Batts	19,577	50	1785	NYB Series 20, 504DH, 125-hp	Magnehelic
Grit Blasting	Cartridge House	2,200	15	1755	Donaldson Torit DFT3-12, 15-hp	Magnehelic
ThermArc Spray	Dual Baghouse	6627	18	3698	Am Fan Co. BCS-182, 25hp, 2 x AGET FH58S-6	Magnehelic
Painting	Fiber Batts	7,900	24	1750	Duct Fan, 2 hp	Manometer
Grit Blasting	Cartridge House	6,500	21.5	3600	AirPro Model BIHS215	Magnehelic
ThermArc Spray	Cartridge Filter	5,000	23	2754	Aerovent Model 913ARR9BCL22	Magnehelic
Explosive Mixing	Venturi scrubber	2200	22	3510	NYB PB2208A equivalent, 20hp, Ducon VVO, 11/24	Pump Pressure Gage
Explosive Mixing	Venturi scrubber	2200	22	3515	NYB PB2208A equivalent, 15hp, Ducon VVO, 11/305	Pump Pressure Gage
Grit Blasting	Cartridge House	8300	22	2224	BCP Collector, Sheldon Blower D6122, 15hp.	Magnehelic
Painting	Fiber Batts	8000	32	1519	Duct Fan, 5hp	Magnehelic
Painting	Fiber Batts	8000	32	1519	Duct Fan, 5hp	Magnehelic
Painting	Fiber Batts	8000	32	1519	Duct Fan, 5hp	Magnehelic
Painting	Fiber Batts	28,500	42	1755	Downdraft Booth, Model DD-26-SB-S, 7.5hp	Manometer



Operation	Control Description	Blower Rating	Blower Size	Blower RPM	Model	Operational Indicator Device
Explosive Mixing	Venturi Scrubber	23,500 <sup>a</sup>	32	1800	Model No. 8 Sly Venturi Scrubber	Magnehelic
Explosive Mixing	Venturi Scrubber	800	32	1800	Model No. 3 Sly Venturi Scrubber	Water Flow Meter
Explosive Sifting	Venturi Scrubber	2,125	40	2739	Model No. 3 Sly Venturi Scrubber	Water Flow Meter
Powder Sifting	Cartridge Filter	4,000	14.94	2425	Sly Model STJ-88-10, Aerovent Exhaust Fan, Model MHA-913	Magnehelic
Grit Basting	Cartridge Filter	6,500	20	X	Donaldson Model DFE 2-8/20	Magnehelic
ThermArc Spray	Venturi Scrubber	4,000	24	3089	Model No. 3 Sly Venturi Scrubber, Aerovent Exhaust Fan, Size 913, Arrangement No. 9	Water Flow Meter
Painting	Fiber Batts	22,000	33.4	1750	Duct Fan, 10hp	Manometer
Grit Basting	Cartridge Filter	1,540	X	1750	Blastone VK12'x12'x35' Shot Blasting Booth	Magnehelic

<sup>a</sup> - The scrubber is designed to pull all air from the building through the scrubber. However, only 1200 cfm will be pulled over each mixing kettle.

5. The permittee shall keep the following records on site. These records shall be made available for inspection by regulatory personnel upon request. Required records shall be retained for a period of at least five years following dates of recordings. [OAC 252:100-43]

- a) Hours of operation for each generator in EUGs 14A – 14D (calendar year).
- b) Hours of operation for each boiler in EUG 1N (calendar year).
- c) Records enumerated under EUG 4.
- d) Amount of NEW throughput processed at OB and OD (each operating day and calendar year total).
- e) Quantity by type of missiles and rocket motors burned (each operating day).
- f) Number of bombs/projectiles processed (melt-out) by type (each operating day and cumulative annual).
- g) Emission calculations required by EUG 5P (a).
- h) Inspection and maintenance of control equipment, baghouse, wet scrubber, etc., as directed by the manufacturer (weekly when operating unless otherwise directed)
- i) Usage of wire in the thermal arc sprayer units (cumulative annual).
- j) Usage of paints and solvents for the surface coating operations (cumulative annual) for EUG 2F and 2G.
- k) Material usage records and calculations to determine compliance with the VOC emission limitations (monthly and 12-month rolling total) for EUG 2B.
- l) Amounts of solvent burned (cumulative annual) for EUG 5G.
- m) Records required by NSPS Subpart Dc and Subpart IIII and by NESHAP Subpart EEE, Subpart ZZZZ and Subpart DDDDD.
- n) Records of emissions as required by OAC 252:100-8-36.2(c)(3).

6. The following records shall be maintained on-site to verify Insignificant Activities. No recordkeeping is required for those operations that qualify as Trivial Activities.

[OAC 252:100-8-6 (a)(3)(B)]

- a) The pounds of welding rod and solder (annual total).
- b) The number of gallons of diesel throughput (annual total).
- c) The gallons of all cleaning solvents by each specific type with current SDS data (annual total) for EUG 3.
- d) Inventory of volatile chemical purchases for Laboratory (annual total).
- e) Records of munitions exploded (DAC OD) (annual total).
- f) Natural gas fuel usage for waste water treatment flare (calendar year).
- g) Asphalt kettle emissions (calendar year).
- h) Paint booth emissions (calendar year) for Insignificant Activity E.
- i) Hoffman Vacuum Cleaning Systems emissions (calendar year).
- j) Activities that have the potential to emit no more than 5 TPY (actual) of any criteria pollutant.

7. The Permit Shield (Standard Conditions, Section VI) is extended to the following requirements that have been determined to be inapplicable to this facility. [OAC 252:100-8-6(d)(2)]

- a) OAC 252:100-7            Minor Sources
- b) OAC 252:100-11        Alternative Emissions Reduction
- c) OAC 252:100-15        Mobile Sources
- d) OAC 252:100-23        Cotton Gins
- e) OAC 252:100-24        Grain Elevators
- f) OAC 252:100-35        Carbon Monoxide
- g) OAC 252:100-47        Landfills
- h) Federal 40 CFR Part 61 NESHAP

8. The following emission points are subject to CAM and shall comply with all applicable requirements and shall perform monitoring as approved in this permit. [40 CFR Part 64]

- a) § 64.1 Definitions.
- b) § 64.2 Applicability.
- c) § 64.3 Monitoring design criteria.
- d) § 64.4 Submittal requirements.
- e) § 64.5 Deadlines for submittals.
- f) § 64.6 Approval of monitoring.
- g) § 64.7 Operation of approved monitoring.
- h) § 64.8 Quality improvement plan (QIP) requirements.
- i) § 64.9 Reporting and recordkeeping requirements.
- j) § 64.10 Savings provisions.

EUG	Emission Point	Control Device
7	P-48509	Baghouse
	P-455GB	Cartridge filter
	P-17501	Cartridge filter
	P-19001	Cartridge filter
	P-A95024	Baghouse
	P-198GB	Mesh filter

EUG	Emission Point	Control Device
	P-4T0901	Cartridge filter
	P-44730	Cartridge filter
8	P-175TAS	Baghouse
	P-190TAS	Baghouse
	P-48GB	Baghouse
9	P-31188	Baghouse
	P-31189	Baghouse
	P-01055	Baghouse
	P-09484	Baghouse
	P-49455	Baghouse
10	P-0140B	Baghouse
	P-31650	Baghouse
	P-AL01	Baghouse
11	P-31973	Baghouse
	P-40824	Baghouse
	P-49233	Baghouse
11	P-31600	Baghouse
	P-19259	Baghouse
11	P-637/760L	Baghouse
	P-637/760S	Baghouse

The previous identified filter devices shall comply with all applicable requirements and shall perform monitoring as approved following.

Indicator	Baghouse pressure differential
Measurement Approach	Differential pressure transducer or manometer
Indicator Range	An excursion is defined as a daily pressure differential below 50% of the operating range. Excursions trigger an inspection, corrective actions, and a reporting requirement.
Data Representativeness Performance Criterion	The differential pressure transducer monitors the static pressures upstream and downstream of the baghouse.
QA/QC Practices and Criterion	QA/QC practices are conducted in accordance with Department of the Army Technical Bulletin.
Monitoring Frequency	Pressure differential is monitored at least once every day when operated.
Data Collection Procedure	Data are recorded electronically or in manual log sheets.
Averaging Period	None

9. No later than 30 days after each anniversary date of the issuance of the original TV permit, December 12, 2007, the permittee shall submit to Air Quality Division of DEQ, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit.

OAC 252:100-8-6(C)(5)(a)&(d)

10. This permit supersedes and replaces all previous Air Quality operating permits for the McAlester Army Ammunition Plant, which are now cancelled.

**MAJOR SOURCE AIR QUALITY PERMIT  
STANDARD CONDITIONS  
(June 21, 2016)**

**SECTION I. DUTY TO COMPLY**

A. This is a permit to operate / construct this specific facility in accordance with the federal Clean Air Act (42 U.S.C. 7401, et al.) and under the authority of the Oklahoma Clean Air Act and the rules promulgated there under. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

B. The issuing Authority for the permit is the Air Quality Division (AQD) of the Oklahoma Department of Environmental Quality (DEQ). The permit does not relieve the holder of the obligation to comply with other applicable federal, state, or local statutes, regulations, rules, or ordinances. [Oklahoma Clean Air Act, 27A O.S. § 2-5-112]

C. The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of the Oklahoma Clean Air Act and shall be grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. All terms and conditions are enforceable by the DEQ, by the Environmental Protection Agency (EPA), and by citizens under section 304 of the Federal Clean Air Act (excluding state-only requirements). This permit is valid for operations only at the specific location listed.

[40 C.F.R. §70.6(b), OAC 252:100-8-1.3 and OAC 252:100-8-6(a)(7)(A) and (b)(1)]

D. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. [OAC 252:100-8-6(a)(7)(B)]

**SECTION II. REPORTING OF DEVIATIONS FROM PERMIT TERMS**

A. Any exceedance resulting from an emergency and/or posing an imminent and substantial danger to public health, safety, or the environment shall be reported in accordance with Section XIV (Emergencies). [OAC 252:100-8-6(a)(3)(C)(iii)(I) & (II)]

B. Deviations that result in emissions exceeding those allowed in this permit shall be reported consistent with the requirements of OAC 252:100-9, Excess Emission Reporting Requirements. [OAC 252:100-8-6(a)(3)(C)(iv)]

C. Every written report submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

**SECTION III. MONITORING, TESTING, RECORDKEEPING & REPORTING**

A. The permittee shall keep records as specified in this permit. These records, including monitoring data and necessary support information, shall be retained on-site or at a nearby field office for a period of at least five years from the date of the monitoring sample, measurement, report, or application, and shall be made available for inspection by regulatory personnel upon request. Support information includes all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Where appropriate, the permit may specify that records may be maintained in computerized form.

[OAC 252:100-8-6 (a)(3)(B)(ii), OAC 252:100-8-6(c)(1), and OAC 252:100-8-6(c)(2)(B)]

B. Records of required monitoring shall include:

- (1) the date, place and time of sampling or measurement;
- (2) the date or dates analyses were performed;
- (3) the company or entity which performed the analyses;
- (4) the analytical techniques or methods used;
- (5) the results of such analyses; and
- (6) the operating conditions existing at the time of sampling or measurement.

[OAC 252:100-8-6(a)(3)(B)(i)]

C. No later than 30 days after each six (6) month period, after the date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to AQD a report of the results of any required monitoring. All instances of deviations from permit requirements since the previous report shall be clearly identified in the report. Submission of these periodic reports will satisfy any reporting requirement of Paragraph E below that is duplicative of the periodic reports, if so noted on the submitted report.

[OAC 252:100-8-6(a)(3)(C)(i) and (ii)]

D. If any testing shows emissions in excess of limitations specified in this permit, the owner or operator shall comply with the provisions of Section II (Reporting Of Deviations From Permit Terms) of these standard conditions.

[OAC 252:100-8-6(a)(3)(C)(iii)]

E. In addition to any monitoring, recordkeeping or reporting requirement specified in this permit, monitoring and reporting may be required under the provisions of OAC 252:100-43, Testing, Monitoring, and Recordkeeping, or as required by any provision of the Federal Clean Air Act or Oklahoma Clean Air Act.

[OAC 252:100-43]

F. Any Annual Certification of Compliance, Semi Annual Monitoring and Deviation Report, Excess Emission Report, and Annual Emission Inventory submitted in accordance with this permit shall be certified by a responsible official. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete."

[OAC 252:100-8-5(f), OAC 252:100-8-6(a)(3)(C)(iv), OAC 252:100-8-6(c)(1), OAC 252:100-9-7(e), and OAC 252:100-5-2.1(f)]

G. Any owner or operator subject to the provisions of New Source Performance Standards (“NSPS”) under 40 CFR Part 60 or National Emission Standards for Hazardous Air Pollutants (“NESHAPs”) under 40 CFR Parts 61 and 63 shall maintain a file of all measurements and other information required by the applicable general provisions and subpart(s). These records shall be maintained in a permanent file suitable for inspection, shall be retained for a period of at least five years as required by Paragraph A of this Section, and shall include records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment; and any periods during which a continuous monitoring system or monitoring device is inoperative.

[40 C.F.R. §§60.7 and 63.10, 40 CFR Parts 61, Subpart A, and OAC 252:100, Appendix Q]

H. The permittee of a facility that is operating subject to a schedule of compliance shall submit to the DEQ a progress report at least semi-annually. The progress reports shall contain dates for achieving the activities, milestones or compliance required in the schedule of compliance and the dates when such activities, milestones or compliance was achieved. The progress reports shall also contain an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. [OAC 252:100-8-6(c)(4)]

I. All testing must be conducted under the direction of qualified personnel by methods approved by the Division Director. All tests shall be made and the results calculated in accordance with standard test procedures. The use of alternative test procedures must be approved by EPA. When a portable analyzer is used to measure emissions it shall be setup, calibrated, and operated in accordance with the manufacturer’s instructions and in accordance with a protocol meeting the requirements of the “AQD Portable Analyzer Guidance” document or an equivalent method approved by Air Quality. [OAC 252:100-8-6(a)(3)(A)(iv), and OAC 252:100-43]

J. The reporting of total particulate matter emissions as required in Part 7 of OAC 252:100-8 (Permits for Part 70 Sources), OAC 252:100-19 (Control of Emission of Particulate Matter), and OAC 252:100-5 (Emission Inventory), shall be conducted in accordance with applicable testing or calculation procedures, modified to include back-half condensables, for the concentration of particulate matter less than 10 microns in diameter (PM<sub>10</sub>). NSPS may allow reporting of only particulate matter emissions caught in the filter (obtained using Reference Method 5).

K. The permittee shall submit to the AQD a copy of all reports submitted to the EPA as required by 40 C.F.R. Part 60, 61, and 63, for all equipment constructed or operated under this permit subject to such standards. [OAC 252:100-8-6(c)(1) and OAC 252:100, Appendix Q]

#### **SECTION IV. COMPLIANCE CERTIFICATIONS**

A. No later than 30 days after each anniversary date of the issuance of the original Part 70 operating permit or alternative date as specifically identified in a subsequent Part 70 operating permit, the permittee shall submit to the AQD, with a copy to the US EPA, Region 6, a certification of compliance with the terms and conditions of this permit and of any other applicable requirements which have become effective since the issuance of this permit.

[OAC 252:100-8-6(c)(5)(A), and (D)]

B. The compliance certification shall describe the operating permit term or condition that is the basis of the certification; the current compliance status; whether compliance was continuous or intermittent; the methods used for determining compliance, currently and over the reporting period. The compliance certification shall also include such other facts as the permitting authority may require to determine the compliance status of the source. [OAC 252:100-8-6(c)(5)(C)(i)-(v)]

C. The compliance certification shall contain a certification by a responsible official as to the results of the required monitoring. This certification shall be signed by a responsible official, and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." [OAC 252:100-8-5(f) and OAC 252:100-8-6(c)(1)]

D. Any facility reporting noncompliance shall submit a schedule of compliance for emissions units or stationary sources that are not in compliance with all applicable requirements. This schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with any applicable requirements for which the emissions unit or stationary source is in noncompliance. This compliance schedule shall resemble and be at least as stringent as that contained in any judicial consent decree or administrative order to which the emissions unit or stationary source is subject. Any such schedule of compliance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based, except that a compliance plan shall not be required for any noncompliance condition which is corrected within 24 hours of discovery.

[OAC 252:100-8-5(e)(8)(B) and OAC 252:100-8-6(c)(3)]

## **SECTION V. REQUIREMENTS THAT BECOME APPLICABLE DURING THE PERMIT TERM**

The permittee shall comply with any additional requirements that become effective during the permit term and that are applicable to the facility. Compliance with all new requirements shall be certified in the next annual certification. [OAC 252:100-8-6(c)(6)]

## **SECTION VI. PERMIT SHIELD**

A. Compliance with the terms and conditions of this permit (including terms and conditions established for alternate operating scenarios, emissions trading, and emissions averaging, but excluding terms and conditions for which the permit shield is expressly prohibited under OAC 252:100-8) shall be deemed compliance with the applicable requirements identified and included in this permit. [OAC 252:100-8-6(d)(1)]

B. Those requirements that are applicable are listed in the Standard Conditions and the Specific Conditions of this permit. Those requirements that the applicant requested be determined as not applicable are summarized in the Specific Conditions of this permit. [OAC 252:100-8-6(d)(2)]



**SECTION VII. ANNUAL EMISSIONS INVENTORY & FEE PAYMENT**

The permittee shall file with the AQD an annual emission inventory and shall pay annual fees based on emissions inventories. The methods used to calculate emissions for inventory purposes shall be based on the best available information accepted by AQD.

[OAC 252:100-5-2.1, OAC 252:100-5-2.2, and OAC 252:100-8-6(a)(8)]

**SECTION VIII. TERM OF PERMIT**

A. Unless specified otherwise, the term of an operating permit shall be five years from the date of issuance. [OAC 252:100-8-6(a)(2)(A)]

B. A source's right to operate shall terminate upon the expiration of its permit unless a timely and complete renewal application has been submitted at least 180 days before the date of expiration. [OAC 252:100-8-7.1(d)(1)]

C. A duly issued construction permit or authorization to construct or modify will terminate and become null and void (unless extended as provided in OAC 252:100-8-1.4(b)) if the construction is not commenced within 18 months after the date the permit or authorization was issued, or if work is suspended for more than 18 months after it is commenced. [OAC 252:100-8-1.4(a)]

D. The recipient of a construction permit shall apply for a permit to operate (or modified operating permit) within 180 days following the first day of operation. [OAC 252:100-8-4(b)(5)]

**SECTION IX. SEVERABILITY**

The provisions of this permit are severable and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

[OAC 252:100-8-6 (a)(6)]

**SECTION X. PROPERTY RIGHTS**

A. This permit does not convey any property rights of any sort, or any exclusive privilege.

[OAC 252:100-8-6(a)(7)(D)]

B. This permit shall not be considered in any manner affecting the title of the premises upon which the equipment is located and does not release the permittee from any liability for damage to persons or property caused by or resulting from the maintenance or operation of the equipment for which the permit is issued.

[OAC 252:100-8-6(c)(6)]

**SECTION XI. DUTY TO PROVIDE INFORMATION**

A. The permittee shall furnish to the DEQ, upon receipt of a written request and within sixty (60) days of the request unless the DEQ specifies another time period, any information that the DEQ may request to determine whether cause exists for modifying, reopening, revoking, reissuing,

terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the DEQ copies of records required to be kept by the permit.

[OAC 252:100-8-6(a)(7)(E)]

B. The permittee may make a claim of confidentiality for any information or records submitted pursuant to 27A O.S. § 2-5-105(18). Confidential information shall be clearly labeled as such and shall be separable from the main body of the document such as in an attachment.

[OAC 252:100-8-6(a)(7)(E)]

C. Notification to the AQD of the sale or transfer of ownership of this facility is required and shall be made in writing within thirty (30) days after such sale or transfer.

[Oklahoma Clean Air Act, 27A O.S. § 2-5-112(G)]

## SECTION XII. REOPENING, MODIFICATION & REVOCATION

A. The permit may be modified, revoked, reopened and reissued, or terminated for cause. Except as provided for minor permit modifications, the filing of a request by the permittee for a permit modification, revocation and reissuance, termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition.

[OAC 252:100-8-6(a)(7)(C) and OAC 252:100-8-7.2(b)]

B. The DEQ will reopen and revise or revoke this permit prior to the expiration date in the following circumstances:

[OAC 252:100-8-7.3 and OAC 252:100-8-7.4(a)(2)]

- (1) Additional requirements under the Clean Air Act become applicable to a major source category three or more years prior to the expiration date of this permit. No such reopening is required if the effective date of the requirement is later than the expiration date of this permit.
- (2) The DEQ or the EPA determines that this permit contains a material mistake or that the permit must be revised or revoked to assure compliance with the applicable requirements.
- (3) The DEQ or the EPA determines that inaccurate information was used in establishing the emission standards, limitations, or other conditions of this permit. The DEQ may revoke and not reissue this permit if it determines that the permittee has submitted false or misleading information to the DEQ.
- (4) DEQ determines that the permit should be amended under the discretionary reopening provisions of OAC 252:100-8-7.3(b).

C. The permit may be reopened for cause by EPA, pursuant to the provisions of OAC 100-8-7.3(d).

[OAC 100-8-7.3(d)]

D. The permittee shall notify AQD before making changes other than those described in Section XVIII (Operational Flexibility), those qualifying for administrative permit amendments, or those defined as an Insignificant Activity (Section XVI) or Trivial Activity (Section XVII). The notification should include any changes which may alter the status of a "grandfathered source," as defined under AQD rules. Such changes may require a permit modification.

[OAC 252:100-8-7.2(b) and OAC 252:100-5-1.1]

E. Activities that will result in air emissions that exceed the trivial/insignificant levels and that are not specifically approved by this permit are prohibited. [OAC 252:100-8-6(c)(6)]

### SECTION XIII. INSPECTION & ENTRY

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized regulatory officials to perform the following (subject to the permittee's right to seek confidential treatment pursuant to 27A O.S. Supp. 1998, § 2-5-105(17) for confidential information submitted to or obtained by the DEQ under this section):

- (1) enter upon the permittee's premises during reasonable/normal working hours where a source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
- (2) have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- (3) inspect, at reasonable times and using reasonable safety practices, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
- (4) as authorized by the Oklahoma Clean Air Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit.

[OAC 252:100-8-6(c)(2)]

### SECTION XIV. EMERGENCIES

A. Any exceedance resulting from an emergency shall be reported to AQD promptly but no later than 4:30 p.m. on the next working day after the permittee first becomes aware of the exceedance. This notice shall contain a description of the emergency, the probable cause of the exceedance, any steps taken to mitigate emissions, and corrective actions taken.

[OAC 252:100-8-6 (a)(3)(C)(iii)(I) and (IV)]

B. Any exceedance that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to AQD as soon as is practicable; but under no circumstance shall notification be more than 24 hours after the exceedance. [OAC 252:100-8-6(a)(3)(C)(iii)(II)]

C. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [OAC 252:100-8-2]

D. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that: [OAC 252:100-8-6 (e)(2)]

- (1) an emergency occurred and the permittee can identify the cause or causes of the emergency;

- (2) the permitted facility was at the time being properly operated;
- (3) during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit.

E. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof. [OAC 252:100-8-6(e)(3)]

F. Every written report or document submitted under this section shall be certified as required by Section III (Monitoring, Testing, Recordkeeping & Reporting), Paragraph F. [OAC 252:100-8-6(a)(3)(C)(iv)]

## **SECTION XV. RISK MANAGEMENT PLAN**

The permittee, if subject to the provision of Section 112(r) of the Clean Air Act, shall develop and register with the appropriate agency a risk management plan by June 20, 1999, or the applicable effective date. [OAC 252:100-8-6(a)(4)]

## **SECTION XVI. INSIGNIFICANT ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate individual emissions units that are either on the list in Appendix I to OAC Title 252, Chapter 100, or whose actual calendar year emissions do not exceed any of the limits below. Any activity to which a State or Federal applicable requirement applies is not insignificant even if it meets the criteria below or is included on the insignificant activities list.

- (1) 5 tons per year of any one criteria pollutant.
- (2) 2 tons per year for any one hazardous air pollutant (HAP) or 5 tons per year for an aggregate of two or more HAP's, or 20 percent of any threshold less than 10 tons per year for single HAP that the EPA may establish by rule.

[OAC 252:100-8-2 and OAC 252:100, Appendix I]

## **SECTION XVII. TRIVIAL ACTIVITIES**

Except as otherwise prohibited or limited by this permit, the permittee is hereby authorized to operate any individual or combination of air emissions units that are considered inconsequential and are on the list in Appendix J. Any activity to which a State or Federal applicable requirement applies is not trivial even if included on the trivial activities list.

[OAC 252:100-8-2 and OAC 252:100, Appendix J]

## **SECTION XVIII. OPERATIONAL FLEXIBILITY**

A. A facility may implement any operating scenario allowed for in its Part 70 permit without the need for any permit revision or any notification to the DEQ (unless specified otherwise in the permit). When an operating scenario is changed, the permittee shall record in a log at the facility the scenario under which it is operating. [OAC 252:100-8-6(a)(10) and (f)(1)]

B. The permittee may make changes within the facility that:

- (1) result in no net emissions increases,
- (2) are not modifications under any provision of Title I of the federal Clean Air Act, and
- (3) do not cause any hourly or annual permitted emission rate of any existing emissions unit to be exceeded;

provided that the facility provides the EPA and the DEQ with written notification as required below in advance of the proposed changes, which shall be a minimum of seven (7) days, or twenty four (24) hours for emergencies as defined in OAC 252:100-8-6 (e). The permittee, the DEQ, and the EPA shall attach each such notice to their copy of the permit. For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change. The permit shield provided by this permit does not apply to any change made pursuant to this paragraph. [OAC 252:100-8-6(f)(2)]

#### **SECTION XIX. OTHER APPLICABLE & STATE-ONLY REQUIREMENTS**

A. The following applicable requirements and state-only requirements apply to the facility unless elsewhere covered by a more restrictive requirement:

- (1) Open burning of refuse and other combustible material is prohibited except as authorized in the specific examples and under the conditions listed in the Open Burning Subchapter. [OAC 252:100-13]
- (2) No particulate emissions from any fuel-burning equipment with a rated heat input of 10 MMBTUH or less shall exceed 0.6 lb/MMBTU. [OAC 252:100-19]
- (3) For all emissions units not subject to an opacity limit promulgated under 40 C.F.R., Part 60, NSPS, no discharge of greater than 20% opacity is allowed except for: [OAC 252:100-25]
  - (a) Short-term occurrences which consist of not more than one six-minute period in any consecutive 60 minutes, not to exceed three such periods in any consecutive 24 hours. In no case shall the average of any six-minute period exceed 60% opacity;
  - (b) Smoke resulting from fires covered by the exceptions outlined in OAC 252:100-13-7;
  - (c) An emission, where the presence of uncombined water is the only reason for failure to meet the requirements of OAC 252:100-25-3(a); or
  - (d) Smoke generated due to a malfunction in a facility, when the source of the fuel producing the smoke is not under the direct and immediate control of the facility and the immediate constriction of the fuel flow at the facility would produce a hazard to life and/or property.
- (4) No visible fugitive dust emissions shall be discharged beyond the property line on which the emissions originate in such a manner as to damage or to interfere with the use of

adjacent properties, or cause air quality standards to be exceeded, or interfere with the maintenance of air quality standards. [OAC 252:100-29]

- (5) No sulfur oxide emissions from new gas-fired fuel-burning equipment shall exceed 0.2 lb/MMBTU. No existing source shall exceed the listed ambient air standards for sulfur dioxide. [OAC 252:100-31]
- (6) Volatile Organic Compound (VOC) storage tanks built after December 28, 1974, and with a capacity of 400 gallons or more storing a liquid with a vapor pressure of 1.5 psia or greater under actual conditions shall be equipped with a permanent submerged fill pipe or with a vapor-recovery system. [OAC 252:100-37-15(b)]
- (7) All fuel-burning equipment shall at all times be properly operated and maintained in a manner that will minimize emissions of VOCs. [OAC 252:100-37-36]

## **SECTION XX. STRATOSPHERIC OZONE PROTECTION**

A. The permittee shall comply with the following standards for production and consumption of ozone-depleting substances: [40 CFR 82, Subpart A]

- (1) Persons producing, importing, or placing an order for production or importation of certain class I and class II substances, HCFC-22, or HCFC-141b shall be subject to the requirements of §82.4;
- (2) Producers, importers, exporters, purchasers, and persons who transform or destroy certain class I and class II substances, HCFC-22, or HCFC-141b are subject to the recordkeeping requirements at §82.13; and
- (3) Class I substances (listed at Appendix A to Subpart A) include certain CFCs, Halons, HBFCs, carbon tetrachloride, trichloroethane (methyl chloroform), and bromomethane (Methyl Bromide). Class II substances (listed at Appendix B to Subpart A) include HCFCs.

B. If the permittee performs a service on motor (fleet) vehicles when this service involves an ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all applicable requirements. Note: The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC-22 refrigerant. [40 CFR 82, Subpart B]

C. The permittee shall comply with the following standards for recycling and emissions reduction except as provided for MVACs in Subpart B: [40 CFR 82, Subpart F]

- (1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156;
- (2) Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158;
- (3) Persons performing maintenance, service, repair, or disposal of appliances must be

- certified by an approved technician certification program pursuant to § 82.161;
- (4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record-keeping requirements pursuant to § 82.166;
  - (5) Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to § 82.158; and
  - (6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

## **SECTION XXI. TITLE V APPROVAL LANGUAGE**

A. DEQ wishes to reduce the time and work associated with permit review and, wherever it is not inconsistent with Federal requirements, to provide for incorporation of requirements established through construction permitting into the Source's Title V permit without causing redundant review. Requirements from construction permits may be incorporated into the Title V permit through the administrative amendment process set forth in OAC 252:100-8-7.2(a) only if the following procedures are followed:

- (1) The construction permit goes out for a 30-day public notice and comment using the procedures set forth in 40 C.F.R. § 70.7(h)(1). This public notice shall include notice to the public that this permit is subject to EPA review, EPA objection, and petition to EPA, as provided by 40 C.F.R. § 70.8; that the requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process; that the public will not receive another opportunity to provide comments when the requirements are incorporated into the Title V permit; and that EPA review, EPA objection, and petitions to EPA will not be available to the public when requirements from the construction permit are incorporated into the Title V permit.
- (2) A copy of the construction permit application is sent to EPA, as provided by 40 CFR § 70.8(a)(1).
- (3) A copy of the draft construction permit is sent to any affected State, as provided by 40 C.F.R. § 70.8(b).
- (4) A copy of the proposed construction permit is sent to EPA for a 45-day review period as provided by 40 C.F.R. § 70.8(a) and (c).
- (5) The DEQ complies with 40 C.F.R. § 70.8(c) upon the written receipt within the 45-day comment period of any EPA objection to the construction permit. The DEQ shall not issue the permit until EPA's objections are resolved to the satisfaction of EPA.
- (6) The DEQ complies with 40 C.F.R. § 70.8(d).
- (7) A copy of the final construction permit is sent to EPA as provided by 40 CFR § 70.8(a).
- (8) The DEQ shall not issue the proposed construction permit until any affected State and EPA have had an opportunity to review the proposed permit, as provided by these permit conditions.
- (9) Any requirements of the construction permit may be reopened for cause after incorporation into the Title V permit by the administrative amendment process, by DEQ as provided in OAC 252:100-8-7.3(a), (b), and (c), and by EPA as provided in 40 C.F.R. § 70.7(f) and (g).

- (10) The DEQ shall not issue the administrative permit amendment if performance tests fail to demonstrate that the source is operating in substantial compliance with all permit requirements.

B. To the extent that these conditions are not followed, the Title V permit must go through the Title V review process.

## **SECTION XXII. CREDIBLE EVIDENCE**

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any provision of the Oklahoma implementation plan, nothing shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [OAC 252:100-43-6]



DRAFT



# PART 70 PERMIT

AIR QUALITY DIVISION  
STATE OF OKLAHOMA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
707 N. ROBINSON, SUITE 4100  
P.O. BOX 1677  
OKLAHOMA CITY, OKLAHOMA 73101-1677

Permit No. 2019-0987-TVR2

McAlester Army Ammunition Plant,

having complied with the requirements of the law, is hereby granted permission to operate all the sources within their boundaries in Pittsburg County, Oklahoma, subject to standard conditions dated June 21, 2016 and specific conditions, both attached.

This permit shall expire on five years from the date of issuance, except as Authorized under Section VIII of the Standard Conditions.

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Division Director  
Air Quality Division

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Date



SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT  
Governor

McAlester Army Ammunition Plant  
Attn.: Darrell Elliott, Environmental Director  
1 C-Tree Road  
McAlester, Oklahoma 74501-9002

Permit Number: **2019-0987-TVR2**  
Permit Writer: Ryan Buntyn

SUBJECT: Facility: McAlester Army Ammunition Plant (Facility ID 923)  
Location: Two miles southwest of McAlester

Dear Mr. Elliott:

Enclosed is the permit authorizing operation of the referenced facility. Please note that this permit is issued subject to standard and specific conditions, which are attached. These conditions must be carefully followed since they define the limits of the permit and will be confirmed by periodic inspections.

Based on the information provided, the proposed operations may be performed through a minor modification to the current Part 70 operating permit.

**INVOICE FOR PERMIT MODIFICATION 2019-0987-TVR2**

Per Oklahoma Administrative Code (OAC) 252:100-8-1.7(1), the standard fee for renewal of their Title V operating permit is \$7,500.00 which is now due and payable to the Oklahoma Department of Environmental Quality, Air Quality Division.

Also note that you are required to annually submit an emissions inventory for this facility. An emissions inventory must be completed on approved AQD forms and submitted (hardcopy or electronically) by April 1<sup>st</sup> of every year. Any questions concerning the form or submittal process should be referred to the Emissions Inventory Staff at (405) 702-4100.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact the permit writer at (405) 702-4100.

Sincerely,

Phillip Fielder, P.E.  
Chief Engineer  
**AIR QUALITY DIVISION**  
Enclosures



SCOTT A. THOMPSON  
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

KEVIN STITT  
Governor

McAlester Army Ammunition Plant  
Attn.: Darrell Elliott, Environmental Director  
1 C-Tree Road  
McAlester, Oklahoma 74501-9002

Permit Number: **2019-0987-TVR2**  
Permit Writer: Ryan Buntyn

SUBJECT: Facility: McAlester Army Ammunition Plant (Facility ID 923)  
Location: Two miles southwest of McAlester

Dear Mr. Elliott:

Air Quality Division has completed the initial review of your permit application referenced above. This application has been determined to be a **Tier II**. In accordance with 27A O.S. § 2-14-302 and OAC 252:004-7-13(c) the enclosed draft permit is now ready for public review. The requirements for public review include the following steps which you must accomplish:

1. Publish at least one legal notice (one day) in at least one newspaper of general circulation within the county where the facility is located. (Instructions enclosed)
2. Provide for public review (for a period of 30 days following the date of the newspaper announcement) a copy of this draft permit on the DEQ website and access to the application through the DEQ website.
3. Send to AQD a copy of the proof of publication notice from Item #1 above together with any additional comments or requested changes which you may have on the draft permit.

Thank you for your cooperation. If you have any questions, please refer to the permit number above and contact me at (405) 702-4100 or the permit writer, Ryan Buntyn, at (405) 702-4213.

Sincerely,

*Phillip Fielder*

Phillip Fielder, P.E.,  
Chief Engineer  
**AIR QUALITY DIVISION**

Enclosures

## **NOTICE OF DRAFT PERMIT TIER II or TIER III AIR QUALITY PERMIT APPLICATION**

### **APPLICANT RESPONSIBILITIES**

Permit applicants are required to give public notice that a Tier II or Tier III draft permit has been prepared by DEQ. The notice must be published in one newspaper local to the site or facility. Upon publication, a signed affidavit of publication must be obtained from the newspaper and sent to AQD. Note that if either the applicant or the public requests a public meeting, this must be arranged through the Customer Services Division of the DEQ.

### **REQUIRED CONTENT** (27A O.S. § 2-14-302 and OAC 252:4-7-13(c))

1. A statement that a Tier II or Tier III draft permit has been prepared by DEQ;
2. Name and address of the applicant;
3. Name, address, driving directions, legal description and county of the site or facility;
4. The type of permit or permit action being sought;
5. A description of activities to be regulated, including an estimate of emissions from the facility;
6. Location(s) where the application and draft permit may be reviewed ;
7. Name, address, and telephone number of the applicant and DEQ contacts;
8. Any additional information required by DEQ rules or deemed relevant by applicant;
9. A 30-day opportunity to request a formal public meeting on the draft permit.

**SAMPLE NOTICE on page 2.**

**SAMPLE NOTICE** (*Italicized print is to be filled in by the applicant.*):

**DEQ NOTICE OF TIER ...II or III... DRAFT PERMIT**

**A Tier ...II or III... application for an air quality ...type of permit or permit action being sought (e.g., Construction Permit for a Major Facility)... has been filed with the Oklahoma Department of Environmental Quality (DEQ) by applicant, ...name and address.**

**The applicant requests approval to ...brief description of purpose of application... at the ...site/facility name ... [proposed to be] located at ...physical address (if any), driving directions, and legal description including county....**

**In response to the application, DEQ has prepared a draft permit [modification] (Permit Number: ...xx-xxx-x...), which may be reviewed at at the Air Quality Division's main office (see address below). or the Air Quality Section of DEQ's Web Page: <http://www.deq.ok.gov/>. Additionally, the application may be obtained in an electronic form by direct request of the Chief Engineer by the methods listed below.**

**This draft permit would authorize the facility to emit the following regulated pollutants: (*list each pollutant and amounts in tons per year (TPY)*)**

**The public comment period ends 30 days after the date of publication of this notice. Any person may submit written comments concerning the draft permit to the Air Quality Division contact listed below. [Modifications only, add: Only those issues relevant to the proposed modification(s) are open for comment.] A public meeting on the draft permit [modification] may also be requested in writing at the same address. Note that all public meetings are to be arranged and conducted by DEQ/CSD staff.**

**In addition to the public comment opportunity offered under this notice, this draft permit is subject to U.S. Environmental Protection Agency (EPA) review, EPA objection, and petition to EPA, as provided by 40 CFR § 70.8. [For Construction Permits, add: The requirements of the construction permit will be incorporated into the Title V permit through the administrative amendment process. Therefore, no additional opportunity to provide comments or EPA review, EPA objection, and petitions to EPA will be available to the public when requirements from the construction permit are incorporated into the Title V permit.]**

**If the Administrator (EPA) does not object to the proposed permit, the public has 60 days following the Administrator's 45 day review period to petition the Administrator to make such an objection as provided in 40 CFR 70.8(d) and in OAC 252:100-8-8(j). Information on all permit actions and applicable review time lines is available in the Air Quality section of the DEQ Web page: <http://www.deq.ok.gov/>.**

**For additional information, contact ...names, addresses and telephone numbers of contact persons for the applicant, or contact DEQ at: Chief Engineer, Permits & Engineering Group, Air Quality Division, 707 N. Robinson, Suite 4100, P.O. Box 1677, Oklahoma City, OK, 73101-1677. Phone No. (405) 702-4100. E-mail – [phillip.felder@deq.ok.gov](mailto:phillip.felder@deq.ok.gov)**

**Department of Environmental Quality (DEQ)**  
**Air Quality Division (AQD)**  
**Acronym List**  
**7-1-20**

<b>ACFM</b>	Actual Cubic Feet per Minute	<b>HP</b>	Horsepower (hp)
<b>AD</b>	Applicability Determination	<b>HR</b>	Hour (hr)
<b>AFRC</b>	Air-to-Fuel Ratio Controller	<b>H<sub>2</sub>S</b>	Hydrogen Sulfide
<b>API</b>	American Petroleum Institute	<b>I&amp;M</b>	Inspection and Maintenance
<b>ASTM</b>	American Society for Testing and Materials	<b>IBR</b>	Incorporation by Reference
		<b>IC</b>	Internal Combustion
<b>BACT</b>	Best Available Control Technology	<b>LAER</b>	Lowest Achievable Emission Rate
<b>BHP</b>	Brake Horsepower (bhp)	<b>LB</b>	Pound(s) [Mass] (lb, lbs, lbm)
<b>BTU</b>	British thermal unit (Btu)	<b>LB/HR</b>	Pound(s) per Hour (lb/hr)
		<b>LDAR</b>	Leak Detection and Repair
<b>C&amp;E</b>	Compliance and Enforcement	<b>LNG</b>	Liquefied Natural Gas
<b>CAA</b>	Clean Air Act	<b>LT</b>	Long Ton(s) (metric)
<b>CAM</b>	Compliance Assurance Monitoring		
<b>CAS</b>	Chemical Abstract Service	<b>M</b>	Thousand (Roman Numeral)
<b>CAAA</b>	Clean Air Act Amendments	<b>MAAC</b>	Maximum Acceptable Ambient Concentration
<b>CC</b>	Catalytic Converter	<b>MACT</b>	Maximum Achievable Control Technology
<b>CD</b>	Consent Decree	<b>MM</b>	Prefix used for Million (Thousand-Thousand)
<b>CEM</b>	Continuous Emission Monitor	<b>MMBTU</b>	Million British Thermal Units (MMBtu)
<b>CFC</b>	Chlorofluorocarbon	<b>MMBTUH</b>	Million British Thermal Units per Hour (MMBtu/hr)
<b>CFR</b>	Code of Federal Regulations	<b>MMSCF</b>	Million Standard Cubic Feet (MMscf)
<b>CI</b>	Compression Ignition	<b>MMSCFD</b>	Million Standard Cubic Feet per Day
<b>CNG</b>	Compressed Natural Gas	<b>MSDS</b>	Material Safety Data Sheet
<b>CO</b>	Carbon Monoxide or Consent Order	<b>MWC</b>	Municipal Waste Combustor
<b>COM</b>	Continuous Opacity Monitor	<b>MWe</b>	Megawatt Electrical
		<b>NA</b>	Nonattainment
<b>D</b>	Day	<b>NAAQS</b>	National Ambient Air Quality Standards
<b>DEF</b>	Diesel Exhaust Fluid	<b>NAICS</b>	North American Industry Classification System
<b>DSCF</b>	Dry Standard (At Standard Conditions) Cubic Foot (Feet)	<b>NESHAP</b>	National Emission Standards for Hazardous Air Pollutants
		<b>NH<sub>3</sub></b>	Ammonia
<b>EGU</b>	Electric Generating Unit	<b>NMHC</b>	Non-methane Hydrocarbon
<b>EI</b>	Emissions Inventory	<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>EPA</b>	Environmental Protection Agency	<b>NO<sub>x</sub></b>	Nitrogen Oxides
<b>ESP</b>	Electrostatic Precipitator	<b>NOI</b>	Notice of Intent
<b>EUG</b>	Emissions Unit Group	<b>NSCR</b>	Non-Selective Catalytic Reduction
<b>EUSGU</b>	Electric Utility Steam Generating Unit	<b>NSPS</b>	New Source Performance Standards
		<b>NSR</b>	New Source Review
<b>FCE</b>	Full Compliance Evaluation		
<b>FIP</b>	Federal Implementation Plan	<b>O<sub>3</sub></b>	Ozone
<b>FR</b>	Federal Register	<b>O&amp;G</b>	Oil and Gas
		<b>O&amp;M</b>	Operation and Maintenance
<b>GACT</b>	Generally Achievable Control Technology	<b>O&amp;NG</b>	Oil and Natural Gas
<b>GAL</b>	Gallon (gal)	<b>OAC</b>	Oklahoma Administrative Code
<b>GDF</b>	Gasoline Dispensing Facility	<b>OC</b>	Oxidation Catalyst
<b>GEP</b>	Good Engineering Practice		
<b>GHG</b>	Greenhouse Gases		
<b>GR</b>	Grain(s) (gr)		
<b>HAP</b>	Hazardous Air Pollutants		
<b>HC</b>	Hydrocarbon		
<b>HCFC</b>	Hydrochlorofluorocarbon		
<b>HON</b>	Hazardous Organic NESHAP		

<b>PAH</b>	Polycyclic Aromatic Hydrocarbons	<b>µg/m<sup>3</sup></b>	Micrograms per Cubic Meter
<b>PAL</b>	Plant-wide Applicability Limit	<b>US EPA</b>	U. S. Environmental Protection Agency
<b>Pb</b>	Lead		
<b>PBR</b>	Permit by Rule	<b>VMT</b>	Vehicle Miles Traveled
<b>PCB</b>	Polychlorinated Biphenyls	<b>VOC</b>	Volatile Organic Compound
<b>PCE</b>	Partial Compliance Evaluation	<b>VRT</b>	Vapor Recovery Tower
<b>PEA</b>	Portable Emissions Analyzer	<b>VRU</b>	Vapor Recovery Unit
<b>PFAS</b>	Per-and Polyfluoroalkyl Substance		
<b>PM</b>	Particulate Matter	<b>YR</b>	Year
<b>PM<sub>2.5</sub></b>	Particulate Matter with an Aerodynamic Diameter <= 2.5 Micrometers	<b>2SLB</b>	2-Stroke Lean Burn
<b>PM<sub>10</sub></b>	Particulate Matter with an Aerodynamic Diameter <= 10 Micrometers	<b>4SLB</b>	4-Stroke Lean Burn
<b>POM</b>	Particulate Organic Matter or Polycyclic Organic Matter	<b>4SRB</b>	4-Stroke Rich Burn
<b>ppb</b>	Parts per Billion		
<b>ppm</b>	Parts per Million		
<b>ppmv</b>	Parts per Million Volume		
<b>ppmvd</b>	Parts per Million Dry Volume		
<b>PSD</b>	Prevention of Significant Deterioration		
<b>psi</b>	Pounds per Square Inch		
<b>psia</b>	Pounds per Square Inch Absolute		
<b>psig</b>	Pounds per Square Inch Gage		
<b>RACT</b>	Reasonably Available Control Technology		
<b>RATA</b>	Relative Accuracy Test Audit		
<b>RICE</b>	Reciprocating Internal Combustion Engine		
<b>RO</b>	Responsible Official		
<b>ROAT</b>	Regional Office at Tulsa		
<b>RVP</b>	Reid Vapor Pressure		
<b>SCC</b>	Source Classification Code		
<b>SCF</b>	Standard Cubic Foot		
<b>SCFD</b>	Standard Cubic Feet per Day		
<b>SCFM</b>	Standard Cubic Feet per Minute		
<b>SCR</b>	Selective Catalytic Reduction		
<b>SER</b>	Significant Emission Rate		
<b>SI</b>	Spark Ignition		
<b>SIC</b>	Standard Industrial Classification		
<b>SIP</b>	State Implementation Plan		
<b>SNCR</b>	Selective Non-Catalytic Reduction		
<b>SO<sub>2</sub></b>	Sulfur Dioxide		
<b>SO<sub>x</sub></b>	Sulfur Oxides		
<b>SOP</b>	Standard Operating Procedure		
<b>T</b>	Tons		
<b>TAC</b>	Toxic Air Contaminant		
<b>THC</b>	Total Hydrocarbons		
<b>TPY</b>	Tons per Year		
<b>TRS</b>	Total Reduced Sulfur		
<b>TSP</b>	Total Suspended Particulates		
<b>TV</b>	Title V of the Federal Clean Air Act		