DEPARTMENT OF THE ARMY
BLUE GRASS army DEPOT
431 BATTLEFIELD MEMORIAL HIGHWAY
RICHMOND, KENTUCKY 40475-5060

April 12, 2010

REPLY TO
ATTENTION OF:

Environmental Office

Commonwealth of Kentucky
Department for Environmental Protection (KDEP)
Division for Air Quality (DAQ), Permit Review Branch
ATTN: Mr. Jim Morse
200 Fair Oaks Lane, 1st Floor
Frankfort, KY 40601-1190

Subject: Title V / Synthetic Minor Air Permit Renewal Application (V-05-020)
Conventional Munition Operations
Blue Grass Army Depot, Richmond, Kentucky
Source I.D. Number: 21-151-00013; Source *A.I. Number:* 2805

Dear Mr. Morse:

Blue Grass Army Depot (BGAD) hereby submits the renewal application for the conventional munition operations (V-05-020), which expires on October 20, 2010. This application has been prepared under contract by Trinity Consultants, Covington, Kentucky. This application is separate from the renewal application already submitted under separate cover for the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) operations, which are regulated under a separate Title V permit (V-05-034) but considered a single source with BGAD for the purpose of Title V major source thresholds.

Enclosed is the original of the renewal application plus a copy on CD for electronic filing purposes, as often requested by DAQ for large correspondence. The copy on CD may be duplicated as appropriate to meet the requirement of Kentucky Administrative Regulations, 401 KAR 52:020, Section 5(a), to submit the original plus two copies.

Through this renewal application, BGAD has suggested several revisions be made to the existing Title V permit, which are shown in the enclosed highlighted redline/strikeout copy of the current permit conditions with proposed changes, comments, and clarifications. Some noteworthy changes requested are as follows:

1. Removal of portable internal combustion engines, which are not regulated under Title V, from the lists of significant and insignificant emission units at the facility.

2. Consolidation of parts of Section B of the permit where identical or very similar requirements apply to several emission units.

3. Revisions to the frequency of visual opacity observations for paint spray booths and grit blast units based on historical data showing that no visual emissions have been observed in recent years.

4. Revisions to monitoring requirements to ensure that paint booth filters are operated properly and replaced when necessary.

5. Incorporation of the off-permit changes that have been submitted to DAQ since the last permit revision (Revision 2) issued in December 2007

6. Addition of new significant emission units to Section B for existing units that had previously been classified as insignificant activities, but for which new federal regulations, including New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP), have been promulgated.

7. Other clarifying and consolidating edits to existing permit conditions.

BGAD will be glad to have a face-to-face meeting during the regulatory review period, if desired by DAQ, to discuss the proposed revisions to the Title V air permit. The points of contact (POCs) at BGAD Environmental Office are Ramesh Melarkode / Todd Williams, at (859) 779-6268 / 6280. Additionally, the POC at Trinity Consultants is Tony Schroeder at (859) 341-8100, who may be contacted directly for any technical, regulatory clarifications, if you so desire. However, we respectfully request that the BGAD POCs be carbon copied on any communications regarding this renewal application. Please feel free to contact us if you have any questions or require additional information during review of the renewal application.

Sincerely,

Joseph A. Tirone
Colonel, US Army
Commanding

Enclosures

Copy Furnished:
Tony Schroeder, Trinity Consultants Inc.

TITLE V OPERATING PERMIT RENEWAL APPLICATION
BLUE GRASS ARMY DEPOT ▪ RICHMOND, KENTUCKY

Prepared By:

TRINITY CONSULTANTS
1717 Dixie Highway, Suite 900
Covington, Kentucky 41011
(859) 341-8100
www.trinityconsultants.com
Project 101801.0010

for

BLUE GRASS ARMY DEPOT
431 Battlefield Memorial Highway
Richmond, Kentucky 40475-5060
(859) 779-6268 / 6280

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1. INTRODUCTION

Blue Grass Army Depot (BGAD) has been the site for the receipt, issue, storage, maintenance, and disposal of ammunition since operations began in April 1942. The facility occupies approximately 14,596 acres and is located approximately five miles southeast of Richmond, Kentucky in Madison County. A general area/vicinity map of the facility is provided in Appendix B. This renewal application pertains to BGAD conventional mission operations only, for which BGAD is both the owner and operator with respect to the Title V air permit. A facility site map showing the emission unit locations is also provided in Appendix B.

The chemical weapons demilitarization facility, Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is under construction in the northeast portion of the BGAD footprint, in an approximately 40 acre site. BGCAPP operations are covered under a wholly separate air permit, for which the operator is Bechtel Parsons Blue Grass Joint Venture and BGAD is the land owner. While BGAD and BGCAPP operations have separate Title V permits, emissions from the facilities are assessed collectively and are subject to a single set of emission limitations that preclude BGAD from PSD applicability.

The depot military commander and the alternate Civilian Executive Assistant serve as the responsible officials for the facility operations. BGAD is divided into organizational directorates for the administrative functions, core mission operations, services and support, and resource management functions. Technical / environmental matters are managed by the BGAD Environmental Office under the Directorate of Services and Support.

BGAD is currently regulated as a major source and operates under the authority of a Title V permit issued on October 20, 2005, and last revised on December 26, 2007 (Permit Number V-05-020 R2).[1] As the permit expires on October 20, 2010, a renewal application for the Title V is due to be submitted by April 20, 2010 pursuant to Condition G(b)(1) of the permit. This application document along with the associated forms and appendices constitute the renewal application package.

Many of the emission units and regulatory requirements encompassed within the existing Title V permit for BGAD remain valid, and thus, there are few substantive changes required as part of this renewal. L-3 Communications, which operates as a tenant within the BGAD facility, performs Iridite dip tank plating operations, which consist of metal plating and surface treatment of miscellaneous metal parts by utilizing a non-electrolytic process. This operation was previously regulated as an insignificant activity, but recently became subject to a National Emission Standard for Hazardous Air Pollutants (NESHAP) and as a result will need to be added to Section B of the permit as a "significant activity". Also, several new stationary emergency generator engines are subject to New Source

[1] Emissions from BGAD operations as described in V-05-020 R2 are less than major source thresholds. However, as defined under 40 CFR Part 70, operations at BGAD together with the Blue Grass Chemical Agency-Destruction Pilot Plant (BGCAPP) are considered to be a single stationary source. BGCAPP is currently under construction. The combined potential emissions from these two facilities are greater than major source thresholds; therefore both facilities are regulated under Title V permits.

Performance Standard requirements and several existing stationary emergency generator engines are subject to NESHAP requirements; therefore, BGAD presumes that these units will also be added to Section B of the permit. Finally, several insignificant activities have been or will be added at the facility and will need to be included in Section C of the permit.

To provide additional clarity regarding monitoring and recordkeeping currently required by the permit, BGAD is suggesting that certain minor wording changes be made to the existing permit as part of this renewal action. Also, to ease the administrative burden required by the permit, BGAD is suggesting revisions to certain monitoring and inspection requirements that are either redundant or unnecessary based on operating history at the facility. These suggested changes are discussed in Section 5 of the application.

BGAD's primary mission is to provide munitions, chemical defense equipment, and special operations support to the U.S. Department of Defense (DoD). BGAD has been the site for the receipt, issue, storage, maintenance, and disposal of ammunition since operations began in April 1942. BGAD's capabilities include chemical and conventional ammunition storage, conventional ammunition renovation, explosive reclamation and reuse, munitions testing and inspection, conventional ammunition demilitarization and disposal, as well as various machining, assembly, and repair services. For the purpose of this application, the process flow diagrams depicting the relevant facility operations are provided in Appendix C.

2.1 FACILITY LOCATION

BGAD is located at 431 Battlefield Memorial Highway, Richmond, Kentucky 40475. The station consists of approximately 14,596 acres of land and is located at 744,324 meters east, 4,175,932 meters north in UTM Zone 16. A facility area map is included in Appendix B that shows the location of the facility relative to the surrounding area.

2.2 PROCESS AND EMISSION UNIT DESCRIPTIONS

The several different process areas supporting the overall mission of the depot and that are considered air emission sources are described in the following subsections.

2.2.1 NATURAL GAS BOILERS AND INDIRECT HEAT EXCHANGERS (EU01 AND EU21)

There are two natural gas-fired boilers at BGAD each rated at 10.2 MMBtu/hr and located in Building 571. These boilers are listed in BGAD's current Title V as EU01 and provide steam to the Wash-Out Building, where the obsolete, unused munitions that may contain explosive residues are washed and dried for reclamation as part of BGAD's recycle, reclaim, reuse process. The EU01 boilers were installed in 2006.

Several other natural gas-fired boilers, each with a heat input rating between 1 MMBtu/hr and 5 MMBtu/hr are also operated at BGAD. These units are collectively listed in the Title V permit as EU21. These boilers provide steam to the buildings in which they are located for general building heat. The current permit lists seventeen (17) boilers in EU21, but three (3) of these boilers have been removed from service (EU21-13 located in Building 560, EU21-14 located in Building 215, and EU21-15 located in Building 215). Therefore, the Title V permit, when renewed, should only list the remaining fourteen (14) boilers in EU21. These boilers were installed in the 1970s.

2.2.2 GENERAL REFUSE INCINERATOR (EU09)

The General Refuse Incinerator (GRI) was originally installed in 1981 and is used to incinerate documents containing classified or sensitive information that for security reasons

cannot be disposed of using typical means. The GRI was upgraded in 2006 as described in the Permit Statement of Basis dated August 4, 2006 for Title V Permit V-05-020 R1. The GRI, as currently configured, consists of a Ram Feeder mechanism and the CAI-500 furnace unit, which is composed of primary and secondary combustion chambers. A stack test protocol was submitted to KDAQ in September 2006. Subsequently, stack testing was performed in December 2006 in accordance with the approved protocol. A representative from DAQ Technical Services Branch was present to witness the stack test. A final stack test report was submitted to DAQ and obtained approval in April 2007. The updated emission factors based on stack testing are reflected in the air permit, Revision 2, issued in December 2007 (which is the current BGAD Title V operating permit).

Waste material, including paper, cardboard, wood, cartons, cloth, packaging papers, and badging ribbons, is loaded into the Ram Feeder and pushed inside the primary combustion chamber for incineration.[2] Emissions generated from primary incineration are passed through a secondary combustion chamber (afterburner) for further processing and then exit through an exhaust stack to the atmosphere. The maximum rate of processing waste material through the GRI is 500 pounds per hour.

2.2.3 FLASHING FURNACE SYSTEM (EU10)

The Flashing Furnace System (FFS) is used to flash scrap metal (empty munition bodies/casings), which potentially may have explosive residue. The FFS is a single chamber natural gas fired incinerator designed to destroy residual energetic material from previously demilitarized munition castings. The ash, along with other combustion by-products, vent through a secondary afterburner, gas coolers, cyclone, and a baghouse before being vented to the atmosphere through a vertical exhaust stack. The FFS is often used as "a second stage" of a two step recycle-reclaim, reuse process; the first stage being the Wash-Out operation as discussed above under Section 2.2.1.

Also located at Building 275 is a Car Bottom Furnace, which the FFS replaced in 2006. (Additional information concerning this replacement is provided in the Permit Statement of Basis dated August 4, 2006 for Title V Permit V-05-020 R1.) The Car Bottom Furnace is disconnected from the main unit by a blind flange. The Car Bottom Furnace is currently idle and will only be used in extreme event, such as if the new FFS requires extended down time for maintenance or reconfiguration. The re-connection of the Car Bottom Furnace will require a major work order, labor, and time; i.e., the operator cannot simply restart it with the "flip of a switch". The requirements for operation of the Car Bottom Furnace are specified in Section H, Alternate Operating Scenarios, of the permit.

A stack test protocol was submitted to KDAQ for the FFS in September 2006. Subsequently, stack testing was performed in December 2006 in accordance with the approved protocol. A representative from DAQ Technical Services Branch was present to witness the stack test. A final stack test report was submitted to DAQ and obtained approval in April 2007. The

[2] Authority to incinerate the last material on this list, badging ribbons, was requested through an October 7, 2008 502(b)(10) change notification.

updated emission factors based on stack testing are reflected in the air permit, Revision 2, issued in December 2007 (which is the current BGAD Title V operating permit).

2.2.4 AIRCRAFT SURFACE COATING (EU11)

EU11 is a large paint booth for aircraft surface coating located in Building 232. The paints used are Chemical Agent Resistive Coatings (CARC). This is a tenant DoD Government Owned Contractor Operated (GOCO) mission run by the contractor, L-3 Communications. This tenant operation is entirely independent of BGAD core operation, however, due to their physical location within BGAD facility fenceline, is included under BGAD's Title V permit.

There is a shot-blasting machine inside the paint booth. The blast media is plastic bead. The fabric filters in the paint booth control PM emissions from the shot blasting operation and from painting operations. The emissions from painting are calculated by a mass balance. A transfer efficiency of 65% is assumed for calculating PM/PM_{10} emissions from painting. A minimum control efficiency of 90% is assumed for the fabric filter. The cleanup solvent is VOC/HAP based.

2.2.5 MUNITIONS AND MRAP SURFACE COATING (EU12 – EU15, EU25)

BGAD has thirteen (13) paint booths located within four (4) separate buildings as part of military munitions maintenance and Industrial Services Division (ISD) operations for painting Mine Resistant Ambush Protected (MRAP) vehicle component parts. The surface coating operations are grouped into multiple (3-5) emission units equipped with dedicated stacks in each building, as listed in BGAD's current Title V permit. PM emissions from each paint booth are controlled using dry filter media (primary and secondary filters back to back). VOC and water based cleanup solvents are used in these paint booths.

A new paint booth was added at BGAD in 2008 and was permitted through a May 12, 2008 off permit change application submitted to the Kentucky Division for Air Quality (KDAQ). This paint booth is currently located in Building 216 for any "touch-up" painting of miscellaneous metal parts associated with ISD operations, using corrosion resistant coatings. PM emissions from the ISD paint booth are controlled using a fabric filter that is designed to provide 99.9% control efficiency.

BGAD has near long term plans for the expansion of ISD operations towards setting up an Industrial Paint Facility (IPF) Building. This new facility will consist of several shot blast units, paint booths, and drying ovens that will be able to provide DoD mission support for a variety of surface coating operations. A separate stand alone application will be submitted to KDAQ as an off-permit change request for the new IPF Building.

2.2.6 DETONATION CHAMBER (EU16)

The detonation chamber is a waste military munitions (WMM) treatment unit that destroys military munitions by contained detonation. The detonation chamber is located in Building

280. PM emissions from this emission unit are controlled through the use of cartridge filters, which provide a design control efficiency of at least 99.9%.

2.2.7 SHOT BLASTING OF MUNITIONS (EU17 - EU19)

The surface preparation of the munition items are performed at the shot blast units (EU17 – EU19), prior to the surface coating operations (performed at EU12 – EU15). Currently, three shot blasting units (EU17, located in Building 1180, EU18, located in Building 562, and EU19, located in Building 550) are in operation. PM emissions from EU17 are controlled using a 99.9% efficient cartridge filter and emissions from EU18 and EU19 are controlled using baghouses that are also 99.9% efficient by design. An additional shot blaster, EU20, is currently listed in BGAD's Title V permit, but this unit has been removed from service and should be removed from the renewed permit. Another new and possibly smaller foot-print shot blast unit is in the near long term plan for Building 555. An off-permit change application will be submitted to KDAQ to support this procurement request. Some additional shot blast units are also in the plan with the new IPF mission which will be incorporated into the air permit through an off-permit change request.

2.2.8 OPEN DETONATION/OPEN BURNING (EU22)

The obsolete, unstable, and unserviceable waste military munitions (WMM) identified during the munitions maintenance service are slated for on-site disposal through open detonation and/or open burning at the demolition grounds along the southeast portion of the depot. This activity is conducted in accordance with BGAD's Resource Conversation and Recovery Act (RCRA) Subpart X permit and occurs in accordance with 401 KAR 63:005, which allows burning "for the prevention of a fire hazard, including the disposal of dangerous materials where no safe alternative is available". BGAD only conducts open burning in the event of (1) an immediate threat to life, health, or Government property and (2) the presence of potentially unstable nitrocellulose-based propellants in a configuration known to be capable of self-ignition.

BGAD had engaged in numerous discussions with KDAQ upon original permit issuance in 2005, pertaining to BGAD's pursuit of alternative environmentally friendlier technologies that are commercially proven and available for disposition WMM items. These are obsolete and potentially unstable items not suitable for transport for off-site treatment/disposal. The discussions with KDAQ resulted in BGAD undertaking a detailed research effort in identifying alternative technologies that are proven and in commercial use at other military installations or in private industry. A report entitled, "BGAD Response to DAQ Request for Information Pertaining to Open Burning Activities, July 23, 2008", summarized the findings of this research effort and was submitted to KDAQ for review.

The Industrial Supercritical Water Oxidation System (iSCWO) by General Atomics Corporation, San Diego, California was identified as a potential candidate technology for further consideration by BGAD, for on-site treatment/disposal of certain types of WMM items that are currently disposed of through open burning. This unit has been included in

BGAD's Title V permit as EU24, but permitting work with the Division of Waste Management is ongoing, as described in the following section.

2.2.9 INDUSTRIAL SUPERCRITICAL WATER OXIDATION SYSTEM (EU24)

The iSCWO technology was identified as discussed above to be a potential alternative in an effort to reduce BGAD's dependence on the open burning method of disposal for WMM items, where possible. A permit application pursuant to RCRA, Subpart X, Miscellaneous Unit regulations has been submitted to U.S. EPA, EPA Region 4, and Division of Waste Management, KDEP. BGAD is currently in the process of responding to a substantively detailed set of Notice of Deficiency questions from USEPA and KDEP-DWM. An entirely revised RCRA permit application is expected to be submitted to both agencies by the summer of 2010. The RCRA Part B permit for the iSCWO System, upon resolution of this and any future NODs from USEPA / DWM is expected to be issued in the 2011 timeframe and the iSCWO System to be fully operational for air permit purposes by 2012-13 timeframe. The major components of the system are the iSCWO reactor, gas-fired preheater, low pressure gas/liquid separator, sodium hydroxide drum, and quench pump. Emission points associated with the system will include the iSCWO reactor, preheater, and tank vents.

2.2.10 IRIDITE DIP TANK PLATING OPERATION (EU26)

L3 Communications operates another independent tenant DoD mission within BGAD, which is a GOCO facility consisting of an Iridite dip tank plating operation in Building 232. This operation was installed in 1992 and consists of a series of dip tanks used to prepare metal parts so that surface coatings adhere to their surfaces properly. Iridite operations perform metal plating and surface treatment of miscellaneous metal parts by utilizing a non-electrolytic process. This operation is a small source of PM and Chromium VI emissions and, based on potential emissions, could be classified as an insignificant activity in BGAD's Title V permit. However, this emission unit is subject to NESHAP Subpart WWWWWW (Area Source Standards for Plating and Polishing Operations) and therefore should be listed in Section B of the renewal permit, with the applicable NESHAP requirements included in this section.

2.2.11 NESHAP EXISTING CI EMERGENCY GENERATOR ENGINES (EU27)

BGAD operates four (4) stationary compression ignition (CI) reciprocating internal combustion engines (RICE), which were installed prior to 2004. These four units consist of a Kohler 107.2 hp unit at Building 219, an Onan 100.5 hp unit at Building 230, and two Cummins 207.7 hp units at Building T-250. These units are all diesel-fired and provide emergency electric power to the buildings with which they are associated. Conventionally, emergency electric generators and emergency fire fighting water pump engines rated at 500 hp or less that use certain fuels were considered to be insignificant activities by KDAQ in Title V permits. BGAD operates several emergency generator engines rated at less than 500 hp and using gasoline, propane, natural gas, and diesel as fuel, and per this convention, these engines have been included in Section C of BGAD's Title V permit. However, one limitation to this convention is that per 401 KAR 52:020, Section 6(1)(c), an emission activity subject to

a federally-enforceable requirement (other than generally applicable requirements) cannot be considered an insignificant activity. At the time that the previous Title V permit application was submitted (i.e., September 2004) emergency generator engines were not subject to federally enforceable regulations and therefore all emergency generators at BGAD could be categorized as insignificant activities.

An amended NESHAP for reciprocating internal combustion engines found at 40 CFR 63, Subpart ZZZZ was promulgated in final form on March 3, 2010. In this amended NESHAP, existing (i.e., engines constructed before June 12, 2006) compression ignition (CI) stationary RICE located at area sources of HAP emissions, such as BGAD, became subject to operating limitations and associated monitoring, recordkeeping, and reporting requirements. Therefore, existing stationary CI RICE at BGAD must no longer be considered insignificant activities and are included as EU27 in this permit renewal application.[3]

2.2.12 NSPS-SUBJECT CI EMERGENCY GENERATOR ENGINES (EU28)

Stationary CI emergency generator engines for which construction commenced after July 11, 2005, are manufactured after April 1, 2006, and are not fire pump engines are subject to New Source Performance Standard (NSPS) Subpart IIII for Stationary CI RICE. As discussed in the previous section, emission units subject to federally enforceable requirements cannot qualify as insignificant activities under Kentucky's Title V permit regulations. Therefore, although emergency generator engines at BGAD have traditionally been regulated as insignificant activities in the facility's Title V, CI RICE subject to NSPS Subpart IIII are now designated as significant emission units and are included as EU28 in this permit renewal application.

In 2009, BGAD installed three (3) new emergency CI RICE to provide electrical power to the ACS Building, Building 49, and Gate 3, respectively, in case of emergency. These units, which are each 80 hp Kohler units, are subject to NSPS Subpart IIII and are included in this permit application as EU28-1, EU28-2, and EU28-3.

2.2.13 NSPS-SUBJECT SI EMERGENCY GENERATOR ENGINES (EU29)

Stationary spark ignition (SI) emergency generator engines for which construction commenced after June 12, 2006, are manufactured after January 1, 2009, and have a maximum engine power greater than 25 hp are subject to New Source Performance Standard (NSPS) Subpart JJJJ for Stationary SI RICE. As discussed in the previous sections, emission units subject to federally enforceable requirements cannot qualify as insignificant activities under Kentucky's Title V permit regulations. Therefore, although emergency generator engines at BGAD have traditionally been regulated as insignificant activities in the facility's

[3] Note that existing spark ignition (SI) RICE located at area sources, while technically subject to NESHAP Subpart ZZZZ, are not subject to emissions/operating limitations or monitoring, recordkeeping, and reporting requirements under this regulation. Therefore, stationary SI RICE operated at BGAD, which are all less than 500 hp in size, are still included in this application as insignificant activities.

Title V, SI RICE subject to NSPS Subpart JJJJ are now designated as significant emission units and are included as EU29 in this permit renewal application.

In 2009, BGAD installed two new emergency SI RICE, one at Lake Vega and one at the Building 52770 Fire Station, to provide electrical power to the building in case of emergency. These units, a 189 hp Caterpillar unit and a 168 hp Caterpillar unit, are subject to NSPS Subpart JJJJ and are included in this permit application as EU29.

2.2.14 INSIGNIFICANT ACTIVITIES

A variety of insignificant activities are present at BGAD, including gasoline, natural gas, and propane-fired emergency generators, small hydrocarbon storage tanks, small natural gas-fired heaters, degreasers, wood working shops, shot blasters, a paint container crusher, a thermal arc spray process, laboratory operations, a waste water treatment process, and manual grinding operations. These insignificant activities are listed individually on the DEP7007DD form included in Appendix A of this application.

3.1 CHARACTERIZATION OF EMISSIONS

Potential emissions calculation methodologies for significant emission units at BGAD are presented in Appendix D and summarized in the following sections. Emissions of criteria pollutants and hazardous air pollutants (HAPs) are calculated using a combination of EPA AP-42 emission factors, site specific stack test data, stack test data from other similar sources, and mass balance calculation techniques. The majority of the emissions calculation methodologies used in this application are consistent with recent Kentucky Emission Inventory Statement (KyEIS) reports submitted on an annual basis for BGAD operations.

3.1.1 NATURAL GAS BOILERS AND INDIRECT HEAT EXCHANGERS (EU01 AND EU21)

Emissions from natural gas-fired boilers and indirect heat exchangers (EU01 and EU21) are calculated using standard emission factors from EPA's AP-42 Section 1.4.[4] Potential annual emissions are calculated using the AP-42 emission factors, which are stated in terms of pounds of pollutant per million standard cubic feet of natural gas burned, the maximum hourly natural gas input rating of each burner, and the unrealistic but simplifying assumption that each unit operates for a maximum of 8,760 hours per year.

3.1.2 GENERAL REFUSE INCINERATOR (EU09)

Emissions from the GRI are related to the quantity of material burned in the unit. Operating Limitation 1.C in BGAD Title V permit limits the GRI to a maximum of 526 tpy of material burned; therefore, the potential emissions for this unit are based on this limit. Particulate matter emissions from the unit are calculated based on an emission factor derived during a December 2006 stack test conducted on the BGAD GRI unit. Emission factors for NO_X, CO, and VOC are designated in Section D of BGAD's Title V permit for the purpose of compliance with source-wide limits for these pollutants. Finally, HAP emission factors are based on AP-42 Section 2.1.[5] Consistent with actual emissions reported in BGAD's recent KyEIS reports, the afterburner is assumed to provide 74.3% control for metal HAPs emitted from the GRI.

3.1.3 FLASHING FURNACE SYSTEM (EU10)

The FFS is limited to 12,300 tpy of munitions processed by Operating Limitation 1.C of BGAD's Title V permit. Potential emissions are calculated based on this operating limit and emission factors developed based on stack testing conducted at BGAD in December 2006, factors required for compliance demonstration purposes in Section D of BGAD's Title V

[4] U.S. EPA, AP-42 Fifth Edition, Volume I, Chapter 1.4, *External Natural Gas Combustion*, July 1998.

[5] U.S. EPA, AP-42 Fifth Edition, Volume I, Chapter 2.1, *Solid Waste Disposal Refuse Combustion*, October 1996.

permit, and factors based on testing conducted on a similar unit at the Toole Army Depot in Toole, Utah. Consistent with actual emissions reported in BGAD's recent KyEIS reports, the cyclone and baghouse system is assumed to provide 97.5% control for metal HAPs emitted from the FFS.

3.1.4 SURFACE COATING (EU11-EU15, EU25)

Emissions of VOC and HAP are calculated for aircraft coating (EU11), munitions coating (EU12-EU15), and MRAP coating (EU25) operations using a mass balance, where all VOCs and HAPs contained in the coatings, paints, and thinners used in these operations are assumed to be emitted. Typical actual emissions presented in Appendix D are based on actual coating, paint, and thinner usage for each coating operation from 2009 and data on VOC and HAP contents of the materials used from relevant Material Safety Data Sheets (MSDSs). Potential material usage and associated emissions are estimated by scaling the typical actual material usage by the ratio of potential hours of operation (8,760 hours per year) to typical hours of operation (1,040 hours per year).

Particulate matter emissions are generated when coatings are sprayed onto parts. At least 90% of the coating sprayed it assumed to transfer to the part; therefore, up to 10% of coating is assumed to be emitted as particulate, on a mass basis. All paint booths at BGAD use fabric filters to control this particulate overspray. These filters provide a least 99.9% control efficiency for particulate. The total potential coating usage, calculated for the purposes of VOC and HAP emissions calculations, is used with the 90% transfer efficiency and 99.9% control efficiency to estimate potential particulate matter emissions from surface coating operations.

Chromium (VI) emissions are calculated using a slightly different methodology than other HAPs contained in the coatings and paints because it is not a volatile HAP, and thus, its emissions are not primarily driven by evaporation. Chromium (VI) emissions are calculated in a manner similar to particulate matter emissions, however consistent with recent KyEIS reports for BGAD, a 91% transfer efficiency and 90% fabric filter control efficiency are used.

The MRAP surface coating operation (EU25) has not yet begun operation; therefore, potential material usage and emissions are estimated assuming that the quantity and types of coatings used will be similar to those used for munitions coating (EU12-EU15).

3.1.5 DETONATION CHAMBER (EU16)

The detonation chamber is designed to process up to 300 pounds per hour of explosive. Therefore, this processing rate, assumed to occur for 8,760 hours per year, is used with appropriate emission factors to estimate potential emissions from this emission unit. Emission factors for both criteria pollutants and HAPs are developed based on source-specific stack testing conducted at BGAD in August 2001. The emission factors for NO_X, CO, and VOC developed through stack testing are also required for compliance demonstration purposes in Section D of BGAD's Title V permit. The detonation chamber is

equipped with a cartridge filter that provides 99.9% control efficiency for particulate matter and 99% control for metal HAP emissions.

3.1.6 SHOT BLASTING OF MUNITIONS (EU17 - EU19)

Particulate matter emissions result from shot blasting of munitions. Emissions from the three shot blasting units that are significant units in BGAD's Title V permit are estimated using an uncontrolled emission factor of 8 lb/ton of abrasive consumed and a control efficiency of 99.9% for the cartridge filter or baghouse used to control emissions from each unit. For the purpose of potential emission calculations, the maximum abrasive consumption rate is assumed to occur for 8,760 hours per year.

3.1.7 OPEN DETONATION/OPEN BURNING (EU22)

Testing has been conducted at other military installations to quantify emissions resulting from open detonation or open burning of conventional munitions.[6] Emission factors for criteria pollutants and HAPs have been developed based on these testing programs in terms of pounds of pollutant emitted per pounds of material detonated or burned. To estimate potential emissions from open detonation/open burning operations at BGAD, the maximum expected hourly detonation rate of 1,265.8 pounds per hour is used with the emission factors developed based on testing conducted at similar facilities. Annual potential emissions are calculated from short-term potentials assuming open detonation/open burning will occur for a maximum of 1,950 hours per year, because this activity is limited to weekday, daylight hours during non-summer months.[7]

3.1.8 INDUSTRIAL SUPERCRITICAL WATER OXIDATION SYSTEM (EU24)

As noted in Section 2.2.9, the RCRA permit application for the iSCWO system is still under review by U.S. EPA, EPA Region 4, and KDWM and operations are expected to begin around 2013. Therefore, testing conducted on similar units at other facilities must be used to estimate potential emissions.[8] Consistent with the potential emissions documentation presented in the July 2007 permit application for this unit, pound per hour emission rates for criteria pollutants and HAPs are estimated for the iSCWO process vent based on testing conducted in 2001 on a similar system built by General Atomics. Potential emissions from the natural gas-fired preheater associated with the iSCWO system are calculated using the maximum fuel input rating for the preheater (28,800 scf/hr) and emission factors from AP-42 Section 1.4.[9]

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[6] Mitchell and Suggs, *Emission Factors for the Disposal of Energetic Materials by Open Burning and Open Detonation (OB/OD)*, EPA 600/R-98-103, August 1998.

[7] Potential hours of operation assume operation for 10 hours per day, 5 days per week, for 9 months per year.

[8] Note that stack testing is required within 180 days after startup of the unit, so after the unit becomes operational, site specific emission factors will be developed for this unit.

[9] U.S. EPA, AP-42 Fifth Edition, Volume I, Chapter 1.4, *External Natural Gas Combustion*, July 1998.

3.1.9 IRIDITE DIP TANK PLATING OPERATION (EU26)

As noted in 2.2.10, this is a GOCO facility tenant DoD mission. Particulate matter emissions result from operation of the Iridite Dip Tank Plating Operation. Emissions of particulate are estimated based on the typical quantity of Iridite and Isoprep, which are both particulate when not dissolved in water, used in the dip tanks associated with this process. Make-up chemical is added to the dip tanks at a rate of approximately one gallon per hour. The make-up chemical is comprised of an average of two ounces of Iridite per gallon of water for the Iridite dip tank and an average of 12 ounces of Isoprep per gallon of water for the Isoprep dip tank. Assuming 90% transfer efficiency onto the plated metal parts, 10% of the Iridite or Isoprep added to the dip tanks is estimated to be emitted from the tanks as the chemical in the dip tanks evaporates.

HAP emissions from the dip tanks consist of chromium compounds and chromium (VI). Iridite contains 60% by weight chromium trioxide and Isoprep contains 10% by weight potassium bichromate. Chromium compound emission rates are calculated from the particulate matter emission rates estimated for the dip tanks using these chromium compound contents. The chromium atoms contained in the chromium compounds are assumed to be chromium (VI). Therefore, for the purpose of estimating emissions of chromium (VI) from the dip tanks, the chromium compound emission rate is multiplied by the ratio of the molecular weight of chromium (VI) to the total chromium compound molecular weight.

3.1.10 EMERGENCY GENERATOR ENGINES (EU27-EU29)

Emissions result from operation of emergency generator engines due to the combustion of fuel in the units. Potential emissions from the emergency generator engines at BGAD are calculated using the maximum hourly fuel usage rates for the engines, AP-42 emission factors, and assuming that the engine operate for a maximum of 500 hours per year. Criteria pollutant and HAP emissions are calculated for diesel-fired engines using AP-42 Chapter 3.3[10] and for natural gas-fired engines using AP-42 Chapter 3.2.[11] As a result of new regulations since the original Title V permit issued in 2005, these units are no longer considered as insignificant activities and hence will need to be moved to Section B of the renewed air permit. More details are discussed in Section 4 of the application.

[10] U.S. EPA, AP-42 Fifth Edition, Volume I, Chapter 3.3, *Gasoline and Diesel Industrial Engines*, October 1996.

[11] U.S. EPA, AP-42 Fifth Edition, Volume I, Chapter 3.2, *Natural Gas-Fired Reciprocating Engines*, July 2000.

In this section of the application, the regulatory requirements applicable to BGAD are briefly summarized. This narrative is intended to augment the revised permit provided in Appendix E of this application, which contains a compilation of all existing applicable requirements for the facility. The narrative in this section of the application is also intended to act in lieu of the information that would be provided on a DEP7007V Form, which lists the applicable regulations governing emission limits/work practice standards, monitoring, recordkeeping, reporting, and testing requirements. A discussion of BGAD's classification under the Federal New Source Review construction permitting and Title V operating permit programs is also discussed.

4.1 QUALIFICATION FOR TITLE V PERMITTING PROGRAM

40 CFR Part 70 contains the regulations implementing the federal Title V operating permit program. Kentucky has incorporated the provisions of this federal program in its Title V operating program at 401 KAR 52:020. As specified in 401 KAR 52:001, Section 1(46), a major source with respect to the Title V regulations encompasses facilities with potential emissions of 100 tpy of any regulated pollutant, 10 tpy of any single HAP and/or 25 tpy of any combination of HAPs. Emissions from BGAD operations are less than major source thresholds. However, as defined in 40 CFR Part 70, operations at BGAD together with the Blue Grass Chemical Agency-Destruction Pilot Plant (BGCAPP) (which is currently under construction) are considered to be a single stationary source. The combined emissions from these two facilities are greater than major source thresholds; therefore both facilities are regulated under Title V permits. BGAD is currently operating under Title V operating permit number V-05-020 R2, issued on December 26, 2007.

4.2 PSD SOURCE CLASSIFICATION

BGAD is located in an attainment area for all regulated pollutants. As its operations are not covered on the list of 28 defined Prevention of Significant Deterioration (PSD) source categories, the major source threshold with respect to the PSD program is 250 tpy. So that BGAD, in combination with BGCAPP operations, is an existing minor source under the PSD program, BGAD has chosen to accept certain federally enforceable limitations in Section D of the facility's Title V permit. Unlimited potential emissions of SO_2, PM, PM_{10}, and $PM_{2.5}$ are less than 250 tpy; therefore, the limitations of 225 tpy for CO and NO_X and 90 tpy for VOC[12] make the facility an existing synthetic minor source under the PSD program.

4.3 SPECIAL TREATMENT OF NON-ROAD INTERNAL COMBUSTION ENGINES

BGAD operates several portable internal combustion engines that may qualify as non-road engines or stationary emission sources depending on the way they are operated. This section includes a

[12] The VOC emissions limitation is set at 90 tpy instead of 225 tpy, like those for CO and NO_X, to preclude applicability to certain Kentucky SIP regulations for VOC sources.

discussion of those sources at BGAD that qualify as non-road engines and the resulting implications on applicability to Title V and SIP permitting programs for these units.

4.3.1 DETERMINATION OF NON-ROAD ENGINES

The United States Congress gave the EPA the authority to regulate mobile sources such as locomotives, aircraft, marine vessels, and non-road engines in *Title II, Emission Standards for Moving Sources* (Title II) of the Clean Air Act (CAA). EPA has promulgated 40 CFR 89 and 90 to regulate emissions from non-road compression and spark-ignition engines, respectively. Additionally, 40 CFR 1068 contains the general compliance provisions for non-road programs. The definition of non-road engine provided in these federal regulations is provided below.

Per 40 CFR §89.2, §90.3, and §1068.30, *Definitions,* [13]

Nonroad engine means:

(1) Except as discussed in paragraph (2) of this definition, [a nonroad engine is] any internal combustion engine:

(i) In or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes, and bulldozers); or

(ii) In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or

(iii) That, by itself or in or on a piece of equipment, is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform.

(2) An internal combustion engine is not a nonroad engine if:

(i) The engine is used to propel a motor vehicle[, an aircraft,] or a vehicle [equipment] used solely for competition, or is subject to standards promulgated under section 202 of the Act; or

(ii) The engine is regulated by a federal New Source Performance Standard promulgated under section 111 of the Act; or

[13] Brackets indicate portions of the definitions that differ slightly between 40 CFR §89.2, §90.3, and §1068.30.

(iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A location is any site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains at a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at that single location approximately three months (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location.

BGAD operates a variety of internal combustion engines that are clearly non-road engines, under (1)(i) and (1)(ii) of the definition provided above. These include tractors, lawnmowers, and string trimmers, along with other types of maintenance equipment that has historically not been included in the facility's Title V permit as emission sources. BGAD also operates several internal combustion engines that may qualify as non-road engines under (1)(iii) of the definition above; that is, if they are portable or transportable. These include internal combustion engines currently identified as significant emission units in BGAD's Title V permit, including those associated with portable air compressors (EU02-EU06 and EU08) and wood grinder engines (EU07 and EU23), and a variety of emission units currently listed as insignificant activities, including those associated with portable welders, portable filter units, portable light sets, portable air sampling equipment, and other miscellaneous portable equipment. All of these internal combustion engines meet the portable/transportable criteria in (1)(iii) above because they are mounted on wheels, skids, dollies, or trailers. BGAD has also confirmed that these engines do not remain at a location for more than 12 consecutive months, due to either operational necessity or the need to move the engines to maintenance shops located elsewhere at BGAD for periodic (i.e., semi-annual or annual) maintenance.[14] Therefore, the engines discussed in this paragraph meet the definition of non-road engines and should be regulated as such.

4.3.2 EXCLUSION OF NON-ROAD ENGINES FROM PSD APPLICABILITY

Pursuant to 401 KAR 51:017 Section 1(1), the requirements of the PSD program are applicability to any "major stationary source" as defined in 401 KAR 51:001(118). In general, "major stationary source", pursuant to 401 KAR 51:001(118), means:

[14] The term "location" in section (2)(iii) of the definition of nonroad engine is defined as "any site at a building, structure, facility, or installation". EPA Region 4 has concurred that "location" refers to a single site at a building, structure, facility, or installation. Therefore, a portable engine that moves from a single site (i.e., coordinate) within an owner/operator's property to another single site (i.e., coordinate) within the same owner/operator's property, meets the definition of non-road engine. This concurrence was provided for several Air Force installations as discussed here: http://www.afcee.brooks.af.mil/products/air/federal/compdet/tse_regioniv.html

(a) Any of the 28 stationary sources listed in 401 KAR 51:001(118)(a)(1)(b)(i) which emits, or has the potential to emit, 100 tons per year (tpy) or more of any pollutant subject to regulation under the CAA.
(b) Any other stationary source which emits, or has the potential to emit, 250 tpy or more of any air pollutant subject to regulation under the CAA.
(c) Any other stationary source category which, as of August 7, 1980, is regulated under Section 111 (related to *NSPS*) or 112 (related to *Hazardous Air Pollutants*) of the CAA.

Per 401 KAR 51:001, *Definitions,*

(230) Stationary source means any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.

and

(29) Building, structure, facility, or installation means all of the pollutant emitting activities that: a) belong to the same industrial grouping, or have the same two (2) digit major group code, as described in the Standard Industrial Classification Manual, b) are located on one or more contiguous or adjacent properties, c) are under the control of the same person (or persons under common control), and d) do not include the activities of any vessel.

In the definitions provided above, the regulations do not explicitly address the status of non-road engines (or mobile sources) relating to PSD applicability. However, the regulations mirror the federal PSD regulations at 40 CFR 52.21 and it is likely that the EPA promulgated their definitions while operating under the supposition that it is tacit knowledge that mobile sources (i.e., nonroad engines) are regulated under federal programs deriving their authority from Title II of the CAA (i.e., such as 40 CFR Parts 85 through 92). Further, stationary source is defined in the CAA in Title III, *General Provisions*, Section 302, *Definitions* in a form that explicitly excludes nonroad engines.

Per CAA §302(z),

Stationary Source - The term "stationary source" means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 216.

As explained in Section 4.3.1, internal combustion engines that are portable or transportable meet the definition of a non-road engine as defined in the CFR, which incorporates all of the requirements of Section 216 of Title II of the CAA. As such, these nonroad engines are not regulated under 401 KAR 51:017.

In addition, EPA Region 9 has made the determination that nonroad engines are not included in federal permitting programs and because Kentucky's PSD program closely mirror the

federal PSD program, it is logical to conclude that non-road engines are not included in Kentucky's PSD program either. In a letter to the Law Office of Chytillo dated December 14, 2001, EPA Region 9 states that under CAA §302(z) nonroad engines are excluded from the definition of "stationary source" and are, therefore, exempt from federal stationary source permitting requirements (i.e., federal Title V and NSR permitting).[15]

4.3.3 EXCLUSION OF NON-ROAD ENGINES FROM TITLE V APPLICABILITY

Pursuant to 401 KAR 52:020, Section 1, the requirements of Kentucky's Title V program are applicability to the following:

> *Section 1. Applicability. This administrative regulation shall apply to sources required to obtain a Title V permit, including:*
>
> *(1) Major sources;*
> *(2) Affected sources subject to the Acid Rain Program;*
> *(3) Sources subject to new source review under 401 KAR 51:017 or 401 KAR 51:052, and*
> *(4) Sources that are (a) subject to a federal standard promulgated under 42 USC 7411 (NSPS) or 42 USC 7412 (NESHAP) and (b) not exempted or deferred from Title V permitted by the U.S. EPA.*

"Major source" is defined in 401 KAR 52:001(45), and in general means:

(a) Any stationary source (or group of stationary sources located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control)) belonging to a single major industrial grouping, and are described in (b), (c), or (d) below.
(b) A major source of HAPs with air emissions of individual HAPs of 10 tpy or more or 25 tpy or more of the combination of all HAPs.
(c) A major stationary source of air pollutants or any group of stationary sources as defined in Section 302 of the CAA that directly emits or has the potential to emit 100 tpy or more of any air pollutant.
(d) A major stationary source as defined in Part D of Title I of the CAA. (This relates to nonattainment areas.)

Per 401 KAR 52:001(71), stationary source means:

> *A building, structure, affected facility, or installation that emits or may emit a regulated air pollutant.*

In the definitions provided above, the regulations do not explicitly address the status of non-road engines (or mobile sources) relating to Title V applicability. However, the regulations

[15] See "Our Response to Comment #12" on page 11 of http://www.epa.gov/region07/air/title5/t5memos/camarc.pdf

mirror the federal Title V regulations at 40 CFR 71 and, as with the PSD program, it is likely that the EPA promulgated their definitions while operating under the supposition that it is tacit knowledge that mobile sources (i.e., nonroad engines) are regulated under federal programs deriving their authority from Title II of the CAA (e.g., 40 CFR Parts 85 through 92). Further, stationary source is defined in the CAA in Title III, *General Provisions,* Section 302, *Definitions* in a form that explicitly excludes nonroad engines, as discussed for PSD applicability above.

4.3.4 TITLE V AND PSD APPLICABILITY FOR BGAD NON-ROAD ENGINES

Although many of the portable internal combustion engines operated at BGAD are currently included in the Title V permit, these units, which are more correctly classified as non-road engines, have not been included in this renewal application and these units should be removed from BGAD's renewed Title V permit. (The specific non-road engines that should be removed from the renewed Title V permit are discussed in Section 5 of this application.) Additionally, for future construction permitting projects at BGAD, these nonroad engines should not be included when determining if BGAD is a major source for the purpose of PSD or if the particular project will exceed the PSD significant emission rate thresholds.

4.4 COMPLIANCE ASSURANCE MONITORING

Under 40 CFR Part 64, the Compliance Assurance Monitoring (CAM) regulations, facilities are required to prepare and submit monitoring plans for certain emission units with a Title V application. The CAM plans are intended to document methods that will provide on-going and reasonable assurance of compliance with emission limits. Pursuant to 40 CFR §64.2(a), the CAM regulations apply to a pollutant-specific emissions unit (PSEU), as defined in 40 CFR §64.1, at a major Title V source if the following criteria are met:

1) the PSEU is subject to an emission limitation or standard for the regulated pollutant, other than an emission limitation or standard that is exempt under 40 CFR §64.2(b),
2) the PSEU uses a control device as defined in 40 CFR §64.1 to achieve compliance with the emission limitation, and
3) the PSEU has potential pre-controlled emissions of the applicable regulated air pollutant that are equal to or greater than Title V major source thresholds.

Five emission units at BGAD are equipped with control devices, have uncontrolled potential emissions of PM of greater than 100 tpy (the major source threshold for PM), and are subject to non-exempt emission limitations or standards. Each PSEU potentially subject to CAM, along with the unit's calculated controlled and pre-control emissions, the emission limitation to which the unit is subject, and a description of the control device, is shown in Table 4-1.

TABLE 4-1. BGAD EMISSION UNITS POTENTIALLY SUBJECT TO CAM

EU ID	Process ID	Emission Unit Description	Emission Limitation	Control Device	Controlled PM Emissions (tpy)	Control Efficiency (%)	Uncontrolled PM Emissions (tpy)
EU11	3	Aircraft Surface Coating - Bldg 232 Shot Blast	401 KAR 59:010	Fabric Filter	0.1	99.9	112.1
EU16	1	Detonation Chamber	401 KAR 59:010	Cartridge Filter	0.8	99.9	843.6
EU17	1	Shot Blasting of Munitions	401 KAR 59:010	Cartridge Filter	2.1	99.9	2,102.4
EU18	1	Shot Blasting of Munitions	401 KAR 59:010	Baghouse	0.5	99.9	457.3
EU19	1	Shot Blasting of Munitions	401 KAR 59:010	Baghouse	1.8	99.9	1,829.1

CAM Plans for each of these five emission units have been prepared in accordance with all applicable provisions of 40 CFR Part 64 and taking into account prior technical guidance published by EPA.[16] The CAM Plans are included in Appendix F of this application package.

4.5 NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS

National Emission Standards for Hazardous Air Pollutants (NESHAPs), located in 40 CFR Parts 61 and 63, are applicable to major sources of HAPs and certain designated area sources of HAPs. A major source of HAP is one with potential emissions in excess of 25 tpy for total HAPs and/or potential emissions in excess of 10 tpy for any individual HAP. BGAD has accepted limitations of 22.5 tpy of total HAPs and 9 tpy of any individual HAP in Section D of the facility's Title V permit, making BGAD an area source of HAPs.

Operations at BGAD fit into general categories that could be subject to the following NESHAPs:

- Part 61, Subpart M - Asbestos
- Part 63, Subpart EEE – Hazardous Waste Combustors
- Part 63, Subpart MMMM – Surface Coating of Miscellaneous Metal Parts and Products
- Part 63, Subpart ZZZZ – Stationary Reciprocating Internal Combustion Engines (RICE)
- Part 63, Subpart HHHHHH – Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources
- Part 63, Subpart QQQQQQ – Wood Preserving Area Sources
- Part 63, Subpart WWWWWW – Area Source Standards for Plating and Polishing Operations

The applicability of these NESHAP Subparts is discussed in the following sections.

4.5.1 40 CFR 61 SUBPART M – ASBESTOS

This regulation provides standards for sources that use commercial asbestos, demolition and renovation of facilities, and waste disposal. This regulation is incorporated into the Kentucky regulations at 401 KAR 58:025 and supplemented by 401 KAR 58:040, which is designed to

[16] U.S. EPA, *Technical Guidance Document: Compliance Assurance Monitoring, Revised Draft,* MRI Project No. 4701-5, August 1998.

ensure that entities performing asbestos abatement work in Kentucky are fully qualified. Some structures at BGAD contain or may contain regulated asbestos containing material (RACM); therefore, BGAD takes steps to ensure compliance with the relevant conditions of this NESHAP during renovation/demolition activities at the depot. Certain BGAD staff attend periodic asbestos awareness training so that during renovation/demolition projects initial asbestos identification and sampling can be completed. Samples are sent off-site for detailed analysis and, if any RACM is found in a sample, required notifications and RACM removal/remediation work are performed through a certified contractor in accordance with the regulations.[17]

4.5.2 40 CFR 63 SUBPART EEE – HAZARDOUS WASTE COMBUSTORS

This NESHAP applies to hazardous waste combustors located at either major sources or area sources of HAP. While the GRI and FFS (EU09 and EU10) are both used to incinerate waste materials, neither is used to combust hazardous waste. The specific list of wastes which are allowed to be fed to the GRI (paper, cardboard, wood, cartons, cloth, munitions packaging papers, and badging ribbons) do not qualify as hazardous waste. Regarding the FFS, emptied munition casing as part of a reclamation activity are not regulated by Kentucky Hazardous Waste Regulations, and therefore the material combusted in the FFS is also not hazardous waste. Additionally, the 40 CFR 266.202 (Subpart M – Military Munitions, Definition of Solid Waste) specifically exempts military munitions from being classified as a solid waste (or hazardous waste) when they are being recycled. Therefore, the Hazardous Waste Combustors NESHAP does not apply to BGAD operations.

4.5.3 40 CFR 63 SUBPART MMMM – SURFACE COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS

This regulation applies to facilities that perform surface coating of miscellaneous metal parts and products, as described in 40 CFR 63.3881(a), and that are major sources, located at a major source, or part of a major source of emissions of HAP. BGAD is an area source of HAP; therefore, this regulation does not apply to surface coating operations at BGAD. Additionally, 40 CFR 63.3881(c)(4) contains an exemption from applicability of this regulation for surface coating operations performed on-site at installations owned or operated by the Armed Forced of the United Stations or the surface coating of military munitions manufactured by or for the Armed Forces of the United States. Therefore, even if BGAD were a major source of HAP, this regulation would not apply.

[17] Note that during a June 7, 2007 meeting between BGAD and KDAQ staff, KDAQ indicated that asbestos-related requirements are not required to be addressed in BGAD's Title V permit.

4.5.4 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

This NESHAP applies to stationary reciprocating internal combustion engines (RICE) at facilities that are both major and minor (area) sources of HAP.[18] BGAD is not a major source of HAPS because synthetic minor limitations have been taken to ensure that actual HAP emissions remain below major source thresholds; therefore it is considered an area source. For area sources, an affected unit is considered a new source if it was constructed on or after June 12, 2006 and is an existing source if it was constructed prior to this date. Stationary RICE operated at BGAD include diesel, natural gas, and propane-fired emergency generator engines. All of the stationary RICE currently operated at BGAD except four (EU28-1, EU29-1, EU29-2, and IA134), were constructed prior to June 12, 2006 and are considered existing units under NESHAP Subpart ZZZZ. The four emergency generator engines mentioned above are considered new units under the NESHAP.

The requirements of NESHAP Subpart ZZZZ that apply to a particular emergency generator engine at an area source are primarily dependent on the source status (i.e., new or existing) and the engine type (i.e., compression ignition or spark ignition), as outlined below.

- Existing Stationary SI Emergency RICE. Pursuant to 40 CFR 63.6590(b)(3) existing spark ignition emergency stationary RICE do not have to meet the requirements of NESHAP Subpart ZZZZ or Subpart A and no initial notification for the units is necessary. Therefore all of the natural gas or propane-fired emergency generators at BGAD (i.e., spark ignition), except for EU29-1 and EU29-2, are technically subject to NESHAP Subpart ZZZZ, but are not required to comply with any requirements.

- Existing Stationary CI Emergency RICE. Pursuant to 40 CFR 63.6603(a), existing stationary CI Emergency RICE must comply with the work practice standards in Table 2d of the NESHAP, including changing the oil and filter and inspecting the air filter, hoses, and belts, as required. Existing stationary CI Emergency RICE must also comply with relevant monitoring, recordkeeping, and reporting requirements as outlined in NESHAP Subpart ZZZZ and Subpart A. There are four (4) existing stationary CI emergency RICE operated at BGAD to which these requirements will become subject on May 3, 2013 as stated in 40 CFR 63.6595(a)(1). These RICE have been included as EU27 in this permit application, which will be a new significant unit in BGAD's renewed Title V permit.

- New Stationary SI Emergency RICE. Pursuant to 40 CFR 63.6590(c), new stationary SI RICE located at area sources (i.e., EU29-1, EU29-2, and IA134) must meet the requirements of Subpart ZZZZ by complying with the applicable requirements of NSPS Subpart JJJJ. As discussed in Section 4.6.7 below, EU29-1 and EU29-2 are

[18] Mobile RICE are specifically exempted from applicability for this regulation in the definition of "stationary reciprocating internal combustion engine" found at 40 CFR 63.6675. Mobile RICE are units that meet the definition of non-road engines in 40 CFR 1068.30. As discussed in Section 4.3, portable engines at BGAD qualify as non-road engines and are therefore not subject to NESHAP Subpart ZZZZ.

subject to emissions limitations in NSPS Subpart JJJJ; therefore compliance with Subpart ZZZZ will be met by complying with the applicable emissions limitations of NSPS Subpart JJJJ for these two RICE. As discussed below, IA134 is not subject to NSPS Subpart JJJJ; therefore, there are no applicable requirements for this unit required under Subpart ZZZZ.[19]

- New Stationary CI Emergency RICE. Pursuant to 40 CFR 63.6590(c), new stationary CI RICE located at area sources (i.e., EU28-1) must meet the requirements of Subpart ZZZZ by complying with the applicable requirements of NSPS Subpart IIII. As discussed in Section 4.6.6 below, EU28-1 is subject to emissions limitations in NSPS Subpart IIII; therefore compliance with Subpart ZZZZ will be met by complying with the applicable emissions limitations of NSPS Subpart IIII for this emission unit.

4.5.5 40 CFR 63 SUBPART HHHHHH – PAINT STRIPPING AND MISCELLANEOUS SURFACE COATING OPERATIONS AT AREA SOURCES

This NESHAP applies to area sources of HAP that perform one or more than the following: 1) paint stripping using methylene chloride for the removal of dried paint from wood, metal, plastic, or other substrates, 2) spray application of coatings to motor vehicles and mobile equipment, or 3) spray application of coatings that contain the target HAP to a plastic and/or metal substrate on a part or product. Target HAP, as defined in 40 CFR 63.11180, include compounds of chromium, lead, manganese, nickel, and cadmium. Certain surface coating operations at BGAD use spray application to coat metal parts using coatings containing compounds of chromium; however, 40 CFR 63.11169(d)(1) specifically exempts surface coating or paint stripping performed on site at installations owned or operated by the Armed Forces of the United States and 40 CFR 63.11169(d)(2) specifically exempts surface coating or paint stripping of military munitions manufactured by or for the Armed Forces of the United States. Surface coating operations at BGAD using chromium compound containing coatings, meet one or both of these exemptions; therefore, the requirements of this NESHAP do not apply to BGAD operations.

4.5.6 40 CFR 63 SUBPART QQQQQQ – WOOD PRESERVING AREA SOURCES

This NESHAP applies to wood preserving operations that are an area source HAP emissions. As defined in 40 CFR 63.11433, "wood preserving" means the pressure or thermal impregnation of chemicals into wood to provide effective long-term resistance to attack by fungi, bacteria, insects, and marine borers. BGAD's Wooden Pallets Treatment operations, for which notification of installation was provided to KDAQ in a February 26, 2009 off permit change application, could potentially be subject to this regulation. However, as noted

[19] The stationary RICE included in EU29 have emission limitations and associated recordkeeping requirements that should be listed in the Title V permit. This is why these units are included as significant emission units in this permit application. On the other hand, IA134, while technically subject to NESHAP Subpart ZZZZ, does not have any emissions or operating limitations, or monitoring, recordkeeping, or reporting requirements to be listed in the permit. This is why this emission unit has been categorized as an insignificant activity in this permit application.

in the February 26 application, the wood preservatives used at BGAD do not contain chromium, arsenic, dioxins, or methylene chloride; therefore BGAD's wood preserving operations are not subject to this regulation.

4.5.7 40 CFR 63 Subpart WWWWWW – Area Source Standards for Plating and Polishing Operations

This NESHAP is applicable to plating and polishing facilities that are located at area sources of HAP emissions. The Iridite Dip Tank Plating Operation (EU26) in Building 232 at BGAD is a non-electrolytic chromate conversion coating unit, as described in 40 CFR 63.11504(a)(iii); therefore, this operation is subject to the requirements of this NESHAP. EU26 was constructed at BGAD in 1992; therefore, as an existing affected source under Subpart WWWWWW, BGAD must comply with the requirements of this regulation for EU26 by July 1, 2010.

4.6 New Source Performance Standards (NSPS)

NSPS require new, modified, or reconstructed sources in applicable source categories to control emissions to the level achievable by the best demonstrated technology as specified in the applicable provisions. Any source subject to an NSPS is also subject to the general provisions of NSPS Subpart A, except as noted. The following NSPS regulations are potentially applicable to operations at BGAD:

- Subpart Dc – Small Industrial-Commercial-Institutional Steam Generating Units
- Subpart K/Ka/Kb – Storage Vessels for Petroleum Liquids/Volatile Organic Liquids
- Subpart AAAA – Small Municipal Waste Combustion Units
- Subpart CCCC – Commercial and Industrial Solid Waste Incineration Units
- Subpart EEEE – Other Solid Waste Incineration Units
- Subpart IIII – Stationary Compression Ignition Internal Combustion Engines
- Subpart JJJJ – Stationary Spark Ignition Internal Combustion Engines

4.6.1 40 CFR 60 Subpart Dc – NSPS for Small Industrial-Commercial-Institutional Steam Generating Units

NSPS Subpart Dc applies to steam generating units for which construction, modification, or reconstruction is commenced after June 9, 1989 and that have a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. EU01 is made up of two natural gas-fired boilers, each installed in 2006 and with a maximum design heat input of 10.2 MMBtu/hr. Therefore, both of these boilers are subject to the requirements of NSPS Subpart Dc.

4.6.2 40 CFR 60 Subparts K, Ka, and Kb – NSPS for Storage Vessels for Petroleum Liquids/Volatile Organic Liquids

These subparts apply to storage tanks of certain sizes constructed, reconstructed, or modified during various time periods. Subparts K and Ka only apply to storage tanks containing

volatile organic liquids with capacities greater than 40,000 gallons and Subpart Kb applies only to tanks with capacities greater than 19,800 gallons. BGAD operates several tanks storing volatile organic liquids, which are included in the list of insignificant activities in Section C of BGAD's Title V permit. The largest of these tanks has a capacity of 10,000 gallons. Therefore, NSPS Subparts K, Ka, and Kb do not apply to the volatile organic liquid storage tanks at BGAD.

4.6.3 40 CFR 60 SUBPART AAAA – NSPS FOR SMALL MUNICIPAL WASTE COMBUSTION UNITS

This regulation applies to small municipal solid waste combustion units for which construction commenced after August 30, 1999 or for which modification or reconstruction is commenced after June 6, 2001. The types of waste that are allowed to be burned in the GRI (EU09) are characteristic of some types of waste that would be considered municipal solid waste as it is defined in NSPS Subpart AAAA. The GRI is not subject to Subpart AAAA, however, because it was constructed in 1981 and has not since been modified or reconstructed.[20] Further, the capacity of the GRI is 500 pounds per hour or 6 tons per day and, per 40 CFR 60.1010(b), Subpart AAAA does not apply to units with daily capacities less than 35 tons per day.

4.6.4 40 CFR 60 SUBPART CCCC – NSPS FOR COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATION UNITS

NSPS Subpart CCCC applies to commercial and industrial solid waste incineration (CISWI) units for which construction commenced after November 30, 1999 or for which modification or reconstruction is commenced on or after June 1, 2001. The GRI (EU09) was constructed in 1981 and has not since been modified or reconstructed; therefore it is not subject to Subpart CCCC on this basis. Additionally, 40 CFR 60.2020(c)(2) exempts incineration units that burn greater than 30% municipal solid waste or refuse-derived fuel and that have the capacity to burn less than 35 tons per day of municipal solid waste or refuse-derived fuel. The GRI meets both of the above conditions; therefore, it is also not subject to the requirements of Subpart CCCC based on this exemption.

The FFS was constructed in September 2006, after the applicability date for this regulation. However, the FFS (EU10) is used to render scrap metal safe for further management and 40 CFR 60.2020(h) exempts materials recovery units and defines them as units that combust waste for the primary purpose of recovering metals. The flashed scrap metal from the FFS is recovered and therefore EU10 meets the exemption criteria.

[20] The GRI was upgraded in 2006, but as documented in an October 22, 2007 letter from BGAD to KDAQ, emissions from the unit did not increase and the cost of the upgrades was less than 50% of the total original cost of the unit. Therefore, the GRI did not undergo modification or reconstruction at the time of the 2006 upgrades.

4.6.5 40 CFR 60 SUBPART EEEE – NSPS FOR OTHER SOLID WASTE INCINERATION UNITS

This subpart applies to other solid waste incineration units for which construction is commenced after December 9, 2004 or for which modification or reconstruction is commenced on or after June 16, 2006. The GRI (EU09) was constructed in 1981 and has not since been modified or reconstructed; therefore, it is not subject to Subpart EEEE on this basis. The FFS was constructed in September 2006, after the applicability date for this regulation. However, the FFS (EU10) is used to render scrap metal safe for further management and 40 CFR 60.2887(k) exempts materials recovery units from applicability to this regulation. Therefore, neither the GRI nor the FFS are subject to NSPS Subpart EEEE.

4.6.6 40 CFR 60 SUBPART IIII – NSPS FOR STATIONARY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES

Pursuant to 40 CFR 60.4200, NSPS Subpart IIII applies to owners and operators of stationary CI internal combustion engines: 1) with a model year of 2007 or later, 2) constructed after July 11, 2005 and manufactured after April 1, 2006, or 3) modified or reconstructed after July 11, 2005.[21] BGAD operates one (1) stationary CI internal combustion engine that was manufactured after April 1, 2006 (EU28-1). None of the other existing stationary CI internal combustion engines at BGAD have been modified or reconstructed since they were installed; therefore, only EU28-1 is subject to NSPS Subpart IIII.

4.6.7 40 CFR 60 SUBPART JJJJ – NSPS FOR STATIONARY SPARK IGNITION INTERNAL COMBUSTION ENGINES

This Subpart is applicable to manufacturers, owners, and operators of new stationary SI emergency internal combustion engines manufactured after January 1, 2009, for emergency engines with a maximum engine power greater than 25 hp. Two natural gas-fired stationary SI emergency internal combustion engines (EU29-1 and EU29-2) were manufactured after this date and are have power output ratings greater than 25 hp. Therefore, these two engines are subject to NSPS Subpart JJJJ.

4.7 OTHER KENTUCKY SIP REGULATIONS

BGAD operations are potentially subject to regulations contained in the Kentucky Administrative Rules, Chapter 401 (Kentucky Air Rules). The Kentucky Air Rules fall under two main categories, those regulations that are generally applicable (e.g., permitting requirements), and those that have specific applicability (e.g., PM standards for manufacturing equipment).

[21] Note that there is no distinction for applicability to NSPS Subpart IIII between emergency and non-emergency stationary CI internal combustion engines except for NFPA-certified fire pump engines.

4.7.1 401 KAR 59:010, NEW PROCESS OPERATIONS

Particulate emissions from new process operations constructed on or after July 2, 1975 and not subject to other new source standards are regulated by 401 KAR 59:010. The affected facilities regulated by this standard include any "method, form, action, operation, or treatment of manufacturing or processing, and shall include any storage or handling of materials or products, before, during, or after manufacturing or processing." Section 3 of the rule establishes the opacity and mass emissions standards. Several emission units at BGAD, including the FFS (EU10), surface coating operations (EU11-EU15, EU25), the detonation chamber (EU16), shot blasting of munitions (EU18-EU19), the iSCWO system (EU24), the Iridite Dip Tank Plating Operation (EU26), and several insignificant activities are subject to this regulation.

4.7.2 401 KAR 59:015, NEW INDIRECT HEAT EXCHANGERS

401 KAR 59:015 applies to indirect heat exchangers having a heat input capacity of more than one (1) million Btu per hour (MMBtu/hr) for which construction commenced on or after April 9, 1972.[22] There are several significant (i.e., EU21 and EU24-2) and insignificant units at BGAD that meet these criteria; therefore, they are subject to this regulation. Note that 401 KAR 59:015, Section 2(2) specifically exempts units subject to 40 CFR 60 Subpart Dc from this regulation. The EU01 natural gas-fired boilers are subject to NSPS Subpart Dc and are therefore exempt from the requirements of 401 KAR 59:015.

4.7.3 401 KAR 59:020, NEW INCINERATORS

This regulation contains particulate matter and visible emissions limitations for incinerators for which construction commenced on or after June 6, 1979. Both the GRI and the FFS were constructed after this date and are subject to the requirements of this regulation.

4.7.4 401 KAR 59:050, NEW STORAGE VESSELS FOR PETROLEUM LIQUIDS

401 KAR 59:050 applies to the petroleum liquid storage vessels less than or equal to 40,000 gallons in storage capacity for which construction commenced on or after April 9, 1972, which are located in an ozone nonattainment area or which are located elsewhere at a major source of VOC emissions. This regulation also applies to storage vessels with capacities greater than 40,000 gallons for which construction commenced on or after April 9, 1972. BGAD is located in a county that is in attainment for ozone and BGAD is a minor source of VOC emissions due to the 90 tpy facility-wide annual VOC limit contained in Section D of the facility's Title V permit. Therefore, 401 KAR 59:050 does not apply to the petroleum liquid storage tanks at BGAD.

[22] This classification date is relevant for indirect heat exchangers with a capacity of 250 MMBtu/hr or less. All indirect heat exchangers at BGAD have a capacity below this threshold making April 9, 1972 the relevant classification date.

4.7.5 401 KAR 59:225, NEW MISCELLANEOUS METAL PARTS AND PRODUCTS SURFACE COATING OPERATIONS

401 KAR 59:225 applies to miscellaneous metal parts and products surface coating operations for which construction commenced on or after February 4, 1981, which are located in a county or portion of a county which is designated as ozone nonattainment or which are part of a major source located in a county or portion of a county designated as in attainment for ozone.[23] BGAD is located in a county that is in attainment for ozone and BGAD is a minor source of VOC emissions due to the 90 tpy facility-wide annual VOC limit contained in Section D of the facility's Title V permit. Therefore, 401 KAR 59:225 does not apply to the surface coating operations at BGAD.

4.7.6 401 KAR 61:020, EXISTING PROCESS OPERATIONS

Particulate emissions from existing process operations constructed before July 2, 1975 and not subject to other emission standards with respect to particulates are regulated by 401 KAR 61:020. The affected facilities regulated by this standard include any "method, form, action, operation, or treatment of manufacturing or processing, and shall include any storage or handling of materials or products, before, during, or after manufacturing or processing." Section 3 of the rule establishes the opacity and mass emissions standards. One of the munitions shot blasters (EU17) was constructed prior to July 2, 1975 and is therefore subject to this regulation.

4.7.7 401 KAR 61:050, EXISTING STORAGE VESSELS FOR PETROLEUM LIQUIDS

401 KAR 61:050 applies to certain petroleum liquid storage vessels for which construction commenced before April 9, 1972, which are located in a county or portion of a county which is designated ozone nonattainment. BGAD is located in a county that is in attainment for ozone; therefore, regardless of their date of construction, 401 KAR 61:050 does not apply to the petroleum liquid storage tanks at BGAD.

4.7.8 401 KAR 61:132, EXISTING MISCELLANEOUS METAL PARTS AND PRODUCTS SURFACE COATING OPERATIONS

401 KAR 61:132 applies to miscellaneous metal parts and products surface coating operations for which construction commenced before February 4, 1981, which are located in a county or portion of a county which is designated ozone nonattainment. BGAD is located in a county that is in attainment for ozone; therefore, regardless of their date of construction, 401 KAR 61:132 does not apply to surface coating operations at BGAD.

[23] Mr. Tony Schroeder of Trinity Consultants spoke with Ms. Elahe Houshmand of KDAQ on March 30, 2010 to confirm that while the regulation states that it applies to "major sources" this regulation only applies to "major sources of VOC".

4.7.9 401 KAR 63:005, OPEN BURNING

This regulation applies to all open burning that is not subject to another administrative regulation in 401 KAR 50 to 65. This regulation contains requirements that limit the circumstances under which open burning may be conducted and standards that must be observed when open burning is completed. Open burning/open detonation operations (EU22) at BGAD are subject to this regulation and the standards it contains.

4.7.10 401 KAR 63:010, FUGITIVE EMISSIONS

This regulation contains general requirements for sources of fugitive emissions that are not elsewhere subject to an opacity standard within the regulations of KDAQ. Under 401 KAR 63:010, no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate. BGAD's Title V permit specifically states that open burning/open detonation operations (EU22) are subject to this requirement.

4.7.11 401 KAR 63:020, POTENTIALLY HAZARDOUS MATTER OR TOXIC SUBSTANCES

401 KAR 63:020, which prohibits a facility from emitting potentially hazardous material in quantities that would be adverse, generally applies to BGAD. Pursuant to 401 KAR 63:020, the KDAQ, on a case-by-case basis, may require an applicant to conduct an air dispersion modeling analysis to demonstrate that potentially hazardous matter or toxic substances are not emitted in such quantities as to create an adverse ambient impact. Such an analysis was required in Compliance Demonstration Method (F) on Page 51 of Section D of BGAD's current Title V permit (V-05-020 R2). A dispersion modeling analysis using AERMOD was completed on behalf of BGAD and submitted to KDAQ on October 29, 2008. It is BGAD's understanding that this analysis is still under review by KDAQ and will likely be approved as part of the renewal of the facility's Title V permit.

5. REQUESTED PERMIT CONDITION REVISIONS

A suggested draft version of BGAD's Title V permit, using the most recent version of the permit (V-05-020 R2) as the starting point, is included in Appendix E of this application. The suggested revisions to the existing permit are due to three circumstances that typically occur when operating permits are renewed.

- Several changes to the current permit are necessary to reflect 502b10 change, off permit change, and minor permit revision letters that have been submitted to KDAQ since issuance of the most recent permit revision.

- Through the development of this permit renewal application, BGAD has also identified other recent or upcoming changes to emission units at the facility for which updates to the renewed permit will be required.

- Based on operational experience, BGAD operators have noted that some monitoring requirements currently included in BGAD's Title V permit are redundant and/or require significant administrative burden with little to no additional assurance of compliance with emissions limitations.

Therefore, as part of this renewal application, BGAD requests that KDAQ consider the suggested changes to existing monitoring conditions shown in Appendix E. The requested changes are highlighted in the suggested draft permit using redline/strikeout format and the reasoning behind each requested change is contained in a comment next to the requested change.

APPENDIX A

PERMIT APPLICATION FORMS

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

Division for Air Quality
200 Fair Oaks Lane, 1st Floor
Frankfort, Kentucky 40601
(502) 564-3999
http://www.air.ky.gov/

DEP7007AI

Administrative Information

Enter if known

AFS Plant ID#

Agency Use Only

Date Received

Log#

Permit#

PERMIT APPLICATION

The completion of this form is required under Regulations 401 KAR 52:020, 52:030, and 52:040 pursuant to KRS 224. Applications are incomplete unless accompanied by copies of all plans, specifications, and drawings requested herein. Failure to supply information required or deemed necessary by the division to enable it to act upon the application shall result in denial of the permit and ensuing administrative and legal action. Applications shall be submitted in triplicate.

1) APPLICATION INFORMATION

Note: The applicant must be the owner or operator. (The owner/operator may be individual(s) or a corporation.)

Name: *Blue Grass Army Depot (BGAD)*

Title: _____ **Phone:** _____

(**If applicant is an individual)**

Mailing Address: *Blue Grass Army Depot*
Company

Street or P.O. Box: *431 Battlefield Memorial Hwy.*

City: *Richmond* **State:** *KY* **Zip Code:** *40475-5060*

Is the applicant (check one): ☐ **Owner** ☐ **Operator** ☒ **Owner & Operator** ☐ **Corporation/LLC*** ☐ **LP****

* **If the applicant is a Corporation or a Limited Liability Corporation, submit a copy of the current Certificate of Authority from the Kentucky Secretary of State.**

** **If the applicant is a Limited Partnership, submit a copy of the current Certificate of Limited Partnership from the Kentucky Secretary of State.**

Person to contact for technical information relating to application:

Name: *Todd Williams*

Title: *BGAD Environmental Coordinator* **Phone:** *(859) 779-6280*

2) OPERATOR INFORMATION

Note: The applicant must be the owner or operator. (The owner/operator may be individual(s) or a corporation.)

Name: *Same as applicant*

Title: _____ **Phone:** _____

Mailing Address: _____
Company

Street or P.O. Box: _____

City: _____ **State:** _____ **Zip Code:** _____

3) TYPE OF PERMIT APPLICATION

For new sources that currently *do not* hold *any* air quality permits in Kentucky and are required to obtain a permit prior to construction pursuant to 401 KAR 52:020, 52:030, or 52:040.

☐ Initial Operating Permit (the permit will authorize both construction and operation of the new source)

Type of Source (*Check all that apply*): ☐ Major ☐ Conditional Major ☐ Synthetic Minor ☐ Minor

For existing sources that do not have a source-wide Operating Permit required by 401 KAR 52:020, 52:030, or 52:040.

Type of Source (*Check all that apply*): ☐ Major ☐ Conditional Major ☐ Synthetic Minor ☐ Minor

(*Check one only*)

☐ Initial Source-wide Operating Permit ☐ Modification of Existing Facilities at Existing Plant

☐ Construction of New Facilities at Existing Plant

☐ Other (explain) _____

For existing sources that currently have a source-wide Operating Permit.

Type of Source (*Check all that apply*): ☒ Major ☐ Conditional Major ☐ Synthetic Minor ☐ Minor

Current Operating Permit # *V-05-020 R2*

☐ **Administrative Revision** (describe type of revision requested, e.g. name change): _____

☒ **Permit Renewal** ☐ **Significant Revision** ☐ **Minor Revision**

☐ Addition of New Facilities ☐ Modification of Existing Facilities

For all construction and modification requiring a permit pursuant to 401 KAR 52:020, 52:030, or 52:040.

Proposed Date for Start of Construction or Modification: *NA*

Proposed date for Operation Start-up: *NA*

4) SOURCE INFORMATION

Source Name: *Blue Grass Army Depot*

Source Street Address: *431 Battlefield Memorial Hwy.*

City: *Richmond* **Zip Code:** *40475* **County:** *Madison*

Primary Standard Industrial Classification (SIC) Category: *National Defense* **Primary SIC #:** *9711*

Property Area (Acres or Square Feet): *14,596 acres* **Number of Employees:** *800*

Description of Area Surrounding Source (*check one*)**:**

☐ Commercial Area ☐ Residential Area ☒ Industrial Area ☐ Industrial Park ☐ Rural Area ☐ Urban Area

Approximate Distance to Nearest Residence or Commercial Property: *4,500 ft from BGAD boundary (distance is measured from central coordinate)*

UTM or Standard Location Coordinates: (*Include topographical map showing property boundaries*)

UTM Coordinates: Zone *16* Horizontal (km) *744,324* Vertical (km) *4,175,932*

Standard Coordinates: Latitude *37* Degrees *41* Minutes *53* Seconds

Longitude *84* Degrees *13* Minutes *44* Seconds

4) SOURCE INFROMATION (CONTINUED)

Is any part of the source located on federal land? ☒ **Yes** ☐ **No**

What other environmental permits or registrations does this source currently hold in Kentucky?

RCRA: # KY8-213-820-105, Water Withdraw: # 1013, KDPES: # KY0020737

What other environmental permits or registrations does this source need to obtain in Kentucky?

None

5) OTHER REQUIRED INFORMATION

Indicate the type(s) and number of forms attached as part of this application.

3	DEP7007A	Indirect Heat Exchanger, Turbine, Internal Combustion Engine	___	DEP7007R	Emission Reduction Credit
___	DEP7007S	Service Stations			
1	DEP7007B	Manufacturing or Processing Operations	*1*	DEP7007T	Metal Plating & Surface Treatment Operations
2	DEP7007C	Incinerators & Waste Burners	***	DEP7007V	Applicable Requirements & Compliance Activities
___	DEP7007F	Episode Standby Plan			
___	DEP7007J	Volatile Liquid Storage	___	DEP7007Y	Good Engineering Practice (GEP) Stack Height Determination
6	DEP7007K	Surface Coating or Printing Operations			
___	DEP7007L	Concrete, Asphalt, Coal, Aggregate, Feed, Corn, Flour, Grain, & Fertilizer	___	DEP7007AA	Compliance Schedule for Noncomplying Emission Units
___	DEP7007M	Metal Cleaning Degreasers	___	DEP7007BB	Certified Progress Report
1	DEP7007N	Emissions, Stacks, and Controls Information	___	DEP7007CC	Compliance Certification
___	DEP7007P	Perchloroethylene Dry Cleaning Systems	*1*	DEP7007DD	Insignificant Activities

** All applicable requirements are contained within the redline/strikeout copy of the current Title V permit provided in Appendix E. In addition, an analysis of applicable requirements is provided in Section 4 of the application report.*

Check other attachments that are part of this application.

	Required Data		Supplemental Data
☒	Map or Drawing Showing Location	☐	Stack Test Report
☒	Process Flow Diagram and Description	☐	Certificate of Authority from the Secretary of State (for Corporations and Limited Liability Companies)
☒	Site Plan Showing Stack Data and Locations	☐	Certificate of Limited Partnership from the Secretary of State (for Limited Partnerships)
☒	Emission Calculation Sheets	☐	Claim of Confidentiality (See 400 KAR 1:060)
☐	Material Safety Data Sheets (MSDS)*	☐	Other (Specify) _____

** See information submitted in previous permit applications for BGAD.*

Indicate if you expect to emit, in any amount, hazardous or toxic materials or compounds or such materials into the atmosphere from any operation or process at this location.

☐	Pollutants regulated under 401 KAR 57:002 (NESHAP)	☒	Pollutants listed in 401 KAR 63:060 (HAPS)
☐	Pollutants listed in 40 CFR 68 Subpart F [112(r) pollutants]	☐	Other

Has your company filed an emergency response plan with local and/or state and federal officials outlining the measures that would be implemented to mitigate an emergency release?

☐ **Yes** ☒ **No** *(Response Handled on-site)*

Check whether your company is seeking coverage under a permit shield. If "Yes" is checked, applicable requirements must be identified on Form DEP7007V. Identify any non-applicable requirements for which you are seeking permit shield coverage on a separate attachment to the application.

☒ **Yes** ☐ **No** ☒ **A list of non-applicable requirements is attached** *(See Section 4 of Application)*

6) OWNER INFORMATION

Note: If the applicant is the owner, write "same as applicant" on the name line.

Name: *Same as applicant*

Title: _____ **Phone:** _____

Mailing Address: _____
Company

Street or P.O. Box: _____

City: _____ **State:** _____ **Zip Code:** _____

List names of owners and officers of your company who have an interest in the company of 5% or more.

Name	Position (owner, partner, president, CEO, treasurer, etc.)
Not Applicable – This is a US government owned and operated facility.	

(attach another sheet if necessary)

7) SIGNATURE BLOCK

I, the undersigned, hereby certify under penalty of law, that I am a responsible official, and that I have personally examined, and am familiar with, the information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the information is on knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false or incomplete information, including the possibility of fine or imprisonment.

BY: _____ 12 Apr 10
(Authorized Signature) (Date)

Joseph A. Tirone *Colonel, US Army, Commanding*
(Typed or Printed Name of Signatory) (Title of Signatory)

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

(*Submit copies of this form for each individual unit. Make additional copies as needed)*

DEP7007A
INDIRECT HEAT EXCHANGER, TURBINE, INTERNAL COMBUSTION ENGINE

Emission Point # S01
Emission Unit # EU01

1) Type of Unit (Make, Model, Etc.): Cleaver Brooks
Date Installed: 2006 **Cost of Unit:** NA
(Date unit was installed, modified or reconstructed, whichever is later.)

Where more than one unit is present, identify with Company's identification or code for this unit:
This emission unit consists of two identical 10.2 MMBtu/hr boilers

2a) Kind of Unit (Check one):
1. **Indirect Heat Exchanger** X
2. **Gas Turbine for Electricity Generation** ____
3. **Pipe Line Compressor Engines:**
   ____ **Gas Turbine**
   ____ **Reciprocating engines**
   (a) 2-cycle lean burn ____
   (b) 4-cycle lean burn ____
   (c) 4-cycle rich burn ____
4. **Industrial Engine** ____

2b) Rated Capacity: (Refer to manufacturer's specifications)
1. **Fuel input (mmBTU/hr):** 10.2 MMBtu/hr (each)
2. **Power output (hp):** ____
   Power output (MW): ____

SECTION 1. FUEL

3) Type of Primary Fuel (*Check*):

____ **A. Coal** ____ **B. Fuel Oil # (***Check one***)** ____ **1** ____ **2** ____ **3** ____ **4** ____ **5** ____ **6**

X **C. Natural Gas** ____ **D. Propane** ____ **E. Butane** ____ **F. Wood** ____ **G. Gasoline**

____ **H. Diesel** ____ **I. Other** (*specify*) ____

4) Secondary Fuel (*if any, specify type*): None

5) Fuel Composition

Type	Percent Ash[a] Maximum	Percent Sulfur[b] Maximum	Heat Content Corresponding to: [c, d] Maximum Ash	Maximum Sulfur
Primary	NA	NA	1,020 Btu/scf	NA
Secondary	NA	NA	NA	NA

a. As received basis. Proximate Analysis for Ash. (May use values in your fuel contract)
b. As received basis. Ultimate Analysis for Sulfur. (May use values in your fuel contract)
c. Higher Heating Value, BTU/Unit. (May use values in your fuel contract)
d. Suggested units are: Pounds for solid fuel, gallon for liquid fuels, and cu. Ft. for gaseous fuels. If other units are used, please specify.

6) Maximum Annual Fuel Usage Rate (***please specify units)**:** N/A

7) Fuel Source or supplier: Delta Natural Gas

*Should be entered only if applicant requests operating restriction through federally enforceable limitations.

8) MAXIMUM OPERATING SCHEDULE FOR THIS UNIT*

24 hours/day 7 days/week 52 weeks/year

9) If this unit is multipurpose, describe percent in each use category:

Space Heat _____ % Process Heat 100 % Power _____ %

10) Control options for turbine/IC engine (C*heck*)

__ (1) Water Injection
__ (2) Steam Injection
__ (3) Selective Catalytic Reduction (SCR)
__ (3) Non-Selective Catalytic Reduction (NSCR)
__ (5) Combustion Modification)
__ (5) Other (S*pecify*) _____

IMPORTANT: Form DEP7007N must also be completed for this unit.

SECTION II COMPLETE ONLY FOR INDIRECT HEAT EXCHANGERS

11) Coal-Fired Units

_____ Pulverized Coal Fired:

__ Dry Bottom __ Wall Fired
__ Wet Bottom __ Tangentially Fired

_____ Cyclone Furnace

_____ Overfeed Stoker

_____ Fluidized Bed Combustor:
_____ Circulating Bed
_____ Bubbling Bed

Fly Ash Rejection:

☐ Yes ☐ No

_____ Spreader Stoker

_____ Underfeed Stoker

_____ Hand-fed

_____ Other (*specify*) _____

12) Oil-Fired Unit

_____ Tangentially (Corner) Fired

_____ Horizontally Opposed (Normal) Fired

13) Wood-Fired Unit

Fly-Ash Reinjection: ☐ Yes ☐ No

_____ Dutch Oven/Fuel Cell Oven

_____ Stoker

_____ Suspension Firing

_____ Fluidized Bed Combustion (FBC)

14) Natural Gas-Fired Units

__ Low NO_x Burners: ☐ Yes ☒ No

__ Flue Gas Recirculation: ☐ Yes ☒ No

*Should be entered only if applicant requests operating restriction through federally enforceable limitations.

15) Combustion Air **Draft:** X **Natural** _____ **Induced**

Forced Pressure ATM **lbs/sq. in.**

Percent excess air (air supplied in excess of theoretical air) NA **%**

SECTION III

16) Additional Stack Data

A. Are sampling ports provided? ☐ **Yes** ☒ **No**
B. If yes, are they located in accordance with 40 CFR 60*? ☐ **Yes** ☐ **No**
C. List other units vented to this stack None

17) Attach manufacturer's specifications and guaranteed performance data for the indirect heat exchanger. Include information concerning fuel input, burners and combustion chamber dimensions.

18) Describe fuel transport, storage methods and related dust control measures, including ash disposal and control.

Fuel delivered to unit via Natural Gas utility lines, no significant ash created from natural gas boiler.

*Applicant assumes responsibility for proper location of sampling ports if the Division for Air Quality requires a compliance demonstration stack test.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

(*Submit copies of this form for each individual unit. Make additional copies as needed)*

DEP7007A
INDIRECT HEAT EXCHANGER, TURBINE, INTERNAL COMBUSTION ENGINE

Emission Point # S28-1 through S28-17
Emission Unit # EU21

1) Type of Unit (Make, Model, Etc.): Varies
Date Installed: 1970s **Cost of Unit:** NA
(Date unit was installed, modified or reconstructed, whichever is later.)

Where more than one unit is present, identify with Company's identification or code for this unit:
This emission unit consists of fourteen boilers between 1 and 5 MMBtu/hr used for building heat

2a) Kind of Unit (Check one):
1. **Indirect Heat Exchanger** X
2. **Gas Turbine for Electricity Generation** ____
3. **Pipe Line Compressor Engines:**
   ____ **Gas Turbine**
   ____ **Reciprocating engines**
   (a) 2-cycle lean burn ____
   (b) 4-cycle lean burn ____
   (c) 4-cycle rich burn ____
4. **Industrial Engine** ____

2b) Rated Capacity: (Refer to manufacturer's specifications)
1. **Fuel input (mmBTU/hr):** Varies (see Appendix D)
2. **Power output (hp):** ____
   Power output (MW): ____

SECTION 1. FUEL

3) Type of Primary Fuel (*Check*):

____ **A. Coal** ____ **B. Fuel Oil # (***Check one***)** ____ **1** ____ **2** ____ **3** ____ **4** ____ **5** ____ **6**

X **C. Natural Gas** ____ **D. Propane** ____ **E. Butane** ____ **F. Wood** ____ **G. Gasoline**

____ **H. Diesel** ____ **I. Other** (*specify*) ____

4) Secondary Fuel (*if any, specify type*): None

5) Fuel Composition

Type	Percent Ash[a] Maximum	Percent Sulfur[b] Maximum	Heat Content Corresponding to: [c, d] Maximum Ash	Maximum Sulfur
Primary	NA	NA	1,020 Btu/scf	NA
Secondary	NA	NA	NA	NA

a. As received basis. Proximate Analysis for Ash. (May use values in your fuel contract)
b. As received basis. Ultimate Analysis for Sulfur. (May use values in your fuel contract)
c. Higher Heating Value, BTU/Unit. (May use values in your fuel contract)
d. Suggested units are: Pounds for solid fuel, gallon for liquid fuels, and cu. Ft. for gaseous fuels. If other units are used, please specify.

6) Maximum Annual Fuel Usage Rate (***please specify units)**:** N/A

7) Fuel Source or supplier: Delta Natural Gas

*Should be entered only if applicant requests operating restriction through federally enforceable limitations.

8) MAXIMUM OPERATING SCHEDULE FOR THIS UNIT*

24 hours/day 7 days/week 52 weeks/year

9) If this unit is multipurpose, describe percent in each use category:

Space Heat 100 % Process Heat _____ % Power _____ %

10) Control options for turbine/IC engine (C*heck*)

__ (1) Water Injection
__ (2) Steam Injection
__ (3) Selective Catalytic Reduction (SCR)
__ (3) Non-Selective Catalytic Reduction (NSCR)
__ (5) Combustion Modification)
__ (5) Other (S*pecify*) _____

IMPORTANT: Form DEP7007N must also be completed for this unit.

SECTION II COMPLETE ONLY FOR INDIRECT HEAT EXCHANGERS

11) Coal-Fired Units

_____ Pulverized Coal Fired:

__ Dry Bottom __ Wall Fired
__ Wet Bottom __ Tangentially Fired

_____ Cyclone Furnace

_____ Overfeed Stoker

_____ Fluidized Bed Combustor:
_____ Circulating Bed
_____ Bubbling Bed

Fly Ash Rejection:

☐ Yes ☐ No

_____ Spreader Stoker

_____ Underfeed Stoker

_____ Hand-fed

_____ Other (*specify*) _____

12) Oil-Fired Unit

_____ Tangentially (Corner) Fired

_____ Horizontally Opposed (Normal) Fired

13) Wood-Fired Unit

Fly-Ash Reinjection: ☐ Yes ☐ No

_____ Dutch Oven/Fuel Cell Oven _____ Stoker _____ Suspension Firing

_____ Fluidized Bed Combustion (FBC)

14) Natural Gas-Fired Units

__ Low NO_x Burners: ☐ Yes ☒ No

__ Flue Gas Recirculation: ☐ Yes ☒ No

*Should be entered only if applicant requests operating restriction through federally enforceable limitations.

15) Combustion Air **Draft:** X **Natural** _____ **Induced**

Forced Pressure ATM **lbs/sq. in.**

Percent excess air (air supplied in excess of theoretical air) NA **%**

SECTION III

16) Additional Stack Data

A. Are sampling ports provided? ☐ **Yes** ☒ **No**
B. If yes, are they located in accordance with 40 CFR 60*? ☐ **Yes** ☐ **No**
C. List other units vented to this stack None

17) Attach manufacturer's specifications and guaranteed performance data for the indirect heat exchanger. Include information concerning fuel input, burners and combustion chamber dimensions.

18) Describe fuel transport, storage methods and related dust control measures, including ash disposal and control.

Fuel delivered to unit via Natural Gas utility lines, no significant ash created from natural gas boilers.

*Applicant assumes responsibility for proper location of sampling ports if the Division for Air Quality requires a compliance demonstration stack test.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

(*Submit copies of this form for each individual unit. Make additional copies as needed)*

DEP7007A
INDIRECT HEAT EXCHANGER, TURBINE, INTERNAL COMBUSTION ENGINE

Emission Point # _____
Emission Unit # _____

1) Type of Unit (Make, Model, Etc.): _____
Date Installed: _____ **Cost of Unit:** _____
(Date unit was installed, modified or reconstructed, whichever is later.)

Where more than one unit is present, identify with Company's identification or code for this unit:
_____

2a) Kind of Unit (Check one):
1. **Indirect Heat Exchanger** _____
2. **Gas Turbine for Electricity Generation** _____
3. **Pipe Line Compressor Engines:**
   ____ **Gas Turbine**
   ____ **Reciprocating engines**
   (a) 2-cycle lean burn _____
   (b) 4-cycle lean burn _____
   (c) 4-cycle rich burn _____
4. **Industrial Engine** _____

2b) Rated Capacity: (Refer to manufacturer's specifications)
1. **Fuel input (mmBTU/hr):** _____
2. **Power output (hp):** _____
   Power output (MW): _____

Refer to 7007A Supplement Table 1 at the back of this section.

SECTION 1. FUEL

3) Type of Primary Fuel (*Check*):

_____ **A. Coal** _____ **B. Fuel Oil # (***Check one***)** _____ **1** _____ **2** _____ **3** _____ **4** _____ **5** _____ **6**

_____ **C. Natural Gas** _____ **D. Propane** _____ **E. Butane** _____ **F. Wood** _____ **G. Gasoline**

_____ **H. Diesel** _____ **I. Other** (*specify*) _____

4) Secondary Fuel (*if any, specify type*): _____

5) Fuel Composition

Type	Percent Ash[a] Maximum	Percent Sulfur[b] Maximum	Heat Content Corresponding to: [c, d] Maximum Ash	Maximum Sulfur
Primary				
Secondary				

a. As received basis. Proximate Analysis for Ash. (May use values in your fuel contract)
b. As received basis. Ultimate Analysis for Sulfur. (May use values in your fuel contract)
c. Higher Heating Value, BTU/Unit. (May use values in your fuel contract)
d. Suggested units are: Pounds for solid fuel, gallon for liquid fuels, and cu. Ft. for gaseous fuels. If other units are used, please specify.

6) Maximum Annual Fuel Usage Rate (***please specify units)*:**

7) Fuel Source or supplier: _____

Refer to 7007A Supplement Table 2 at the back of this section.

*Should be entered only if applicant requests operating restriction through federally enforceable limitations.

8) MAXIMUM OPERATING SCHEDULE FOR THIS UNIT*

___ hours/day _____ days/week _____ weeks/year

Refer to 7007A Supplement Table 3 at the back of this section.

9) If this unit is multipurpose, describe percent in each use category:

Space Heat _____% Process Heat _____ % Power _____ %

10) Control options for turbine/IC engine (C*heck*)

__ (1) Water Injection
__ (2) Steam Injection
__ (3) Selective Catalytic Reduction (SCR)
__ (3) Non-Selective Catalytic Reduction (NSCR)
__ (5) Combustion Modification)
__ (5) Other (S*pecify*) _____

IMPORTANT: Form DEP7007N must also be completed for this unit.

SECTION II COMPLETE ONLY FOR INDIRECT HEAT EXCHANGERS

11) Coal-Fired Units

_____ Pulverized Coal Fired:

__ Dry Bottom __ Wall Fired
__ Wet Bottom __ Tangentially Fired

_____ Cyclone Furnace

_____ Overfeed Stoker

_____ Fluidized Bed Combustor:
_____ Circulating Bed
_____ Bubbling Bed

Fly Ash Rejection:

☐ Yes ☐ No

_____ Spreader Stoker

_____ Underfeed Stoker

_____ Hand-fed

_____ Other (*specify*) _____

12) Oil-Fired Unit

_____ Tangentially (Corner) Fired

_____ Horizontally Opposed (Normal) Fired

13) Wood-Fired Unit

Fly-Ash Reinjection: ☐ Yes ☐ No

_____ Dutch Oven/Fuel Cell Oven

_____ Stoker

_____ Suspension Firing

_____ Fluidized Bed Combustion (FBC)

14) Natural Gas-Fired Units

__ Low NO_x Burners: ☐ Yes ☐ No

__ Flue Gas Recirculation: ☐ Yes ☐ No

*Should be entered only if applicant requests operating restriction through federally enforceable limitations.

15) **Combustion Air** **Draft:** _____ **Natural** _____ **Induced**

Forced Pressure _____ **lbs/sq. in.**

Percent excess air (air supplied in excess of theoretical air) _____ **%**

SECTION III Refer to 7007A Supplement Table 3 at the back of this section.

16) **Additional Stack Data**

A. **Are sampling ports provided?** ☐ **Yes** ☐ **No**
B. **If yes, are they located in accordance with 40 CFR 60*?** ☐ **Yes** ☐ **No**
C. **List other units vented to this stack** _____

17) **Attach manufacturer's specifications and guaranteed performance data for the indirect heat exchanger. Include information concerning fuel input, burners and combustion chamber dimensions.**

18) **Describe fuel transport, storage methods and related dust control measures, including ash disposal and control.**

Fuel delivered to units via tanker trucks, no significant ash created from emergency generator engines.

*Applicant assumes responsibility for proper location of sampling ports if the Division for Air Quality requires a compliance demonstration stack test.

7007A Form Supplement Table 1 (Items 1-2) - Page 1 of 3

Blue Grass Army Depot

Emission Unit #	Process ID #	Type of Unit (Make, Model, Etc.) (1)	Date Installed (1)	Cost of Unit (1)	Company's ID or Code for Unit (1)	Kind of Unit (2a)	Rated Capacity Fuel Input (MMBtu/hr) (2b)	Rated Capacity Power Output (hp) (2b)	Rated Capacity Power Output (MW) (2b)
EU27	1	Kohler Emg. Gen.	Pre-2004	NA	None	Industrial Engine	na	107.2	na
EU27	2	DL-230, Onan 75-ODYC-15R/23117K, Emg. Gen.	Pre-2004	NA	None	Industrial Engine	na	100.5	na
EU27	3	Emg. Gen. #1 Cummins 6BTA	Pre-2004	NA	None	Industrial Engine	na	207.7	na
EU27	4	Emg. Gen. #2 Cummins 6BTA	Pre-2004	NA	None	Industrial Engine	na	207.7	na
EU28	1	Kohler Emg. Gen., Model 50REOZJC	2009	NA	None	Industrial Engine	na	80	na
EU28	2	Kohler Emg. Gen., Model 50REOZJC	2009	NA	None	Industrial Engine	na	80	na
EU28	3	Kohler Emg. Gen., Model 50REOZJC	2009	NA	None	Industrial Engine	na	80	na
EU29	1	Caterpillar Emg. Gen., Model G130LG2	2009	NA	None	Industrial Engine	na	189	na
EU29	2	Caterpillar Emg. Gen., Model G100LTA	2009	NA	None	Industrial Engine	na	168	na

7007A Form Supplement Table 2 (Items 3-7) - Page 2 of 3

Blue Grass Army Depot

Emission Unit #	Process ID #	Type of Primary Fuel (3)	Secondary Fuel (if any) (4)	Maximum Percent Ash (Primary/ Seconday) (5)	Maximum Percent Sulfur (Primary/ Seconday) (5)	Heat Conent Corresponding to Max. Ash (Primary/ Seconday) (5)	Heat Conent Corresponding to Max. Sulfur (Primary/ Seconday) (5)	Max. Annual Fuel Usage Rate* (6)	Fuel Source or Supplier (7)
EU27	*1*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU27	*2*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU27	*3*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU27	*4*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU28	*1*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU28	*2*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU28	*3*	*Diesel*	*None*	*na*	*na*	*na*	*na*	*na*	*Rogers Petroleum*
EU29	*1*	*Natural Gas*	*None*	*na*	*na*	*na*	*na*	*na*	*Delta Natural Gas*
EU29	*2*	*Natural Gas*	*None*	*na*	*na*	*na*	*na*	*na*	*Delta Natural Gas*

7007A Form Supplement Table 3 (Items 8-10, 16) - Page 3 of 3

Blue Grass Army Depot

Emission Unit #	Process ID #	Maximum Operating Schedule* (Hours/Day, Days/Week, Weeks/Year) (8)	Describe Percent in Each Use Category (Space/Process/Power) (9)	Control Options (10)	Are Sampling Ports Provided? (16A)	Sampling Ports Located in Accordance with 40 CFR 60? (16B)	List Other Units Vented to this Stack (16C)
EU27	*1*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU27	*2*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU27	*3*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU27	*4*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU28	*1*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU28	*2*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU28	*3*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU29	*1*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*
EU29	*2*	*na*	*0% / 0% / 100%*	*None*	*No*	*na*	*None*

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007B

MANUFACTURING OR PROCESSING OPERATIONS

(*Please read instructions before completing this form*)

Emission Point # (1)	Process Description (2)	Continuous or Batch (3)	Maximum Operating Schedule (Hours/Day, Days/Week, Weeks/Year (4)	Process Equipment (Make, Model, Etc.) (5)	Date Installed (6)

Refer to 7007B Supplement Table 1 at the back of this section.

Emission Point # (1)	List Raw Material(s) Used (7)	Maximum Quantity Input Of Each Raw Material (Specify Units/Hour) (8) See Item 18	Type of Products (9) See Item 18	Quantity Output* (Specify Units)	
				Maximum Hourly Rated Capacity (Specify Units) (10a)	Maximum Annual (Specify Units) (10b)

Refer to 7007B Supplement Table 2 at the back of this section.

***(10a) Rated Capacity of Equipment** **(10b) Should be entered only if applicant requests operating restrictions through federally enforceable limitations**

DEP7007B (Continued)

IMPORTANT: Form DEP7007N, Emission, Stacks, and Controls Information must be completed for each emission unit listed below.

Emission Point # (1)	Fuel Type for Process Heat (11)	Rated Burner Capacity (BTU/Hour) (12)	Fuel Composition		Fuel Usage Rates		Note:
			% Sulfur (13a)	% Ash (13b)	Maximum Hourly (14a)	Maximum Annual* (14b)	If the combustion products are emitted along with the process emissions, indicate so in this column by writing "combined." (15)

Refer to 7007B Supplement Table 3 at the back of this section.

16) Make a complete list of all wastes generated by each process (e.g. wastewater, scrap, rejects, cleanup waste, etc.). List the hourly (or daily) and annual quantities of each waste and the method of final disposal. (Use a separate sheet of paper, if necessary)

For all wastes, method of final disposal is as follows: if hazardous waste, dispose in a hazardous waste landfill; if non-hazardous waste, recycle through a recycle dealer, scrap through a scrap dealer, and dispose of the remainder at a non-hazardous waste landfill.

17) IMPORTANT: Submit a process flow diagram. Label all materials, equipment and emission point numbers. *Refer to Appendix C of Application Package.*

18) Material Safety Data Sheets with complete chemical compositions are required for each process.

***(14b) Should be entered only if applicant requests operating restrictions through federally enforceable permit conditions.**

7007B Form Supplement Table 1 (Items 1-6) - Page 1 of 3

Blue Grass Army Depot

Emission Point # (1)	Process Description (2)	Continuous or Batch (3)	Maximum Operating Schedule (Hours/Day, Days/Week, Weeks/Year) (4)	Process Equipment (Make, Model, Etc.) (5)	Date Installed (6)
EU16	*Detonation Chamber*	*B*	*24 hr/day; 7 day/wk; 52 wk/yr*	*na*	*May 1999*
EU17	*Shot Blasting of Munitions*	*C*	*24 hr/day; 7 day/wk; 52 wk/yr*	*Wheelabrator*	*1960*
EU18	*Shot Blasting of Munitions*	*C*	*24 hr/day; 7 day/wk; 52 wk/yr*	*Wheelabrator*	*After July 2, 1975*
EU19	*Shot Blasting of Munitions*	*C*	*24 hr/day; 7 day/wk; 52 wk/yr*	*Disa Goff, Inc. Model BC4-20*	*2004*
EU22	*Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning*	*B*	*24 hr/day; 7 day/wk; 52 wk/yr*	*na*	*1979*
EU24	*Industrial Supercritical Water Oxidation (i-SCWO) System*	*C*	*24 hr/day; 7 day/wk; 52 wk/yr*	*na*	*TBD*

7007B Form Supplement Table 2 (Items 7-10) - Page 2 of 3

Blue Grass Army Depot

Emission Point # (1)	Process Description	List Raw Material(s) Used (7)	Maximum Quantity Input Of Each Raw Material (Specify Units/Hour) (8) See Item 18	Type of Products (9) See Item 18	Quantity Output (Specify Units)	
					Maximum Hourly Rated Capacity (Specify Units) (10a)	Maximum Annual (Specify Units) (10b)
EU16	*Detonation Chamber*	*Water*	*300 lb/hr*	*na*	*na*	*na*
		Metal	*6,000 lb/hr*	*na*	*na*	*na*
		Explosive	*300 lb/hr*	*na*	*na*	*na*
EU17	*Shot Blasting of Munitions*	*Shot Media*	*60 lb/hr*	*na*	*na*	*na*
EU18	*Shot Blasting of Munitions*	*Shot Media*	*13.1 tons/hr*	*na*	*na*	*na*
EU19	*Shot Blasting of Munitions*	*Shot Media*	*52.2 tons/hr*	*na*	*na*	*na*
EU22	*Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning*	*Waste Military Munitions*	*1,265.8 lb/hr*	*na*	*na*	*na*
EU24	*Industrial Supercritical Water Oxidation (i-SCWO) System*	*Water Containing Explosives and Propellants*	*600 gal/hr*	*na*	*na*	*na*

7007B Form Supplement Table 3 (Items 11-15) - Page 3 of 3

Blue Grass Army Depot

Emission Point # (1)	Process Description	Fuel Type for Process Heat (11)	Rated Burner Capacity (BTU/Hour) (12)	Fuel Composition		Fuel Usage Rates		Note: If combustion products are emitted along with process emissions, indicate so by writing "combined." (15)
				% Sulfur (13a)	% Ash (13b)	Maximum Hourly (14a)	Maximum Annual (14b)	
EU16	*Detonation Chamber*	*na*	*na*	*na*	*na*	*na*	*na*	*na*
EU17	*Shot Blasting of Munitions*	*na*	*na*	*na*	*na*	*na*	*na*	*na*
EU18	*Shot Blasting of Munitions*	*na*	*na*	*na*	*na*	*na*	*na*	*na*
EU19	*Shot Blasting of Munitions*	*na*	*na*	*na*	*na*	*na*	*na*	*na*
EU22	*Waste Military Munitions Treatment (including*	*na*	*na*	*na*	*na*	*na*	*na*	*na*
EU24	*Industrial Supercritical Water Oxidation (i-SCWO) System*	*Natural Gas*	*29.38*	*na*	*na*	*28,800 scf/hr*	*na*	*na*

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007C
INCINERATORS & WASTE BURNERS

EMISSION POINT# EU09

This form must be completed for any apparatus used to ignite and burn solid, liquid, or gaseous combustible wastes. Items 1, 2, 3, and 4 are designed criteria on the incinerator manufacturer's nameplate. The nameplate should be in a conspicuous place on the incinerator. Copy this form as needed, and submit one copy for each unit.

1. Manufacturer's Name Advanced Combustion Systems

2. **Model Number** CAI-500

3. Rated Capacity 500 **lb. per hour, or** 0.25 **tons per hour**

4. Type: 1) Incinerator, Single Chamber ___ **Multiple Chamber** X

2) Waste Burner (teepee, truncated cone, silo, other) _____

5. Are instructions for the operation of the incinerator posted in a conspicuous place near the incinerator?

☒ **Yes** ☐ **No**

6. Maximum Quantity of Waste Burned: Amount to which permit will be conditioned

(*Check appropriate units*) 526 **tons/year*** _____ **cubic yards/day** _____ **pounds/hour**

_____ **density of waste**

7. Maximum Operating Schedule*:

_____ **hours per day,** _____ **days per week,** _____ **weeks per year** **Other** _____

8. Type of Waste Burned (*Include composition of waste*)

100% **Municipal** _____ **Industrial** _____ **Hazardous** _____ **Medical**

_____ **Other (*please specify*)**

9. Plan of the Unit – The Applicant must submit a Manufacturer's Drawing or Drawing Clearly Illustrating all Dimensions and Construction Details of the unit.

*** Should be entered only if applicant requests operating restrictions through federally enforceable permit conditions.**

10. Combustion Air:

(a) Draft: _____ **Natural Draft** _____ **Induced Draft** X **Forced Draft** **Pressure** _____ **in. H_2O**

(b) Air Distribution: ____ **Overfire** X **Underfire** X **Secondary**

12/1 **Number of Ports** 0.2/1.0 **Port Size (square inches)** 400/900 **Air Flow (SCFM)**

11. Shell Construction:

(a) Type of material and thickness: 0.25 inch Steel Casting
(b) Type of insulation and thickness: 1.0 inch -1900°F Black Insulation
(c) Type of refractory, thickness and temperature rating: 5.5 inch -2600°F Refractory Lining
(d) Type of seams: Solid Weld
(e) Method used to tie refractory to outside shell: Stainless anchors

(f) Stack Shell:
Type of material and thickness: 12 Gauge Mild Steel Plate
Type of refractory, thickness and temperature rating: 3 inch refractory – 2600°F

12. Burner Specifications:

(a) Damper: **Barometric** ____ **Guillotine** _____ **None** X
(b) Primary burner (combustion chamber):
Fuel: #2 Oil
BTU/hour rating: 2-800,000 Btu/hr ea. **Primary Temperature:** _____
(c) Secondary burner:
Fuel: #2 Oil
BTU/hour rating: 2-800,000 Btu/hr ea. **Secondary Temperature:** _____
Secondary Residence Time: _____
(d) Other (*specify*) _____

13. Control Equipment:
Complete Form DEP7007N, Emissions, Stacks, and Controls Information

14. Stack Test History:

(a) Have stack tests been performed on the unit? ☒ **Yes** ☐ **No**
(b) Are the results of the stack tests enclosed and made part of this permit application? ☐ **Yes** ☒ **No**
(c) Are the results of the stack tests on file in the Division office? ☒ **Yes** ☐ **No** *(submitted 2007)*

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007C
INCINERATORS & WASTE BURNERS

EMISSION POINT# EU10

This form must be completed for any apparatus used to ignite and burn solid, liquid, or gaseous combustible wastes. Items 1, 2, 3, and 4 are designed criteria on the incinerator manufacturer's nameplate. The nameplate should be in a conspicuous place on the incinerator. Copy this form as needed, and submit one copy for each unit.

2. Manufacturer's Name Unit Built Per Government Specifications

2. Model Number Army Peculiar Equipment 2048, Flashing Furnace System

3. Rated Capacity 11,800 lb. per hour, or 5.9 tons per hour

4. Type: 1) Incinerator, Single Chamber X Multiple Chamber ____

2) Waste Burner (teepee, truncated cone, silo, other) ____

9. Are instructions for the operation of the incinerator posted in a conspicuous place near the incinerator?

☒ Yes ☐ No

10. Maximum Quantity of Waste Burned: Amount to which permit will be conditioned

(*Check appropriate units*) 12,300 tons/year* ____ cubic yards/day ____ pounds/hour

____ density of waste

11. Maximum Operating Schedule*:

____ hours per day, ____ days per week, ____ weeks per year Other ____

12. Type of Waste Burned (*Include composition of waste*)

____ Municipal ____ Industrial ____ Hazardous ____ Medical

100% Other (*please specify*) (Empty Munition Bodies)

9. Plan of the Unit – The Applicant must submit a Manufacturer's Drawing or Drawing Clearly Illustrating all Dimensions and Construction Details of the unit.

* Should be entered only if applicant requests operating restrictions through federally enforceable permit conditions.

15. Combustion Air:

(a) Draft: _____ **Natural Draft** __X__ **Induced Draft** _____ **Forced Draft** **Pressure** __0.1-0.2__ **in. H_2O**

(d) Air Distribution: __X__ **Overfire** _____ **Underfire** _____ **Secondary**

__2__ **Number of Ports** __111.9__ **Port Size (square inches)** __1800__ **Air Flow (SCFM)**

16. Shell Construction:

(a) Type of material and thickness: *Carbon Steel Sheet ¼ inch-thick*
(g) Type of insulation and thickness: *3 inch Ceramic Block Under 3-8# inch Blanket*
(h) Type of refractory, thickness and temperature rating: *Hearth- 6 inch Kaocrete HS rated to 2600°F, Under 6 inch Kaolite 2200HS rated to 2200°F*
(i) Type of seams: *Welded*
(j) Method used to tie refractory to outside shell: *Refractory is Cast on Carbottom and is Not Attached to Shell*

(k) Stack Shell:
Type of material and thickness: *20- inch outer Diameter Carbon Steel Tubing, 0134 inches thick*
Type of refractory, thickness and temperature rating: *NONE*

17. Burner Specifications:

(a) Damper: **Barometric** ____ **Guillotine** _____ **None** __X__
(b) Primary burner (combustion chamber):
Fuel: *Natural Gas / No. 2 Fuel oil*
BTU/hour rating: *2 @ 1.0 MMBtu/hr* **Primary Temperature:** *1200 – 1400°F*
(e) **Secondary burner:** *(afterburner)*
Fuel: *Natural Gas / No. 2 Fuel oil*
BTU/hour rating: *8.0 MMBtu/hr* **Secondary Temperature:** *1200 – 1400°F*
Secondary Residence Time: *2.0 sec*
(d) Other (*specify*) *Propane Pilot Ignition System at startup (25 scfh @ 0.5 psig)*

18. Control Equipment:
Complete Form DEP7007N, Emissions, Stacks, and Controls Information

19. Stack Test History:

(a) Have stack tests been performed on the unit? ☒ **Yes** ☐ **No**
(b) Are the results of the stack tests enclosed and made part of this permit application? ☐ **Yes** ☒ **No**
(c) Are the results of the stack tests on file in the Division office? ☒ **Yes** ☐ **No** *(submitted 2007)*

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007K

SURFACE COATING (OR) PRINTING OPERATION

SECTION I GENERAL

1) Emission Point #: EU11 Proposed/Actual Start of Construction: 1992

2) Check Pollutants Emitted:

A. ☐	CO	B. ☐	NO_x	C. ☐	SO_2	D. ☒	VOCs
E. ☒	PM or PM_{10}	If E is checked		☒	Condensable Organic	☐	Non-Volatile
F. ☒	HAPs	If F is checked		☒	Volatile	☒	Non-Volatile
G. ☐	Lead	H. ☐	Fluoride	I. ☐	Other Potentially Hazardous Pollutants (specify)_____		

3) **Description of the Emission Point:**
Briefly describe the emission point and the key components (machinery), including the number of applicators:

One large paint booth located inside Building 232 is used for surface cleaning and coating of military aircraft. There is one paint gun associated with this paint booth.

Describe raw material into the process (including the surface coated): Aircraft fuselages/components are manually moved into the paint booth. Paint is combined with solvent before being charged into the paint gun.

Describe the resulting product from the unit: Painted aircraft fuselages/components.

4) **ATTACH A PROCESS FLOW DIAGRAM.** Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials, all process equipment, control equipment and stacks/vents.

5) Check the category that most closely describes this unit:

A. ☐	Auto or Light-duty Truck Coating	B. ☐	Metal Furniture Coating
C. ☐	Large Appliance Coating	D. ☐	Metal Coil Coating
E. ☐	Beverage Can Coating	F. ☐	Magnet Wire Insulation Coating
G. ☐	Miscellaneous Metal Parts Coating	H. ☐	Flat Wood Panel Coating
I. ☐	Coating of Plastic Parts for Business Machines		
J. ☐	Fabric, Vinyl, or Paper Coating		

This category also includes: 1. *Magnet Tape Coating*
2. *Pressure Sensitive Tape & Label Coating*

K. ☐ Graphic Arts Using rotogravure & Flexographic Printing

This category also includes: 1. *Flexible Vinyl and Urethane Coating & Printing*

L. ☐ Publication Rotogravure Printing

X. ☒ Other (specify) Aircraft fuselages/component coating

Note: Refer to the specific regulations in Chapters 59, 60, 61, and 63 of Title 401 of Kentucky Administrative Regulations for detailed descriptions of these categories and possible regulation applicability.

6) **Type and amount of cleanup solvent(s) used at the emission point and as a direct result of the emission point's operation:** (*attach a MSDS with chemical compositions*):

Type: Sherwin Williams Thinner Maximum Usage: 0.11 gal/day

SECTION II APPLICATOR DATA

Complete the following for each applicator. Make additional copies of this section as required. If multiple applicators are essentially identical, the data may be combined on one copy by identifying multiple applicators in the field provided

7) **Identity:**
Emission Point #: *EU11* Applicator #: *EU11-1* Function of the Applicator: *Paint Application*

8) **Type of Applicator** (Check the appropriate type):

A. ☒ Spray: ☐ Air Gun ☐ Airless ☐ Electrostatic ☐ Other Spray (specify) _____

B. ☐ Electrodeposition: Tank Dimensions _____ ft. long X _____ ft. wide X _____ ft. high

Capacity _____ gallons

C. ☐ Dip Tank D. ☐ Flow Coating

E. ☐ Roll Coating: ☐ Rotogravure ☐ Flexography ☐ Other (specify) _____

F. ☐ Brush

G. ☐ Other (describe) _____

9) If the construction date for the applicator is different than the construction date for the emission point, identify the construction start date for the applicator. *Same*

10) **Mode of Surface Coating:**
A. ☐ Continuous ☒ Batch ☐ Other (specify) _____

B. ☒ Manual ☐ Automatic

11) **Temperature of Coating Material as Applied:**
78 °F If the coated product goes to an oven, temperature of the oven *NA* °F

12) **Maximum Coating Application Rate:** *Do not consider bottlenecks when answering. Other throughput limits can be identified in Item 13.*

Applicator capacity *14.06 gal/hr* (gal or lbs/hr)

Describe how the applicator capacity was determined. *Manufacturer Data (Devilbiss)*

13) **Process Limitations:**
Describe any limitations that make operation at the maximum capacity of the applicator or 8760 hours of operation impossible.
Aircraft are both cleaned (i.e., shot blasted) and painted in paint booth. Therefore, the paint booth is available for painting 30% of the time. The remaining time is required for aircraft and room preparation.

14) **Release into Ambient Air:**
Identify the stack or vent that the emissions enter the ambient air through: *S16-1, S16-2*

Identify any control device (filter, incinerator, etc.) that is used to lower emissions from the applicator. *Fabric Filter (C01)*
Describe stacks, vents, and control devices on form DEP7007N, Emissions, Stacks, and Controls Information.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating.

15) **COATINGS** as applied**:**

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 335-117

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of VOC

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): PPG Industries, Inc. - MIL-DTL-53039B TI AB (335-117)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.39 lbs/gal Highest emission rate pollutant content: 8.34 lbs/gal

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 081-109

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium (VI)

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Paint (081-109)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 12.70 lbs/gal Highest emission rate pollutant content: 4.95 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 081-109

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium Compounds

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Paint (081-109)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 12.70 lbs/gal Highest emission rate pollutant content: 30.0 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 081-125

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Cumene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc. - Comp A, MIL-PRF-22750F, 17925 081-125)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 13.64 lbs/gal Highest emission rate pollutant content: 10.0 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 857-028

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Ethylbenzene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Akzo Nobel Aerospace Coatings - Gray 595B-16251 (857-028)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.60 lbs/gal Highest emission rate pollutant content: 4.0 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 623-043

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Hexamethylene-1,6-diisocyanate

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): SprayLat Corporation - 599-A8574-1 Part A (Lighting Guard) (623-043)

If the coating is a mixture, identify the ratio of the components:
As applied:
Density: 8.80 lbs/gal Highest emission rate pollutant content: 3.0 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 209-037

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Methanol

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings – Paint (209-037)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 7.51 lbs/gal Highest emission rate pollutant content: 2.43 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 145-024

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of MIBK

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Hentzen Coatings – Paint (145-024)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.59 lbs/gal Highest emission rate pollutant content: 7.43 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 367-045

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Toluene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Sherwin Williams – Toluol (367-045)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 7.18 lbs/gal Highest emission rate pollutant content: 100.0 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU11
Applicator #: EU11-1 Reference for the coating employed: 367-110

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Xylene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Sherwin Williams Automotive – Paint (367-110)

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 8.67 lbs/gal Highest emission rate pollutant content: 22.0 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007K
Continued

SURFACE COATING (OR) PRINTING OPERATION

SECTION I GENERAL

1) Emission Point #: *EU12* Proposed/Actual Start of Construction: *2005*

2) Check Pollutants Emitted:

A. ☐ CO	B. ☐ NO_x	C. ☐ SO_2	D. ☒ VOCs
E. ☒ PM or PM_{10}	If E is checked	☒ Condensable Organic	☐ Non-Volatile
F. ☒ HAPs	If F is checked	☒ Volatile	☒ Non-Volatile
G. ☐ Lead	H. ☐ Fluoride	I. ☐ Other Potentially Hazardous Pollutants (specify)_____	

3) **Description of the Emission Point:**
Briefly describe the emission point and the key components (machinery), including the number of applicators:

Two paint booths located inside Building 550 (EU12-1 & EU12-2) are used for coating of military munitions and their associated components. There is one paint gun associated with each paint booth.

Describe raw material into the process (including the surface coated): *Munitions are manually moved into the paint booth.*

Describe the resulting product from the unit: *Painted munitions.*

4) **ATTACH A PROCESS FLOW DIAGRAM.** Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials, all process equipment, control equipment and stacks/vents.

5) Check the category that most closely describes this unit:

- A. ☐ Auto or Light-duty Truck Coating
- B. ☐ Metal Furniture Coating
- C. ☐ Large Appliance Coating
- D. ☐ Metal Coil Coating
- E. ☐ Beverage Can Coating
- F. ☐ Magnet Wire Insulation Coating
- G. ☐ Miscellaneous Metal Parts Coating
- H. ☐ Flat Wood Panel Coating
- I. ☐ Coating of Plastic Parts for Business Machines
- J. ☐ Fabric, Vinyl, or Paper Coating

This category also includes: 1. *Magnet Tape Coating*
2. *Pressure Sensitive Tape & Label Coating*

- K. ☐ Graphic Arts Using rotogravure & Flexographic Printing

This category also includes: 1. *Flexible Vinyl and Urethane Coating & Printing*

- L. ☐ Publication Rotogravure Printing
- X. ☒ Other (specify) *Munitions and munition component coating*

Note: Refer to the specific regulations in Chapters 59, 60, 61, and 63 of Title 401 of Kentucky Administrative Regulations for detailed descriptions of these categories and possible regulation applicability.

6) Type and amount of cleanup solvent(s) used at the emission point and as a direct result of the emission point's operation: (*attach a MSDS with chemical compositions*):

Type: *Safety-Kleen Corp – Laq. Thinner 6782* Maximum Usage: *0.75* gal/day

SECTION II APPLICATOR DATA

Complete the following for each applicator. Make additional copies of this section as required. If multiple applicators are essentially identical, the data may be combined on one copy by identifying multiple applicators in the field provided

7) **Identity:**
Emission Point #: EU12 Applicator #: EU12-1 Function of the Applicator: Paint Application

8) **Type of Applicator** (Check the appropriate type):

A. ☒ Spray: ☐ Air Gun ☐ Airless ☐ Electrostatic ☐ Other Spray (specify) _____

B. ☐ Electrodeposition: Tank Dimensions _____ ft. long X _____ ft. wide X _____ ft. high

Capacity _____ gallons

C. ☐ Dip Tank D. ☐ Flow Coating

E. ☐ Roll Coating: ☐ Rotogravure ☐ Flexography ☐ Other (specify) _____

F. ☐ Brush

G. ☐ Other (describe) _____

9) If the construction date for the applicator is different than the construction date for the emission point, identify the construction start date for the applicator. Same

10) **Mode of Surface Coating:**
A. ☐ Continuous ☒ Batch ☐ Other (specify) _____

B. ☒ Manual ☐ Automatic

11) **Temperature of Coating Material as Applied:**
78 °F If the coated product goes to an oven, temperature of the oven NA °F

12) **Maximum Coating Application Rate:** *Do not consider bottlenecks when answering. Other throughput limits can be identified in Item 13.*

Applicator capacity 18.75 gal/hr (gal or lbs/hr)

Describe how the applicator capacity was determined. Manufacturer Data (Devilbiss)

13) **Process Limitations:**
Describe any limitations that make operation at the maximum capacity of the applicator or 8760 hours of operation impossible.
Due to process constraints (i.e., abrasive blasting, munitions movement, & inspecting) munitions are only available 33% of the total potential hours.

14) **Release into Ambient Air:**
Identify the stack or vent that the emissions enter the ambient air through: S17-1 & S17-2

Identify any control device (filter, incinerator, etc.) that is used to lower emissions from the applicator.
Fabric Filter (C02-1 & C02-2)
Describe stacks, vents, and control devices on form DEP7007N, Emissions, Stacks, and Controls Information.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating.

15) **COATINGS** as applied**:**

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of VOC

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc. – Epoxy Topcoat – Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 4.96 lbs/gal

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium (VI)

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 0.64 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium Compounds

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 1.23 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Ethylbenzene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 4.96 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: 34094

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Naphthalene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Green 383, 34094, MIL-DTL-53039B, TYPE II

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 11.20 lbs/gal Highest emission rate pollutant content: 0.49 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: 686A Tan

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Styrene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan Aqua-Zen Enamel

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.23 lbs/gal Highest emission rate pollutant content: 0.11 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Toluene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Epoxy Topcoat - Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 3.05 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

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Emission Point #: EU12
Applicator #: EU12-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Xylene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 29.48 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007K
Continued

SURFACE COATING (OR) PRINTING OPERATION

SECTION I GENERAL

1) Emission Point #: EU13 Proposed/Actual Start of Construction: <1980

2) Check Pollutants Emitted:

A. ☐ CO	B. ☐ NO_x	C. ☐ SO_2	D. ☒ VOCs
E. ☒ PM or PM_{10}	If E is checked	☒ Condensable Organic	☐ Non-Volatile
F. ☒ HAPs	If F is checked	☒ Volatile	☒ Non-Volatile
G. ☐ Lead	H. ☐ Fluoride	I. ☐ Other Potentially Hazardous Pollutants (specify)	

3) **Description of the Emission Point:**
Briefly describe the emission point and the key components (machinery), including the number of applicators:
Four paint booths located inside Building 555 (EU13-1, EU13-2, EU13-3, EU13-4, & EU13-5) are used for coating of military munitions and their associated components. Paint is applied both via a paint gun. There is one paint gun associated with each paint booth.

Describe raw material into the process (including the surface coated): Munitions are manually moved into the paint booth.

Describe the resulting product from the unit: Painted munitions.

4) **ATTACH A PROCESS FLOW DIAGRAM.** Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials, all process equipment, control equipment and stacks/vents.

5) Check the category that most closely describes this unit:

A. ☐ Auto or Light-duty Truck Coating	B. ☐ Metal Furniture Coating
C. ☐ Large Appliance Coating	D. ☐ Metal Coil Coating
E. ☐ Beverage Can Coating	F. ☐ Magnet Wire Insulation Coating
G. ☐ Miscellaneous Metal Parts Coating	H. ☐ Flat Wood Panel Coating
I. ☐ Coating of Plastic Parts for Business Machines	
J. ☐ Fabric, Vinyl, or Paper Coating	

This category also includes: 1. *Magnet Tape Coating*
2. *Pressure Sensitive Tape & Label Coating*

K. ☐ Graphic Arts Using rotogravure & Flexographic Printing

This category also includes: 1. *Flexible Vinyl and Urethane Coating & Printing*

L. ☐ Publication Rotogravure Printing

X. ☒ Other (specify) Munitions and munition component coating

Note: Refer to the specific regulations in Chapters 59, 60, 61, and 63 of Title 401 of Kentucky Administrative Regulations for detailed descriptions of these categories and possible regulation applicability.

6) Type and amount of cleanup solvent(s) used at the emission point and as a direct result of the emission point's operation: (*attach a MSDS with chemical compositions*):

Type: Safety-Kleen Corp – Laq. Thinner 6782 Maximum Usage: 0.75 gal/day

SECTION II APPLICATOR DATA

Complete the following for each applicator. Make additional copies of this section as required. If multiple applicators are essentially identical, the data may be combined on one copy by identifying multiple applicators in the field provided

7) **Identity:**
Emission Point #: EU13 Applicator #: EU13-1,2,3,4,&5 Function of the Applicator: Paint Application

8) **Type of Applicator** (Check the appropriate type):

A. ☒ Spray: ☐ Air Gun ☐ Airless ☐ Electrostatic ☒ Other Spray (specify) Can

B. ☐ Electrodeposition: Tank Dimensions _____ ft. long X _____ ft. wide X _____ ft. high

Capacity _____ gallons

C. ☐ Dip Tank D. ☐ Flow Coating

E. ☐ Roll Coating: ☐ Rotogravure ☐ Flexography ☐ Other (specify) _____

F. ☐ Brush

G. ☐ Other (describe) _____

9) If the construction date for the applicator is different than the construction date for the emission point, identify the construction start date for the applicator. Same

10) **Mode of Surface Coating:**
A. ☐ Continuous ☒ Batch ☐ Other (specify) _____

B. ☒ Manual ☐ Automatic

11) **Temperature of Coating Material as Applied:**
78 °F If the coated product goes to an oven, temperature of the oven NA °F

12) **Maximum Coating Application Rate:** *Do not consider bottlenecks when answering. Other throughput limits can be identified in Item 13.*

Applicator capacity 18.75 gal/hr (gal or lbs/hr)

Describe how the applicator capacity was determined. Manufacturer Data (Devilbiss)

13) **Process Limitations:**
Describe any limitations that make operation at the maximum capacity of the applicator or 8760 hours of operation impossible.
Due to process constraints (i.e., abrasive blasting, munitions movement, & inspecting) munitions are only available 33% of the total potential hours.

14) **Release into Ambient Air:**
Identify the stack or vent that the emissions enter the ambient air through: S19-1, S-19-2, S-19-3, S-19-4, & S19-5

Identify any control device (filter, incinerator, etc.) that is used to lower emissions from the applicator.
Fabric Filter (C03-1, C03-2, C03-3, C03-4 & C03-5)
Describe stacks, vents, and control devices on form DEP7007N, Emissions, Stacks, and Controls Information.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating.

15) **COATINGS** as applied**:**

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of VOC

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc. – Epoxy Topcoat – Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 4.96 lbs/gal

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium (VI)

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 0.64 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium Compounds

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 1.23 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Ethylbenzene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 4.96 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: 34094

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Naphthalene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Green 383, 34094, MIL-DTL-53039B, TYPE II

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 11.20 lbs/gal Highest emission rate pollutant content: 0.49 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: 686A Tan

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Styrene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan Aqua-Zen Enamel

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.23 lbs/gal Highest emission rate pollutant content: 0.11 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Toluene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Epoxy Topcoat - Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 3.05 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

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Emission Point #: EU13
Applicator #: EU13-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Xylene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 29.48 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007K
Continued

SURFACE COATING (OR) PRINTING OPERATION

SECTION I GENERAL

1) Emission Point #: *EU14* Proposed/Actual Start of Construction: *1970*

2) Check Pollutants Emitted:

A. ☐ CO	B. ☐ NO_x	C. ☐ SO_2	D. ☒ VOCs
E. ☒ PM or PM_{10}	If E is checked	☒ Condensable Organic	☐ Non-Volatile
F. ☒ HAPs	If F is checked	☒ Volatile	☒ Non-Volatile
G. ☐ Lead	H. ☐ Fluoride	I. ☐ Other Potentially Hazardous Pollutants (specify)_____	

3) **Description of the Emission Point:**
Briefly describe the emission point and the key components (machinery), including the number of applicators:

Four paint booths located inside Building 562 (EU14-1, EU14-2, EU14-3, & EU14-4) are used for coating of military munitions and their associated components. Paint is applied both via a paint gun. There is one paint gun associated with each paint booth.

Describe raw material into the process (including the surface coated): *Munitions are manually moved into paint booth.*

Describe the resulting product from the unit: *Painted munitions.*

4) **ATTACH A PROCESS FLOW DIAGRAM.** Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials, all process equipment, control equipment and stacks/vents.

5) Check the category that most closely describes this unit:

- A. ☐ Auto or Light-duty Truck Coating
- B. ☐ Metal Furniture Coating
- C. ☐ Large Appliance Coating
- D. ☐ Metal Coil Coating
- E. ☐ Beverage Can Coating
- F. ☐ Magnet Wire Insulation Coating
- G. ☐ Miscellaneous Metal Parts Coating
- H. ☐ Flat Wood Panel Coating
- I. ☐ Coating of Plastic Parts for Business Machines
- J. ☐ Fabric, Vinyl, or Paper Coating

This category also includes: 1. *Magnet Tape Coating*
2. *Pressure Sensitive Tape & Label Coating*

- K. ☐ Graphic Arts Using rotogravure & Flexographic Printing

This category also includes: 1. *Flexible Vinyl and Urethane Coating & Printing*

- L. ☐ Publication Rotogravure Printing
- X. ☒ Other (specify) *Munitions and munition component coating*

Note: Refer to the specific regulations in Chapters 59, 60, 61, and 63 of Title 401 of Kentucky Administrative Regulations for detailed descriptions of these categories and possible regulation applicability.

6) **Type and amount of cleanup solvent(s) used at the emission point and as a direct result of the emission point's operation:** (*attach a MSDS with chemical compositions*):

Type: *Safety-Kleen Corp – Laq. Thinner 6782* Maximum Usage: *0.75* gal/day

SECTION II APPLICATOR DATA

Complete the following for each applicator. Make additional copies of this section as required. If multiple applicators are essentially identical, the data may be combined on one copy by identifying multiple applicators in the field provided

7) **Identity:**
Emission Point #: *EU14* Applicator #: *EU14-1,2,3,&4* Function of the Applicator: *Paint Application*

8) **Type of Applicator** (Check the appropriate type):

A. ☒ Spray: ☐ Air Gun ☐ Airless ☐ Electrostatic ☒ Other Spray (specify) *Can*

B. ☐ Electrodeposition: Tank Dimensions _____ ft. long X _____ ft. wide X _____ ft. high

Capacity _____ gallons

C. ☐ Dip Tank D. ☐ Flow Coating

E. ☐ Roll Coating: ☐ Rotogravure ☐ Flexography ☐ Other (specify) _____

F. ☐ Brush

G. ☐ Other (describe) _____

9) If the construction date for the applicator is different than the construction date for the emission point, identify the construction start date for the applicator. *Same*

10) **Mode of Surface Coating:**
A. ☐ Continuous ☒ Batch ☐ Other (specify) _____

B. ☒ Manual ☐ Automatic

11) **Temperature of Coating Material as Applied:**
78 °F If the coated product goes to an oven, temperature of the oven *NA* °F

12) **Maximum Coating Application Rate:** *Do not consider bottlenecks when answering. Other throughput limits can be identified in Item 13.*

Applicator capacity *18.75 gal/hr* (gal or lbs/hr)

Describe how the applicator capacity was determined. *Manufacturer Data (Devilbiss)*

13) **Process Limitations:**
Describe any limitations that make operation at the maximum capacity of the applicator or 8760 hours of operation impossible.
Due to process constraints (i.e., abrasive blasting, munitions movement, & inspecting) munitions are only available 33% of the total potential hours.

14) **Release into Ambient Air:**
Identify the stack or vent that the emissions enter the ambient air through: *S20-1, S-20-2, S-20-3, & S-20-4*

Identify any control device (filter, incinerator, etc.) that is used to lower emissions from the applicator. *Fabric Filter (C04-1, C04-2, C04-3, & C04-4)*
Describe stacks, vents, and control devices on form DEP7007N, Emissions, Stacks, and Controls Information.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating.

15) **COATINGS** as applied**:**

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of VOC

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc. – Epoxy Topcoat – Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 4.96 lbs/gal

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium (VI)

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 0.64 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium Compounds

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 1.23 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Ethylbenzene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 4.96 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: 34094

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Naphthalene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Green 383, 34094, MIL-DTL-53039B, TYPE II

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 11.20 lbs/gal Highest emission rate pollutant content: 0.49 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: 686A Tan

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Styrene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan Aqua-Zen Enamel

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.23 lbs/gal Highest emission rate pollutant content: 0.11 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Toluene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Epoxy Topcoat - Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 3.05 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

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Emission Point #: EU14
Applicator #: EU14-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Xylene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 29.48 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007K
Continued

SURFACE COATING (OR) PRINTING OPERATION

SECTION I GENERAL

1) Emission Point #: *EU15* Proposed/Actual Start of Construction: *2006*

2) Check Pollutants Emitted:

A. ☐ CO	B. ☐ NO_x	C. ☐ SO_2	D. ☒ VOCs
E. ☒ PM or PM_{10}	If E is checked	☒ Condensable Organic	☐ Non-Volatile
F. ☒ HAPs	If F is checked	☒ Volatile	☒ Non-Volatile
G. ☐ Lead	H. ☐ Fluoride	I. ☐ Other Potentially Hazardous Pollutants (specify)_____	

3) **Description of the Emission Point:**
Briefly describe the emission point and the key components (machinery), including the number of applicators:

Four paint booths located inside Building 1180 (EU15-1A, EU15-1B, EU15-2, & EU15-3) are used for coating of military munitions and their associated components. There is one paint gun associated with each paint booth (Devilbiss Model MBC) except EU15-1A & B which also uses a tow spray gun.

Describe raw material into the process (including the surface coated): *Various munitions (bombs, projectiles, rockets etc.) or metal parts are recoated with paint as required by specifications.*

Describe the resulting product from the unit: *Painted munitions.*

4) **ATTACH A PROCESS FLOW DIAGRAM.** Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials, all process equipment, control equipment and stacks/vents.

5) Check the category that most closely describes this unit:

A. ☐ Auto or Light-duty Truck Coating	B. ☐ Metal Furniture Coating
C. ☐ Large Appliance Coating	D. ☐ Metal Coil Coating
E. ☐ Beverage Can Coating	F. ☐ Magnet Wire Insulation Coating
G. ☒ Miscellaneous Metal Parts Coating	H. ☐ Flat Wood Panel Coating
I. ☐ Coating of Plastic Parts for Business Machines	
J. ☐ Fabric, Vinyl, or Paper Coating	

This category also includes: 1. *Magnet Tape Coating*
2. *Pressure Sensitive Tape & Label Coating*

K. ☐ Graphic Arts Using rotogravure & Flexographic Printing

This category also includes: 1. *Flexible Vinyl and Urethane Coating & Printing*

L. ☐ Publication Rotogravure Printing

X. ☒ Other (specify) *Munitions*

Note: Refer to the specific regulations in Chapters 59, 60, 61, and 63 of Title 401 of Kentucky Administrative Regulations for detailed descriptions of these categories and possible regulation applicability.

6) **Type and amount of cleanup solvent(s) used at the emission point and as a direct result of the emission point's operation:** (*attach a MSDS with chemical compositions*):

Type: *Safety-Kleen Corp – Laq. Thinner 6782* Maximum Usage: *0.75* gal/day

SECTION II APPLICATOR DATA

Complete the following for each applicator. Make additional copies of this section as required. If multiple applicators are essentially identical, the data may be combined on one copy by identifying multiple applicators in the field provided

7) **Identity:**

Emission Point #: EU15 Applicator #: EU15-1, 2, 3, &4 Function of the Applicator primer coat, finish coat, stenciling

8) **Type of Applicator** (Check the appropriate type):

A. ☐ Spray: ☒ Air Gun ☐ Airless ☐ Electrostatic ☐ Other Spray (specify) _____

B. ☐ Electrodeposition: Tank Dimensions _____ ft. long X _____ ft. wide X _____ ft. high

Capacity _____ gallons

C. ☐ Dip Tank D. ☐ Flow Coating

E. ☐ Roll Coating: ☐ Rotogravure ☐ Flexography ☐ Other (specify) _____

F. ☐ Brush

G. ☐ Other (describe) _____

9) If the construction date for the applicator is different than the construction date for the emission point, identify the construction start date for the applicator. Same

10) **Mode of Surface Coating:**

A. ☐ Continuous ☒ Batch ☐ Other (specify) _____

B. ☒ Manual ☐ Automatic

11) **Temperature of Coating Material as Applied:**

75 °F If the coated product goes to an oven, temperature of the oven NA °F

12) **Maximum Coating Application Rate:** *Do not consider bottlenecks when answering. Other throughput limits can be identified in Item 13.*

Applicator capacity 18.75 gal/hr (gal or lbs/hr)

Describe how the applicator capacity was determined. Manufacturer's specifications (Devilbiss). Actual paint usage is less.

13) **Process Limitations:**

Describe any limitations that make operation at the maximum capacity of the applicator or 8760 hours of operation impossible.

Due to process constraints (i.e., abrasive blasting, munitions movement, & inspecting) munitions are only available 33% of the total potential hours.

14) **Release into Ambient Air:**

Identify the stack or vent that the emissions enter the ambient air through: S-21-1A, S-21-1B, S-21-2, & S-21-3

Identify any control device (filter, incinerator, etc.) that is used to lower emissions from the applicator. Fabric Filter (C05-1A, C05-1B, C05-2, & C05-3)

Describe stacks, vents, and control devices on form DEP7007N, Emissions, Stacks, and Controls Information.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating.

15) **COATINGS** as applied**:**

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of VOC

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc. – Epoxy Topcoat – Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 4.96 lbs/gal

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium (VI)

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 0.64 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium Compounds

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 1.23 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Ethylbenzene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 4.96 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: 34094

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Naphthalene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Green 383, 34094, MIL-DTL-53039B, TYPE II

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 11.20 lbs/gal Highest emission rate pollutant content: 0.49 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: 686A Tan

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Styrene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan Aqua-Zen Enamel

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.23 lbs/gal Highest emission rate pollutant content: 0.11 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Toluene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Epoxy Topcoat - Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 3.05 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.
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Emission Point #: EU15
Applicator #: EU15-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Xylene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 29.48 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007K
Continued

SURFACE COATING (OR) PRINTING OPERATION

SECTION I GENERAL

1) Emission Point #: EU25 Proposed/Actual Start of Construction: 2008

2) Check Pollutants Emitted:

A. ☐ CO	B. ☐ NO_x	C. ☐ SO_2	D. ☒ VOCs
E. ☒ PM or PM_{10}	If E is checked	☒ Condensable Organic	☐ Non-Volatile
F. ☒ HAPs	If F is checked	☒ Volatile	☒ Non-Volatile
G. ☐ Lead	H. ☐ Fluoride	I. ☐ Other Potentially Hazardous Pollutants (specify)_____	

3) **Description of the Emission Point:**
Briefly describe the emission point and the key components (machinery), including the number of applicators:
One paint booth located inside Building 216 and used to support the Mine Resistant Ambush Protected (MRAP) vehicle program. Paint is applied via a paint gun and using brushes and aerosol can spray.

Describe raw material into the process (including the surface coated): The components to be painted are manually transported to the paint booth.

Describe the resulting product from the unit: Painted components.

4) **ATTACH A PROCESS FLOW DIAGRAM.** Show entry and exit points of all materials and finished products. Label all materials including airborne contaminants and other waste materials, all process equipment, control equipment and stacks/vents.

5) Check the category that most closely describes this unit:

A. ☐ Auto or Light-duty Truck Coating	B. ☐ Metal Furniture Coating
C. ☐ Large Appliance Coating	D. ☐ Metal Coil Coating
E. ☐ Beverage Can Coating	F. ☐ Magnet Wire Insulation Coating
G. ☒ Miscellaneous Metal Parts Coating	H. ☐ Flat Wood Panel Coating
I. ☐ Coating of Plastic Parts for Business Machines	
J. ☐ Fabric, Vinyl, or Paper Coating	

This category also includes: 1. *Magnet Tape Coating*
2. *Pressure Sensitive Tape & Label Coating*

K. ☐ Graphic Arts Using rotogravure & Flexographic Printing

This category also includes: 1. *Flexible Vinyl and Urethane Coating & Printing*

L. ☐ Publication Rotogravure Printing

X. ☒ Other (specify) MRAP vehicle components

Note: Refer to the specific regulations in Chapters 59, 60, 61, and 63 of Title 401 of Kentucky Administrative Regulations for detailed descriptions of these categories and possible regulation applicability.

6) **Type and amount of cleanup solvent(s) used at the emission point and as a direct result of the emission point's operation:** (*attach a MSDS with chemical compositions*):

Type: Safety-Kleen Corp – Laq. Thinner 6782 Maximum Usage: 0.75 gal/day

SECTION II APPLICATOR DATA

Complete the following for each applicator. Make additional copies of this section as required. If multiple applicators are essentially identical, the data may be combined on one copy by identifying multiple applicators in the field provided

7) **Identity:**

Emission Point #: EU25 Applicator #: EU25-1 Function of the Applicator Paint application

8) **Type of Applicator** (Check the appropriate type):

A. ☒ Spray: ☐ Air Gun ☐ Airless ☐ Electrostatic ☒ Other Spray (specify) Can

B. ☐ Electrodeposition: Tank Dimensions _____ ft. long X _____ ft. wide X _____ ft. high

Capacity _____ gallons

C. ☐ Dip Tank D. ☐ Flow Coating

E. ☐ Roll Coating: ☐ Rotogravure ☐ Flexography ☐ Other (specify) _____

F. ☐ Brush

G. ☐ Other (describe) _____

9) If the construction date for the applicator is different than the construction date for the emission point, identify the construction start date for the applicator. Same

10) **Mode of Surface Coating:**

A. ☐ Continuous ☒ Batch ☐ Other (specify) _____

B. ☒ Manual ☐ Automatic

11) **Temperature of Coating Material as Applied:**

68-78 °F If the coated product goes to an oven, temperature of the oven NA °F

12) **Maximum Coating Application Rate:** *Do not consider bottlenecks when answering. Other throughput limits can be identified in Item 13.*

Applicator capacity 18.75 gal/hr (gal or lbs/hr)

Describe how the applicator capacity was determined. Manufacturer Data

13) **Process Limitations:**

Describe any limitations that make operation at the maximum capacity of the applicator or 8760 hours of operation impossible.

Due to process constraints (i.e., abrasive blasting, component movement, & inspecting) components are only available 33% of the total potential hours.

14) **Release into Ambient Air:**

Identify the stack or vent that the emissions enter the ambient air through: S216-1

Identify any control device (filter, incinerator, etc.) that is used to lower emissions from the applicator. Fabric Filter (C216-1)

Describe stacks, vents, and control devices on form DEP7007N, Emissions, Stacks, and Controls Information.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating.

15) **COATINGS** as applied**:**

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of VOC

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc. – Epoxy Topcoat – Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 4.96 lbs/gal

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium (VI)

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 0.64 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: 686A Tan DTM

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Chromium Compounds

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan DTM Acrylic Emulsion

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.68 lbs/gal Highest emission rate pollutant content: 1.23 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Ethylbenzene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 4.96 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: 34094

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Naphthalene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Green 383, 34094, MIL-DTL-53039B, TYPE II

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 11.20 lbs/gal Highest emission rate pollutant content: 0.49 % (by weight)
Other relevant coating information for this coating should be provided on a separate page as appropriate.

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: 686A Tan

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Styrene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): 686A Tan Aqua-Zen Enamel

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.23 lbs/gal Highest emission rate pollutant content: 0.11 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

SECTION III COATINGS APPLIED

Identify the coatings that will result in the highest emission rate of each pollutant released at each applicator. Make additional copies of this section if more space is needed. Provide all MSDSs or Technical Sheets that identify the pollutant content in the coating

Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: Epoxy Topcoat - Base

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Toluene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): Deft, Inc - Epoxy Topcoat - Base

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 9.44 lbs/gal Highest emission rate pollutant content: 3.05 % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.
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Emission Point #: EU25
Applicator #: EU25-1 Reference for the coating employed: XE-8802

Of all the coatings applied by this applicator, this coating will produce the highest emission rate of Xylene

Manufacturer's I.D. of all components in the coating (if the coating is applied as received from the manufacturer, only one I.D. should be provided): NCP Coatings - Primer - Red Oxide [XE-8802]

If the coating is a mixture, identify the ratio of the components: NA
As applied:
Density: 10.95 lbs/gal Highest emission rate pollutant content: 29.48 lbs/gal or % (by weight)

Other relevant coating information for this coating should be provided on a separate page as appropriate.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007N

Emissions, Stacks, and Controls Information

Applicant Blue Grass Army Depot Log # _____

SECTION I. Emissions Unit and Emission Point Information

KyEIS ID #	Emissions Unit and Emission Point Descriptions	Maximum Operating Parameters		Permitted Operating Parameters		
		Hourly Operating Rate (SCC Units/hr)	Annual Operating Hours (hrs/yr)	Hourly Operating Rate (SCC Units/hr)	Annual Operating Rate (SCC Units/yr)	Annual Operating Hours (hrs/yr)
	Emission Unit Name: Date Constructed: HAPs present? ☐ Yes ☐ No					
	Emission Point Name: Source ID: SCC Code: SCC Units: KyEIS Stack #: Fuel Ash Content: Fuel Sulfur Content: Fuel Heat Content Ratio: Applicable Regulations:					
	Emission Point Name: Source ID: SCC Code: SCC Units: KyEIS Stack #: Fuel Ash Content: Fuel Sulfur Content: Fuel Heat Content Ratio: Applicable Regulations:					

Refer to 7007N Form Supplement Table 1 (Section 1 Part 1) At The Back Of This Section.

SECTION I. Emission Units and Emission Point Information (continued)

KyEIS ID #	Emission Factors			Control Equipment		Hourly (lb/hr) Emissions			Annual (tons/yr) Emissions		
	Pollutant	Emission Factor (lb/SCC Units)	Emission Factor Basis	Control Equipment Association	Pollutant Overall Efficiency (%)	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
				1st control device KyEIS Control ID #: Collection efficiency:							
				1st control device KyEIS Control ID #: Collection efficiency: 2nd control device KyEIS Control ID #: Collection efficiency:							

Refer to 7007N Form Supplement Table 2 (Section 1 Part 2) At The Back Of This Section.

SECTION II. Stack Information

KyEIS Stack ID #	Stack Description	Stack Physical Data			Stack Geographic Data			Stack Gas Stream Data		
		Height (ft)	Diameter (ft)	Vent Height (ft)	Vertical Coordinate	Horizontal Coordinate	Coordinate Collection Method Code	Flowrate (acfm)	Temperature (^{o}F)	Exit Velocity (ft/sec)

Refer to 7007N Form Supplement Table 3 (Section II) At The Back Of This Section.

KyEIS ID#	Source ID	Emission Source Description	Date Construct	HAP present?	KyEIS Stack #	SCC Code	SCC Units	Fuel Ash Content	Fuel Sulfur Content	Fuel Heat Content Ratio	Applicable Regulations	Maximum Operating Parameters		Permitted Operating Parameters		
												Hourly Operating Rate (SCC Units/hr)	Annual Operating Hours (hrs/yr)	Hourly Operating Rate (SCC Units/hr)	Annual Operating Rate (SCC Units/yr)	Annual Operating Hours (hrs/yr)
EU01	1	Natural Gas Boilers	2006	Y	na	10200602	MMscf	na	na	1	40 CFR 60 Subpart Dc	0.02	8,760	na	na	na
EU09	1	General Refuse Incinerator	April 1981	Y	na	50100101	Tons Solid Waste Burned	na	na	1	59:020; 63:020	0.25	2,104	na	526	na
EU10	1	Flashing Furnace System	Sep. 2006	Y	na	50300114	Tons Solid Waste Burned	na	na	1	59:010; 59:020; 63:020	5.90	2,085	na	12,300	na
EU11	1	Aircraft Surface Coating - Bldg 232 Paint Use	1992	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.0009	8,760	na	na	na
EU11	2	Aircraft Surface Coating - Bldg 232 Thinner Use	1992	Y	na	40202505	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.000008	8,760	na	na	na
EU11	3	Aircraft Surface Coating - Bldg 232 Shot Blast	1992	Y	na	30900205	Tons Abrasive Consumed	na	na	na	59:010; 63:020	3.20	8,760	na	na	na
EU12	1	Munitions Surface Coating - Bldg 550 Paint Use	2005	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.0054	8,760	na	na	na
EU12	2	Munitions Surface Coating - Bldg 550 Thinner Use	2005	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.000023	8,760	na	na	na
EU13	1	Munitions Surface Coating - Bldg 555 Paint Use	Prior to 1980	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.0054	8,760	na	na	na
EU13	2	Munitions Surface Coating - Bldg 555 Thinner Use	Prior to 1980	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.000023	8,760	na	na	na
EU14	1	Munitions Surface Coating - Bldg 562 Paint Use	1970	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.0054	8,760	na	na	na

EU14	2	Munitions Surface Coating - Bldg 562 Thinner Use	1970	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.000023	8,760	na	na	na
EU15	1	Munitions Surface Coating - Bldg 1180 Paint Use	2006	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.0054	8,760	na	na	na
EU15	2	Munitions Surface Coating - Bldg 1180 Thinner Use	2006	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.000023	8,760	na	na	na
EU16	1	Detonation Chamber	May 1999	Y	na	39999994	Pounds Material Processed	na	na	na	59:010; 63:020	300.00	8,760	na	na	na
EU17	1	Shot Blasting of Munitions	1960	Y	na	30900205	Tons Abrasive Consumed	na	na	na	61:020	60.00	8,760	na	na	na
EU18	1	Shot Blasting of Munitions	After July 2, 1975	Y	na	30900205	Tons Abrasive Consumed	na	na	na	59:010	13.05	8,760	na	na	na
EU19	1	Shot Blasting of Munitions	2004	Y	na	30900205	Tons Abrasive Consumed	na	na	na	59:010	52.20	8,760	na	na	na
EU21	1-17	Natural Gas Fired Indirect Exchangers	1970s	Y	na	10300603	MMscf	na	na	1	59:015	0.04	8,760	na	na	na
EU22	1	Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning	1979	Y	na	39999994	Pounds Material Processed	na	na	na	63:005, 63:010, 63:020	1,265.80	1,950	na	na	na
EU24	1	Industrial Supercritical Water Oxidation (i-SCWO) System	TBD	Y	na	39999992	Hours Equipment Operated	na	na	na	59:010	1.00	8,760	na	na	na
EU24	2	Industrial Supercritical Water Oxidation (i-SCWO) System - Preheater	TBD	Y	na	50390006	MMscf	na	na	1	59:015	0.03	8,760	na	na	na
EU25	1	MRAP Paint Booth - Paint Use	2008	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.0054	8,760	na	na	na
EU25	2	MRAP Paint Booth - Thinner Use	2008	Y	na	40202501	Tons Solvent in Coating Used	na	na	na	59:010; 63:020	0.000023	8,760	na	na	na
EU26	1	Iridite Dip Tank Plating Operation - Iridite Dip Tank	1992	Y	na	30901199	Gallons of Material Processed	na	na	na	59:010, NESHAP Subpart 6W	1.00	8,760	na	na	na

EU26	2	Iridite Dip Tank Plating Operation - Isoprep Dip Tank	1992	Y	na	30901199	Gallons of Material Processed	na	na	na	59:010, NESHAP Subpart 6W	1.00	8,760	na	na	na
EU27	1	Kohler Emg. Gen.	Pre-2004	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NESHAP Subpart ZZZZ	0.005	500	na	na	na
EU27	2	DL-230, Onan 75-ODYC-15R/23117K, Emg. Gen.	Pre-2004	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NESHAP Subpart ZZZZ	0.005	500	na	na	na
EU27	3	Emg. Gen. #1 Cummins 6BTA	Pre-2004	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NESHAP Subpart ZZZZ	0.010	500	na	na	na
EU27	4	Emg. Gen. #2 Cummins 6BTA	Pre-2004	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NESHAP Subpart ZZZZ	0.010	500	na	na	na
EU28	1	Kohler Emg. Gen., Model 50REOZJC	2009	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NSPS Subpart IIII, NESHAP Subpart ZZZZ	0.004	500	na	na	na
EU28	2	Kohler Emg. Gen., Model 50REOZJC	2009	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NSPS Subpart IIII, NESHAP Subpart ZZZZ	0.004	500	na	na	na
EU28	3	Kohler Emg. Gen., Model 50REOZJC	2009	Y	na	20200102	1000 Gallons of Diesel Burned	na	na	1	63:020, NSPS Subpart IIII, NESHAP Subpart ZZZZ	0.004	500	na	na	na
EU29	1	Caterpillar Emg. Gen., Model G130LG2	2009	Y	na	20200202	MMscf	na	na	1	63:020, NSPS Subpart JJJJ, NESHAP Subpart ZZZZ	0.002	500	na	na	na
EU29	2	Caterpillar Emg. Gen., Model G100LTA	2009	Y	na	20200202	MMscf	na	na	1	63:020, NSPS Subpart JJJJ, NESHAP Subpart ZZZZ	0.001	500	na	na	na

KyEIS ID # / Source ID(s)		Emission Factors			Control Equipment			Hourly Operating Rate (SCC Units/hr)	Hourly (lb/hr) Emissions			Annual (tons/yr) Emissions		
	Pollutant CAS#	Emission Factor (lb/SCC Units)		Emission Factor Basis	Control Equip. #	Control Device	Control Efficiency		Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable	Uncontrolled Unlimited Potential	Controlled Limited Potential	Allowable
EU01	*1*	*Natural Gas Boilers*												
	Particulate Matter	*7.60*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*0.15*	*na*	*na*	*0.67*	*na*	*na*
	Sulfur Dioxide	*0.60*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*0.01*	*na*	*na*	*0.05*	*na*	*na*
	Nitrogen Oxides	*100.00*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*2.00*	*na*	*na*	*8.76*	*na*	*na*
	Carbon Monoxide	*84.00*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*1.68*	*na*	*na*	*7.36*	*na*	*na*
	VOC	*5.50*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*0.11*	*na*	*na*	*0.48*	*na*	*na*
	Lead	*5.00E-04*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
	Benzene	*2.10E-03*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
	Dichlorobenzene	*1.20E-03*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
	Formaldehyde	*7.50E-02*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*0.01*	*na*	*na*
	Hexane	*1.80E+00*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*0.04*	*na*	*na*	*0.16*	*na*	*na*
	Naphthalene	*6.10E-04*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
	POM	*8.82E-05*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
	Toluene	*3.40E-03*	*lb/MMscf*	*AP-42*	*na*	*na*	*na*	*0.02*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
EU09	*1*	*General Refuse Incinerator*												
	Particulate Matter	*8.28*	*lb/Tons Solid Waste Burned*	*Stack Test*	*C06*	*Secondary Burner*	*74.3*	*0.25*	*2.07*	*0.53*	*na*	*2.18*	*0.56*	*na*
	Sulfur Dioxide	*2.50*	*lb/Tons Solid Waste Burned*	*Stack Test*	*na*	*na*	*na*	*0.25*	*0.63*	*na*	*na*	*0.66*	*na*	*na*
	Nitrogen Oxides	*3.00*	*lb/Tons Solid Waste Burned*	*Stack Test*	*na*	*na*	*na*	*0.25*	*0.75*	*na*	*na*	*0.79*	*na*	*na*
	Carbon Monoxide	*10.00*	*lb/Tons Solid Waste Burned*	*Stack Test*	*na*	*na*	*na*	*0.25*	*2.50*	*na*	*na*	*2.63*	*na*	*na*
	VOC	*3.00*	*lb/Tons Solid Waste Burned*	*Stack Test*	*na*	*na*	*na*	*0.25*	*0.75*	*na*	*na*	*0.79*	*na*	*na*
	Arsenic	*6.69E-04*	*lb/Tons Solid Waste Burned*	*AP-42*	*C06*	*Secondary Burner*	*74.3*	*0.25*	*< 0.01*	*< 0.01*	*na*	*< 0.01*	*< 0.01*	*na*
	Cadmium	*2.41E-03*	*lb/Tons Solid Waste Burned*	*AP-42*	*C06*	*Secondary Burner*	*74.3*	*0.25*	*< 0.01*	*< 0.01*	*na*	*< 0.01*	*< 0.01*	*na*
	Chromium	*3.31E-03*	*lb/Tons Solid Waste Burned*	*AP-42*	*C06*	*Secondary Burner*	*74.3*	*0.25*	*< 0.01*	*< 0.01*	*na*	*< 0.01*	*< 0.01*	*na*
	Mercury	*5.60E-03*	*lb/Tons Solid Waste Burned*	*AP-42*	*na*	*na*	*na*	*0.25*	*< 0.01*	*na*	*na*	*< 0.01*	*na*	*na*
	Nickel	*5.52E-03*	*lb/Tons Solid Waste Burned*	*AP-42*	*C06*	*Secondary Burner*	*74.3*	*0.25*	*< 0.01*	*< 0.01*	*na*	*< 0.01*	*< 0.01*	*na*
	HCl	*2.15E+00*	*lb/Tons Solid Waste Burned*	*AP-42*	*na*	*na*	*na*	*0.25*	*0.54*	*na*	*na*	*0.57*	*na*	*na*

		2,3,7,8-Tetrachlorodibenzo-p-Dioxin	2.94E-06	lb/Tons Solid Waste Burned	AP-42	na	na	na	0.25	< 0.01	na	na	< 0.01	na	na
EU10	1	Flashing Furnace System													
		Particulate Matter	0.04	lb/Tons Solid Waste Burned	Stack Test	C07-1, C07-2	Afterburner, cyclone, and baghouse	97.5	5.90	0.26	0.01	na	0.27	0.01	na
		Sulfur Dioxide	0.07	lb/Tons Solid Waste Burned	Stack Test	na	na	na	5.90	0.41	na	na	0.43	na	na
		Nitrogen Oxides	0.18	lb/Tons Solid Waste Burned	Stack Test	na	na	na	5.90	1.06	na	na	1.11	na	na
		Carbon Monoxide	0.56	lb/Tons Solid Waste Burned	Stack Test	na	na	na	5.90	3.30	na	na	3.44	na	na
		VOC	0.42	lb/Tons Solid Waste Burned	Stack Test	na	na	na	5.90	2.48	na	na	2.58	na	na
		Arsenic	1.87E-05	lb/Tons Solid Waste Burned	Stack Test	C07-1, C07-2	Afterburner, cyclone, and baghouse	97.5	5.90	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Cadmium	6.72E-05	lb/Tons Solid Waste Burned	Stack Test	C07-1, C07-2	Afterburner, cyclone, and baghouse	97.5	5.90	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Chromium	9.24E-05	lb/Tons Solid Waste Burned	Stack Test	C07-1, C07-2	Afterburner, cyclone, and baghouse	97.5	5.90	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Mercury	1.56E-04	lb/Tons Solid Waste Burned	Stack Test	C07-1, C07-2	Afterburner, cyclone, and baghouse	97.5	5.90	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Nickel	1.56E-04	lb/Tons Solid Waste Burned	Stack Test	C07-1, C07-2	Afterburner, cyclone, and baghouse	97.5	5.90	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		HCl	6.00E-02	lb/Tons Solid Waste Burned	Stack Test	na	na	na	5.90	0.35	na	na	0.37	na	na
		2,3,7,8-Tetrachlorodibenzo-p-Dioxin	1.00E-07	lb/Tons Solid Waste Burned	Stack Test	na	na	na	5.90	< 0.01	na	na	< 0.01	na	na
EU11	1	Aircraft Surface Coating - Bldg 232 Paint Use													
		VOC	549.28	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	0.52	na	na	2.28	na	na
		Particulate Matter	200.00	lb/Tons Solvent in Coating Used	Mass Balance	C01	Fabric Filter	99.9	0.0009	0.19	< 0.01	na	0.83	< 0.01	na
		Chromium (VI)	1.50	lb/Tons Solvent in Coating Used	Mass Balance	C01	Fabric Filter	90.0	0.0009	< 0.01	< 0.01	na	0.01	< 0.01	na
		Chromium Compounds	95.93	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	0.09	na	na	0.40	na	na
		Cumene	3.96	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	< 0.01	na	na	0.02	na	na
		Ethylbenzene	2.16	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	< 0.01	na	na	0.01	na	na

		Hexa-methylene-1,6-diiso cyanate	0.28	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	< 0.01	na	na	< 0.01	na	na
		Methanol	1.08	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	< 0.01	na	na	< 0.01	na	na
		MIBK	10.12	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	0.01	na	na	0.04	na	na
		Toluene	57.51	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	0.05	na	na	0.24	na	na
		Xylene	10.31	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0009	0.01	na	na	0.04	na	na
EU11	2	Aircraft Surface Coating - Bldg 232 Thinner Use													
		VOC	2000.88	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000008	0.02	na	na	0.07	na	na
		Ethylbenzene	11.92	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000008	< 0.01	na	na	< 0.01	na	na
		Toluene	119.18	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000008	< 0.01	na	na	< 0.01	na	na
		Xylene	71.51	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000008	< 0.01	na	na	< 0.01	na	na
EU11	3	Aircraft Surface Coating - Bldg 232 Shot Blast													
		Particulate Matter	8.00	lb/Tons Abrasive Consumed	Engineering Estimate	C01	Fabric Filter	99.9	3.20	25.60	0.03	na	112.13	0.11	na
EU12	1	Munitions Surface Coating - Bldg 550 Paint Use													
		VOC	420.90	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	2.27	na	na	9.95	na	na
		Particulate Matter	200.00	lb/Tons Solvent in Coating Used	Mass Balance	C02-1, C02-2	Fabric Filter	99.9	0.0054	1.08	< 0.01	na	4.73	< 0.01	na
		Chromium (VI)	0.01	lb/Tons Solvent in Coating Used	Mass Balance	C02-1, C02-2	Fabric Filter	90.0	0.0054	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Chromium Compounds	0.10	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	1.71	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.01	na	na	0.04	na	na
		Naphthalene	0.12	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Styrene	0.76	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.02	na	na
		Toluene	0.44	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.01	na	na
		Xylene	10.17	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.05	na	na	0.24	na	na
EU12	2	Munitions Surface Coating - Bldg 550 Thinner Use													
		VOC	2000.36	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.05	na	na	0.20	na	na
		1,1,1-Trichloro-ethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	499.92	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.05	na	na
		Methanol	66.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	0.01	na	na
		MIBK	1062.99	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.11	na	na
		Dichloromethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Perchloroethylene	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Toluene	999.84	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.10	na	na
		Xylene	249.96	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.03	na	na

EU13	1	Munitions Surface Coating - Bldg 555 Paint Use												
		VOC	420.90	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	2.27	na	na	9.95	na	na
		Particulate Matter	200.00	lb/Tons Solvent in Coating Used	Mass Balance	C03-1, C03-2, C03-3, C03-4, C03-5	Fabric Filter	99.9	0.0054	1.08	< 0.01	na	4.73	< 0.01	na
		Chromium (VI)	0.01	lb/Tons Solvent in Coating Used	Mass Balance	C03-1, C03-2, C03-3, C03-4, C03-5	Fabric Filter	90.0	0.0054	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Chromium Compounds	0.10	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	1.71	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.01	na	na	0.04	na	na
		Naphthalene	0.12	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Styrene	0.76	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.02	na	na
		Toluene	0.44	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.01	na	na
		Xylene	10.17	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.05	na	na	0.24	na	na
EU13	2	Munitions Surface Coating - Bldg 555 Thinner Use												
		VOC	2000.36	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.05	na	na	0.20	na	na
		1,1,1-Trichloro-ethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	499.92	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.05	na	na
		Methanol	66.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	0.01	na	na
		MIBK	1062.99	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.11	na	na
		Dichloromethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Perchloroethylene	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Toluene	999.84	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.10	na	na
		Xylene	249.96	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.03	na	na
EU14	1	Munitions Surface Coating - Bldg 562 Paint Use												
		VOC	420.90	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	2.27	na	na	9.95	na	na
		Particulate Matter	200.00	lb/Tons Solvent in Coating Used	Mass Balance	C04-1, C04-2, C04-3, C04-4	Fabric Filter	99.9	0.0054	1.08	< 0.01	na	4.73	< 0.01	na

		Chromium (VI)	0.01	lb/Tons Solvent in Coating Used	Mass Balance	C04-1, C04-2, C04-3, C04-4	Fabric Filter	90.0	0.0054	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Chromium Compounds	0.10	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	1.71	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.01	na	na	0.04	na	na
		Naphthalene	0.12	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Styrene	0.76	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.02	na	na
		Toluene	0.44	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.01	na	na
		Xylene	10.17	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.05	na	na	0.24	na	na
EU14	2	Munitions Surface Coating - Bldg 562 Thinner Use													
		VOC	2000.36	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.05	na	na	0.20	na	na
		1,1,1-Trichloro-ethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	499.92	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.05	na	na
		Methanol	66.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	0.01	na	na
		MIBK	1062.99	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.11	na	na
		Dichloromethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Perchloroethylene	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Toluene	999.84	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.10	na	na
		Xylene	249.96	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.03	na	na
EU15	1	Munitions Surface Coating - Bldg 1180 Paint Use													
		VOC	420.90	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	2.27	na	na	9.95	na	na
		Particulate Matter	200.00	lb/Tons Solvent in Coating Used	Mass Balance	C05-1A, C05-1B, C05-2, C05-3	Fabric Filter	99.9	0.0054	1.08	< 0.01	na	4.73	< 0.01	na
		Chromium (VI)	0.01	lb/Tons Solvent in Coating Used	Mass Balance	C05-1A, C05-1B, C05-2, C05-3	Fabric Filter	90.0	0.0054	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Chromium Compounds	0.10	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	1.71	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.01	na	na	0.04	na	na
		Naphthalene	0.12	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Styrene	0.76	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.02	na	na
		Toluene	0.44	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.01	na	na
		Xylene	10.17	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.05	na	na	0.24	na	na

EU15	2	Munitions Surface Coating - Bldg 1180 Thinner Use												
		VOC	2000.36	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.05	na	na	0.20	na	na
		1,1,1-Trichloro-ethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	499.92	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.05	na	na
		Methanol	66.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	0.01	na	na
		MIBK	1062.99	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.11	na	na
		Dichloromethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Perchloroethylene	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Toluene	999.84	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.10	na	na
		Xylene	249.96	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.03	na	na
EU16	1	Detonation Chamber												
		Particulate Matter	6.42E-01	lb/Pounds Material Processed	Stack Test	C-P-18	Cartridge Filter	99.9	300.00	192.60	0.19	na	843.59	0.84	na
		Sulfur Dioxide	4.80E-05	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	0.01	na	na	0.06	na	na
		Nitrogen Oxides	1.36E-02	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	4.08	na	na	17.87	na	na
		Carbon Monoxide	6.58E-02	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	19.74	na	na	86.46	na	na
		VOC	1.28E-04	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	0.04	na	na	0.17	na	na
		Acetophenone	6.34E-07	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		Benzene	8.34E-06	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	0.01	na	na
		1,3-Butadiene	4.43E-07	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		Cadmium Compounc	3.20E-05	lb/Pounds Material Processed	Stack Test	C-P-18	Cartridge Filter	99.0	300.00	0.01	< 0.01	na	0.04	< 0.01	na
		Chromium Compoun	1.45E-04	lb/Pounds Material Processed	Stack Test	C-P-18	Cartridge Filter	99.0	300.00	0.04	< 0.01	na	0.19	< 0.01	na
		1,4-Dichlorobenzene	5.39E-07	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	7.98E-07	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		HCl	3.15E-03	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	0.95	na	na	4.14	na	na
		Hexane	2.84E-06	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		Lead Compounds	4.61E-06	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	0.01	na	na
		Manganese Compou	1.91E-07	lb/Pounds Material Processed	Stack Test	C-P-18	Cartridge Filter	99.0	300.00	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Naphthalene	2.40E-07	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		Nickel Compounds	2.93E-07	lb/Pounds Material Processed	Stack Test	C-P-18	Cartridge Filter	99.0	300.00	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Toluene	2.08E-06	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
		Xylenes	2.84E-06	lb/Pounds Material Processed	Stack Test	na	na	na	300.00	< 0.01	na	na	< 0.01	na	na
EU17	1	Shot Blasting of Munitions												

		Particulate Matter	8.00	lb/Tons Abrasive Consumed	Engineering Estimate	C08	Cartridge Filter	99.9	60.00	480.00	0.48	na	2,102.40	2.10	na
EU18	1	Shot Blasting of Munitions													
		Particulate Matter	8.00	lb/Tons Abrasive Consumed	Engineering Estimate	C09	Baghouse	99.9	13.05	104.40	0.10	na	457.27	0.46	na
EU19	1	Shot Blasting of Munitions													
		Particulate Matter	8.00	lb/Tons Abrasive Consumed	Engineering Estimate	C10	Baghouse	99.9	52.20	417.60	0.42	na	1,829.09	1.83	na
EU21	1-17	Natural Gas Fired Indirect Exchangers													
		Particulate Matter	7.60	lb/MMscf	AP-42	na	na	na	0.04	0.28	na	na	1.24	na	na
		Sulfur Dioxide	0.60	lb/MMscf	AP-42	na	na	na	0.04	0.02	na	na	0.10	na	na
		Nitrogen Oxides	100.00	lb/MMscf	AP-42	na	na	na	0.04	3.71	na	na	16.27	na	na
		Carbon Monoxide	84.00	lb/MMscf	AP-42	na	na	na	0.04	3.12	na	na	13.67	na	na
		VOC	5.50	lb/MMscf	AP-42	na	na	na	0.04	0.20	na	na	0.89	na	na
		Lead	5.00E-04	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	< 0.01	na	na
		Benzene	2.10E-03	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	< 0.01	na	na
		Dichlorobenzene	1.20E-03	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	< 0.01	na	na
		Formaldehyde	7.50E-02	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	0.01	na	na
		Hexane	1.80E+00	lb/MMscf	AP-42	na	na	na	0.04	0.07	na	na	0.29	na	na
		Naphthalene	6.10E-04	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	< 0.01	na	na
		POM	8.82E-05	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	< 0.01	na	na
		Toluene	3.40E-03	lb/MMscf	AP-42	na	na	na	0.04	< 0.01	na	na	< 0.01	na	na
EU22	1	Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning													
		Particulate Matter	8.28E-02	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	104.81	na	na	102.19	na	na
		Sulfur Dioxide	1.41E-04	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.18	na	na	0.17	na	na
		Nitrogen Oxides	9.86E-03	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	12.48	na	na	12.17	na	na
		Carbon Monoxide	7.52E-03	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	9.52	na	na	9.28	na	na
		VOC	1.00E-04	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.13	na	na	0.12	na	na
		Acetophenone	4.10E-07	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Antimony (Total and	2.88E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Arsenic (Total and Di	7.77E-08	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Benzene	4.97E-05	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.06	na	na	0.06	na	na
		1,3-Butadiene	1.71E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Berryllium (Total and	1.07E-08	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Bis (2-Ethylhexyl) Ph	2.16E-07	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Cadmium (Total and	7.74E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.01	na	na	0.01	na	na
		Chromium Compoun	1.74E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Cyclotrimethylenetrin	9.59E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.01	na	na	0.01	na	na
		Dibenzofuran	8.68E-08	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	2.14E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
		Hexane	9.31E-07	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na

	Lead	5.57E-04	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.71	na	na	0.69	na	na
	Manganese Compou	3.78E-07	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
	Mercury (and Compo	1.10E-07	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
	Methyl Chloride	7.38E-07	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
	Naphthalene	1.18E-05	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.01	na	na	0.01	na	na
	Nickel Compounds	4.61E-03	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	5.84	na	na	5.69	na	na
	Nitrobenzene	5.19E-08	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
	n-Nitrosodibutylamine	5.39E-08	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
	Phenol	4.06E-08	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	< 0.01	na	na	< 0.01	na	na
	2,4,6-Trinitrotoluene	8.18E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.01	na	na	0.01	na	na
	Toluene	1.00E-05	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.01	na	na	0.01	na	na
	Xylenes	8.70E-06	lb/Pounds Material Processed	Stack Test	na	na	na	1,265.80	0.01	na	na	0.01	na	na
EU24	1	Industrial Supercritical Water Oxidation (i-SCWO) System												
	Particulate Matter	1.00E-03	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Sulfur Dioxide	8.00E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Nitrogen Oxides	2.00E-01	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	0.20	na	na	0.88	na	na
	Carbon Monoxide	3.00E-03	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	0.01	na	na
	VOC	7.00E-03	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	0.01	na	na	0.03	na	na
	2,4-Dinitrotoluene	3.37E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Acetophenone	1.83E-05	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Antimony (and Comp	1.00E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Arsenic (and Compou	4.31E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Benzene	2.22E-03	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	0.01	na	na
	Berryllium Compound	4.31E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Bis (2-Ethylhexyl) Ph	9.70E-06	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Cadmium (and Comp	1.08E-03	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Dibutyl Phthalate	4.09E-05	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Ethylbenzene	9.52E-05	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Lead	1.00E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Naphthalene	5.27E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Nickel (and Compou	1.00E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Nitrobenzene	2.30E-06	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Phenol	1.82E-06	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Selenium (and Comp	1.00E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Toluene	4.46E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
	Xylenes	6.57E-04	lb/Hours Equipment Operated	Stack Test	na	na	na	1.00	< 0.01	na	na	< 0.01	na	na
EU24	2	Industrial Supercritical Water Oxidation (i-SCWO) System - Preheater												
	Particulate Matter	7.60	lb/MMscf	AP-42	na	na	na	0.03	0.22	na	na	0.96	na	na
	Sulfur Dioxide	0.60	lb/MMscf	AP-42	na	na	na	0.03	0.02	na	na	0.08	na	na
	Nitrogen Oxides	100.00	lb/MMscf	AP-42	na	na	na	0.03	2.88	na	na	12.61	na	na

		Carbon Monoxide	84.00	lb/MMscf	AP-42	na	na	na	0.03	2.42	na	na	10.60	na	na
		VOC	5.50	lb/MMscf	AP-42	na	na	na	0.03	0.16	na	na	0.69	na	na
EU25	1	MRAP Paint Booth - Paint Use													
		VOC	420.90	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	2.27	na	na	9.95	na	na
		Particulate Matter	200.00	lb/Tons Solvent in Coating Used	Mass Balance	C216-1	Poly Paint Filter Pads	99.9	0.0054	1.08	< 0.01	na	4.73	< 0.01	na
		Chromium (VI)	0.01	lb/Tons Solvent in Coating Used	Mass Balance	C216-1	Poly Paint Filter Pads	90.0	0.0054	< 0.01	< 0.01	na	< 0.01	< 0.01	na
		Chromium Compounds	0.10	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	1.71	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.01	na	na	0.04	na	na
		Naphthalene	0.12	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	< 0.01	na	na
		Styrene	0.76	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.02	na	na
		Toluene	0.44	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	< 0.01	na	na	0.01	na	na
		Xylene	10.17	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.0054	0.05	na	na	0.24	na	na
EU25	2	MRAP Paint Booth - Thinner Use													
		VOC	2000.36	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.05	na	na	0.20	na	na
		1,1,1-Trichloro-ethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Ethylbenzene	499.92	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.05	na	na
		Methanol	66.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	0.01	na	na
		MIBK	1062.99	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.11	na	na
		Dichloromethane	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Perchloroethylene	16.66	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	< 0.01	na	na	< 0.01	na	na
		Toluene	999.84	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.02	na	na	0.10	na	na
		Xylene	249.96	lb/Tons Solvent in Coating Used	Mass Balance	na	na	na	0.000023	0.01	na	na	0.03	na	na
EU26	1	Iridite Dip Tank Plating Operation - Iridite Dip Tank													
		Particulate Matter	1.25E-02	lb/Gallons of Material Processed	Mass Balance	na	na	na	1.00	0.01	na	na	0.05	na	na
		Chromium Compoun	7.50E-03	lb/Gallons of Material Processed	Mass Balance	na	na	na	1.00	0.01	na	na	0.03	na	na
		Cr VI	3.90E-03	lb/Gallons of Material Processed	Mass Balance	na	na	na	1.00	< 0.01	na	na	0.02	na	na
EU26	2	Iridite Dip Tank Plating Operation - Isoprep Dip Tank													
		Particulate Matter	7.50E-02	lb/Gallons of Material Processed	Mass Balance	na	na	na	1.00	0.08	na	na	0.33	na	na
		Chromium Compoun	7.50E-03	lb/Gallons of Material Processed	Mass Balance	na	na	na	1.00	0.01	na	na	0.03	na	na
		Cr VI	2.65E-03	lb/Gallons of Material Processed	Mass Balance	na	na	na	1.00	< 0.01	na	na	0.01	na	na
EU27	1-4	NESHAP Existing CI Emergency Generator Engines													
		Particulate Matter	43.40	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	1.35	na	na	0.34	na	na
		Sulfur Dioxide	40.60	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	1.26	na	na	0.32	na	na

		Nitrogen Oxides	617.40	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	19.24	na	na	4.81	na	na
		Carbon Monoxide	133.00	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	4.14	na	na	1.04	na	na
		VOC	50.40	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	1.57	na	na	0.39	na	na
		Acetaldehyde	0.11	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
		Acrolein	0.01	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
		Benzene	0.13	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
		1,3-Butadiene	0.01	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
		Formaldehyde	0.17	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	0.01	na	na	< 0.01	na	na
		POM	0.02	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
		Toluene	0.06	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
		Xylenes	0.04	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.03	< 0.01	na	na	< 0.01	na	na
EU28	1-3	NSPS-Subject CI Emergency Generator Engines													
		Particulate Matter	43.40	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	0.52	na	na	0.13	na	na
		Sulfur Dioxide	40.60	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	0.49	na	na	0.12	na	na
		Nitrogen Oxides	617.40	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	7.41	na	na	1.85	na	na
		Carbon Monoxide	133.00	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	1.60	na	na	0.40	na	na
		VOC	50.40	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	0.60	na	na	0.15	na	na
		Acetaldehyde	0.11	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		Acrolein	0.01	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		Benzene	0.13	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		1,3-Butadiene	0.01	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		Formaldehyde	0.17	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		POM	0.02	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		Toluene	0.06	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
		Xylenes	0.04	lb/1000 Gallons of Diesel Burned	AP-42	na	na	na	0.012	< 0.01	na	na	< 0.01	na	na
EU29	1-2	NSPS-Subject SI Emergency Generator Engines													
		Particulate Matter	10.19	lb/MMscf	AP-42	na	na	na	0.003	0.03	na	na	0.01	na	na
		Sulfur Dioxide	0.60	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Nitrogen Oxides	863.94	lb/MMscf	AP-42	na	na	na	0.003	2.63	na	na	0.66	na	na
		Carbon Monoxide	568.14	lb/MMscf	AP-42	na	na	na	0.003	1.73	na	na	0.43	na	na
		VOC	120.36	lb/MMscf	AP-42	na	na	na	0.003	0.37	na	na	0.09	na	na
		Acenaphthene	1.28E-03	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Acenaphthylene	5.64E-03	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Acetaldehyde	8.53E+00	lb/MMscf	AP-42	na	na	na	0.003	0.03	na	na	0.01	na	na
		Acrolein	5.24E+00	lb/MMscf	AP-42	na	na	na	0.003	0.02	na	na	< 0.01	na	na
		Benzene	4.49E-01	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Benzo(b)fluoranthene	1.69E-04	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Benzo(e)pyrene	4.23E-04	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Benzo(g,h,i)perlyene	4.22E-04	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
		Biphenyl	2.16E-01	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na

1,3-Butadiene	2.72E-01	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Carbon Tetrachloride	3.74E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Chlorobenzene	3.10E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Chloroform	2.91E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Chrysene	7.07E-04	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
1,3-Dichloropropene	2.69E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Ethylbenzene	4.05E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Ethylene Dibromide	4.52E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Fluoranthene	1.13E-03	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Fluorene	5.78E-03	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Formaldehyde	5.39E+01	lb/MMscf	AP-42	na	na	na	0.003	0.16	na	na	0.04	na	na
Methanol	2.55E+00	lb/MMscf	AP-42	na	na	na	0.003	0.01	na	na	< 0.01	na	na
Methylene Chloride	2.04E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
2-Methylnaphthalene	3.39E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Naphthalene	7.59E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
n-Hexane	1.13E+00	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
PAH	2.74E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Phenanthrene	1.06E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Phenol	2.45E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Pyrene	1.39E-03	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Styrene	2.41E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Toluene	4.16E-01	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
1,1,2,2-Tetrachloroet	4.08E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
1,1,2-Trichloroethane	3.24E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
2,2,4-Trimethylpentai	2.55E-01	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Vinyl Chloride	1.52E-02	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na
Xylene	1.88E-01	lb/MMscf	AP-42	na	na	na	0.003	< 0.01	na	na	< 0.01	na	na

KyEIS ID #	Stack ID	Stack Description	Stack Physical Data			Stack Geographic Data			Stack Gas Stream Data		
			Height (ft)	Width (ft)	Vent Height (ft)	Vertical Coordinate	Horizontal Coordinate	Coordinate Collection Method Code	Flowrate (acfm)	Temperature (F)	Exit Velocity (ft/sec)
EU01	S01	Natural Gas Boilers	24.0	2.5	na	744,324	4,175,932	INI	989	300	3.36
EU09	S09	General Refuse Incinerator	26.0	2.3	na	744,324	4,175,932	INI	1,201	1,200	3.00
EU10	S22	Flashing Furnace System	30.0	1.6	na	744,324	4,175,932	INI	4,200	180	34.82
EU11	S16-1	Aircraft Surface Coating - Building 232	36.0	4.0	na	744,324	4,175,932	INI	24,000	68	31.83
EU11	S16-2	Aircraft Surface Coating - Building 232	36.0	4.0	na	744,324	4,175,932	INI	24,000	68	31.83
EU12	S17-1	Munitions Surface Coating - Building 550	22.0	2.8	na	744,324	4,175,932	INI	19,088	68	50.58
EU12	S17-2	Munitions Surface Coating - Building 550	22.0	2.8	na	744,324	4,175,932	INI	19,088	68	50.58
EU13	S19-1	Munitions Surface Coating - Building 555	20.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU13	S19-2	Munitions Surface Coating - Building 555	20.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU13	S19-3	Munitions Surface Coating - Building 555	20.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU13	S19-4	Munitions Surface Coating - Building 555	23.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU13	S19-5	Munitions Surface Coating - Building 555	23.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU14	S20-1	Munitions Surface Coating - Building 562	24.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU14	S20-2	Munitions Surface Coating - Building 562	24.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU14	S20-3	Munitions Surface Coating - Building 562	24.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU14	S20-4	Munitions Surface Coating - Building 562	24.0	3.0	na	744,324	4,175,932	INI	17,000	68	40.08
EU15	S21-1A	Munitions Surface Coating - Building 1180	30.0	3.0	na	744,324	4,175,932	INI	14,500	68	34.20
EU15	S21-1B	Munitions Surface Coating - Building 1180	30.0	3.0	na	744,324	4,175,932	INI	14,500	68	34.20
EU15	S21-2	Munitions Surface Coating - Building 1180	30.0	3.0	na	744,324	4,175,932	INI	14,000	68	33.00
EU15	S21-3	Munitions Surface Coating - Building 1180	30.0	3.0	na	744,324	4,175,932	INI	14,000	68	33.00
EU16	S-P-18	Detonation Chamber	30.0	2.0	na	744,324	4,175,932	INI	18,347	98	97.33
EU17	S24	Shot Blasting of Munitions - Building 1180	25.0	1.5	na	744,324	4,175,932	INI	9,500	68	89.60
EU18	S25	Shot Blasting of Munitions - Building 562	20.0	1.0	na	744,324	4,175,932	INI	9,500	68	201.60
EU19	S26	Shot Blasting of Munitions - Building 550	20.0	1.0	na	744,324	4,175,932	INI	9,500	68	201.60
EU21	S28-1-17	Natural Gas Fired Indirect Exchangers	24.0	2.5	na	744,324	4,175,932	INI	989	300	3.36
EU22	Fugitive	Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning	Fugitive	Fugitive	1.0	744,324	4,175,932	INI	Fugitive	68	Fugitive
EU24	S30-1	Industrial Supercritical Water Oxidation (i-SCWO) System	TBD	TBD	na	744,324	4,175,932	INI	TBD	TBD	TBD
EU24	S30-2	Industrial Supercritical Water Oxidation (i-SCWO) System - Preheater	TBD	TBD	na	744,324	4,175,932	INI	TBD	TBD	TBD
EU25	S216-1	MRAP Paint Booth	5.0	2.5	na	744,324	4,175,932	INI	5,484	68	18.63
EU26	S31	Iridite Dip Tank Plating Operation	26.0	1.2	na	744,324	4,175,932	INI	1,000	70	15.59

EU27	*S32-1*	*Kohler Emg. Gen.*	*10.0*	*0.3*	*na*	*744,324*	*4,175,932*	*INI*	*470*	*1,095*	*89.76*
EU27	*S32-2*	*DL-230, Onan 75-ODYC-15R/23117K, Emg. Gen.*	*10.0*	*0.4*	*na*	*744,324*	*4,175,932*	*INI*	*470*	*1,095*	*70.92*
EU27	*S32-3*	*Emg. Gen. #1 Cummins 6BTA*	*4.1*	*0.2*	*na*	*744,324*	*4,175,932*	*INI*	*898*	*950*	*439.05*
EU27	*S32-4*	*Emg. Gen. #2 Cummins 6BTA*	*4.1*	*0.2*	*na*	*744,324*	*4,175,932*	*INI*	*898*	*950*	*439.05*
EU28	*S33-1*	*Kohler Emg. Gen., Model 50REOZJC*	*3.7*	*0.2*	*na*	*744,324*	*4,175,932*	*INI*	*423*	*1,066*	*206.81*
EU28	*S33-2*	*Kohler Emg. Gen., Model 50REOZJC*	*3.7*	*0.2*	*na*	*744,324*	*4,175,932*	*INI*	*423*	*1,066*	*206.81*
EU28	*S33-3*	*Kohler Emg. Gen., Model 50REOZJC*	*3.7*	*0.2*	*na*	*744,324*	*4,175,932*	*INI*	*423*	*1,066*	*206.81*
EU29	*S34-1*	*Caterpillar Emg. Gen., Model G130LG2*	*5.1*	*0.2*	*na*	*744,324*	*4,175,932*	*INI*	*1,206*	*1,250*	*589.64*
EU29	*S34-2*	*Caterpillar Emg. Gen., Model G100LTA*	*6.6*	*0.3*	*na*	*744,324*	*4,175,932*	*INI*	*888*	*960*	*169.60*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C01	*Fabric Filter*	*Aerovent*	*40C*	*1992*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*24,000*	*0.0749*	*6.84 -10.7*	*20*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Fabric Filter	Filtering area: *691.2 ft^2* Unit total width: *172.8 ft* Unit total height: *4.0 ft*	*Glass Fiber and Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☐ Other (specify) *Dispose of dirty filters between paint jobs*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.05" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C02-1	*Fabric Filter (dry filter media) for EU12 Booth 1*	*PNEU-MECH System*	*23213*	*2005*	*$ 34,217*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft³):	Particle density (lb/ft³) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*19,088*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *55.6 ft²* Unit total width: *6.66 ft* Unit total height: *8.33 ft*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:	Gas cooling method:
☐ Shaker	☐ Ductwork: Length _____ ft. Diameter _____ inches
☐ Pulse Air	☐ Heat Exchanger
☐ Reverse Air	☐ Bleed-in Air _____ scfm (@ 68° F)
☐ Pulse Jet	☐ Water Spray _____ gpm
☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*	☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C02-2	*Fabric Filter (dry filter media) for EU12 Booth 2*	*PNEU-MECH System*	*23213*	*2005*	*$ 34,217*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*19,088*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *55.6 ft^2* Unit total width: *6.66 ft* Unit total height: *8.33 ft*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C03-1	*Fabric Filter (dry filter media) for EU13 Booth 1*	*US Army APE*	*Drawing No. 1070*	*Prior to 1980*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *97.75 ft^2* Unit total width: *11' 6"* Unit total height: *8' 6"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:	Gas cooling method:
☐ Shaker	☐ Ductwork: Length _____ ft. Diameter _____ inches
☐ Pulse Air	☐ Heat Exchanger
☐ Reverse Air	☐ Bleed-in Air _____ scfm (@ 68° F)
☐ Pulse Jet	☐ Water Spray _____ gpm
☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*	☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C03-2	*Fabric Filter (dry filter media) for EU13 Booth 2*	*US Army APE*	*Drawing No. 1070*	*Prior to 1980*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *97.75 ft^2* Unit total width: *11' 6"* Unit total height: *8' 6"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:	Gas cooling method:
☐ Shaker	☐ Ductwork: Length _____ ft. Diameter _____ inches
☐ Pulse Air	☐ Heat Exchanger
☐ Reverse Air	☐ Bleed-in Air _____ scfm (@ 68° F)
☐ Pulse Jet	☐ Water Spray _____ gpm
☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*	☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C03-3	*Fabric Filter (dry filter media) for EU13 Booth 3*	*Devilbiss*	*8123*	*Prior to 1980*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *44.44 ft^2* Unit total width: *80"* Unit total height: *80"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C03-4	*Fabric Filter (dry filter media) for EU13 Booth 4*	*US Army APE*	*Fluid Air Product*	*Prior to 1980*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *106.7 ft^2* Unit total width: *16 ft* Unit total height: *80"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C03-5	*Fabric Filter (dry filter media) for EU13 Booth 5*	*US Army APE*	*Fluid Air Product*	*Prior to 1980*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *106.7 ft^2* Unit total width: *16 ft* Unit total height: *80"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C04-1	*Fabric Filter (dry filter media) for EU14 Booth 1*	*US Army APE*	*Drawing No. 1070*	*1970*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *98 ft^2* Unit total width: *12'* Unit total height: *8' 2"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:	Gas cooling method:
☐ Shaker	☐ Ductwork: Length _____ ft. Diameter _____ inches
☐ Pulse Air	☐ Heat Exchanger
☐ Reverse Air	☐ Bleed-in Air _____ scfm (@ 68° F)
☐ Pulse Jet	☐ Water Spray _____ gpm
☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*	☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C04-2	*Fabric Filter (dry filter media) for EU14 Booth 2*	*Devilbiss*	*Unkown*	*1970*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *126.58 ft^2* Unit total width: *15' 6"* Unit total height: *8' 2"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C04-3	*Fabric Filter (dry filter media) for EU14 Booth 3*	*Devilbiss*	*Unkown*	*1970*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *126.58 ft^2* Unit total width: *15' 6"* Unit total height: *8' 2"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C04-4	*Fabric Filter (dry filter media) for EU14 Booth 4*	*US Army APE*	*Drawing No. 1070*	*1970*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*17,000*	*0.0749*	*6.84 -10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *98 ft^2* Unit total width: *12'* Unit total height: *8' 2"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:	Gas cooling method:
☐ Shaker	☐ Ductwork: Length _____ ft. Diameter _____ inches
☐ Pulse Air	☐ Heat Exchanger
☐ Reverse Air	☐ Bleed-in Air _____ scfm (@ 68° F)
☐ Pulse Jet	☐ Water Spray _____ gpm
☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*	☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C05-1A	*Fabric Filter (dry filter media) for EU15 Booth 1A*	*Pneu-Mech System Statesville, NC*	*SB-1 Dwg 23055-1*	*2006*	*$ 65,870*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*14,500*	*0.0749*	*6.84-10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *183 ft^2* Unit total width: *18'4"* Unit total height: *10'*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C05-1B	*Fabric Filter (dry filter media) for EU15 Booth 1B*	*Pneu-Mech System Statesville, NC*	*SB-1 Dwg 23055-1*	*2006*	*$ 65,870*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*14,500*	*0.0749*	*6.84-10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *183 ft^2* Unit total width: *18'4"* Unit total height: *10'*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C05-2	*Fabric Filter (dry filter media) for EU15 Booth 2*	*Pneu-Mech System Statesville, NC*	*SB-2 & SB-3 Dwg 23055-4*	*2006*	*$ 98,804*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*14,000*	*0.0749*	*6.84-10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *97.2 ft^2* Unit total width: *8'4"* Unit total height: *11'8"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C05-3	*Fabric Filter (dry filter media) for EU15 Booth 3*	*Pneu-Mech System Statesville, NC*	*SB-2 & SB-3 Dwg 23055-4*	*2006*	*$ 98,804*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*14,000*	*0.0749*	*6.84-10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Dry Filter Media Primary and Secondary Filters Back to Back	Filtering area: *97.2 ft²* Unit total width: *8' 4"* Unit total height: *11' 8"*	*20" x 20" Pads(20 each); Prmiary Pad 6 layers of Serated Kraft Paper; Secondary Pad Nonwoven Sythetic Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Change filters when visual inspection determines that filters are loaded.*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.25" H_2O	*Particulate*	*99.9%*

SECTION III. Control Equipment Information for Afterburner (Incinerator for Air Pollution Control)

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C06	*Secondary burner at the base of stack*	*Advanced Combustion Systems*	*CAI-500*	*4/13/1981*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at	Gas density (lb/ft^3):	Gas moisture content:	Gas composition:
2,602 ° F _____ ° C	*900*	*0.0749*	*Unknown*	*Unknown*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of afterburner:	Dimensions of combustion chamber:	Number of burners:	Burner rating (Btu/hr):	Residence time (sec):
Burner in Stack		*1*	*1,600,000*	

Heat exchanger used:	Catalyst used:	Combustion chamber temperature:
☐ Yes Type _____ ☑ No	☐ Yes Type _____ ☑ No	*2,602* ° F _____ ° C

Type of auxiliary fuel:	Maximum auxiliary fuel usage (specify units):	Composition and quantities of combusted waste:
Higher Heating Value *No. 2 Fuel Oil* % Sulfur Maximum *0.05* Average _____ % Ash Maximum *0.00* Average _____	Hourly _____ Annually _____	

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
unknown	*PM10/TSP* *Arsenic* *Cadmium* *Chromium* *Nickel*	*74.3%*

SECTION III. Control Equipment Information for Cyclone

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C07-1	*FFS Cyclone*	*Ducon*	*Type: VM, Model 700/15*	*1981*	*$ 10,000.00*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft³):	Particle density (lb/ft³) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
400 ° F _____ ° C	*See form for C07-2*	*See form for C07-2*	*See form for C07-2*	

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of cyclone:
Pick one:
- ☑ Single
- ☐ Multiple

Number of multiclone _____

Pick one:
- ☐ High-efficiency
- ☑ Conventional
- ☐ High-throughput

Dimensions of cyclone (specify units):

Inlet height	*13'*	Inlet width	*0.88'*
Body height	*16'*	Body diameter	*2.86'*
Bottom cone height	*4'*	Dust outlet tube diameter	*not available*
Gas outlet tube diameter	*not available*	Vortex finder height	*not available*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
not available	***PM10/TSP*** ***Nickel*** ***Arsenic*** ***Cadmium*** ***Chromium***	***97.5% (total across cyclone and baghouse)***

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C07-2	*FFS Baghouse*	*National Air Systems*	*RJ-TN-100-12-10*	*1981*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft³):	Particle density (lb/ft³) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
250 ° F _____ ° C	*3,465*	*0.0749*	*not available*	

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Nomex Fabric Filters	Filtering area: *192'* Unit total width: *8'* Unit total height: *24'*	*Nomex 14 oz./yd, 4-5/8 dia X 10'-6" long, 100 filters, p/n NXN1430SST*

Cleaning method:	Gas cooling method:
☐ Shaker	☐ Ductwork: Length _____ ft. Diameter _____ inches
☑ Pulse Air	☑ Heat Exchanger
☐ Reverse Air	☐ Bleed-in Air _____ scfm (@ 68° F)
☐ Pulse Jet	☐ Water Spray _____ gpm
☐ Other (specify) _____	☐ Other (specify) _____

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
not available	*PM10/TSP* *Arsenic* *Cadmium* *Chromium* *Nickel*	***97.5% (total across cyclone and baghouse)***

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C08	*Cartridge Filter*	*Southern Equipment Services*	*Unknown*	*September 2007*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*9,500*	*0.0749*	*70*	*15*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Cartridge Collector	Filtering area: *58.13 ft^2* Unit total width: *45"* Unit total height: *15' 6"*	*80-20 Blend Media with Fire Retardant Treatment*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☑ Pulse Jet
- ☐ Other (specify) _____

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *NA*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
3"-5"	*Particulate Matter*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C09	*Baghouse*	*Wheelabrator Corp.*	*Unknown*	*After July 1975*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*9,500*	*0.0749*	*70*	*15*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Cartridge Collector	Filtering area: *58.13 ft^2* Unit total width: *45"* Unit total height: *15' 6"*	*Spun Bonden Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☑ Pulse Jet
- ☐ Other (specify) _____

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *NA*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
3"-5"	*Particulate Matter*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C10	*Baghouse*	*Disa Sys., Inc.*	*Cartridge Collector FMC 200-8A-30*	*2004*	*$ 68,000*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft³):	Particle density (lb/ft³) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*9,500*	*0.0749*	*70*	*15*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Cartridge Collector	Filtering area: *58.13 ft²* Unit total width: *45"* Unit total height: *15' 6"*	*Spun Bonded Polyester*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☑ Pulse Jet
- ☐ Other (specify) _____

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *NA*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
3"-5"	*Particulate Matter*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C-P18	*Detonation Chamber Bag House*	*Donaldson Co. TORIT PROD.*	*Downflo Model DFT 3-36*	*May 1999*	*$ 35,000*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft³):	Particle density (lb/ft³) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
98 ° F _____ ° C	*17,360*	*0.0749*	*NA*	*NA*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
	Filtering area: *4,356* Unit total width: *NA* Unit total height: *NA*	*Fibra-Web*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☑ Pulse Jet
- ☐ Other (specify) _____

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Water Cooled Bags*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
3"-8"	*Particulates* *Metals*	*99.9%*

SECTION III. Control Equipment Information for Filter

KyEIS Control ID #	Control Equipment Description	Manufacturer	Model Name and Number	Date Installed	Cost
C216-1	*Poly Paint Filter Pads (20"x20"x5/8" sections)*	*Aero-Flo Industries*	*Unknown*	*2008*	*Unknown*

Inlet Gas Stream Data

Temperature:	Flowrate (scfm at 68°F):	Gas density (lb/ft^3):	Particle density (lb/ft^3) or Specific Gravity:	Average particle diameter (μm): *(or attach a particle size distribution table)*
68 ° F _____ ° C	*5,484*	*0.0749*	*6.84-10.7*	*30-60*

Equipment Physical Data

The control equipment manufacturer's equipment specifications and recommended operating procedures may be submitted in place of this information.

Type of filter unit:	Dimensions of filter unit (specify units):	Filtering material:
Poly Paint Filter Pads (20"x20"x5/8" sections)	Filtering area: *2.8 ft^2 per pad* Unit total width: *20" per pad* Unit total height: *20" per pad*	*20" x 20" Pads (approx. 15-20 for entire booth)*

Cleaning method:
- ☐ Shaker
- ☐ Pulse Air
- ☐ Reverse Air
- ☐ Pulse Jet
- ☑ Other (specify) *Replace filters based on visual/manometer reading*

Gas cooling method:
- ☐ Ductwork: Length _____ ft. Diameter _____ inches
- ☐ Heat Exchanger
- ☐ Bleed-in Air _____ scfm (@ 68° F)
- ☐ Water Spray _____ gpm
- ☑ Other (specify) *Not Required*

Equipment Operational Data

Pressure drop across unit (inches water gauge):	Pollutants collected/controlled:	Pollutant removal/destruction efficiency (%):
0.5" H_2O	*Particulate*	*99.9%*

DEP7007T

Metal Plating and Surface Treatment Operations

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

Emission Point Number (1)	Tank Designation & Type of Operation (2)	Date Installed (3)	Operating Schedule Hours/days/ weeks (4)	Tank Temp. °F (5)	Tank Size Gallons (6)	Chemical Composition of Contents of Tank (7)	Max. Hourly Make-Up Rate (*Specify units/hour*) (8)	Maximum Annual Make-Up Rate (*Specify units/year*) *(9)*	Type of Material Being Coated (10)
EU26	*1 Cleaning*	*1992*	*8/5/52*	*160*	*75*	*Water and Aluminum Cleaner (Isoprep 44)*	*1 gallon/hr*	*8,760 gallons/yr*	*Misc. Parts*
	2 Rinsing			*75*	*75*	*Water*	*1 gallon/hr*	*8,760 gallons/yr*	
	3 Deoxidizing			*160*	*75*	*Water and Deoxidizer (Isoprep 188)*	*1 gallon/hr*	*8,760 gallons/yr*	
	4 Rinsing			*75*	*75*	*Water*	*1 gallon/hr*	*8,760 gallons/yr*	
	5 Cr Conversion			*160*	*75*	*Water and Iridite (Iridite 14-2)*	*1 gallon/hr*	*8,760 gallons/yr*	
	6 Rinsing			*75*	*75*	*Water*	*1 gallon/hr*	*8,760 gallons/yr*	
	7 Hot Rinsing			*160*	*75*	*Hot Water*	*1 gallon/hr*	*8,760 gallons/yr*	

INSTRUCTIONS FOR COMPLETING THIS FORM: **(*Make additional copies, if necessary)***

(1) Assign an emission point number to each process that has a potential to emit any air pollutant.
(2) List each tank in the process and specify the type of operation (e.g., electro-plating, stripping, pickling, electro-cleaning, etching, rinsing, tinning, etc.)
(3-6) Self-explanatory.
(7) List each of the chemical materials used on a separate line. *Include the Material Safety Data Sheets for each chemical in the tank.*
(8-9) List the hourly and annual make-up rates for each chemical material. If the units are listed by volume, then provide concentration and density of each chemical material (these volumes will be used as permit conditions.)
(10) Self-explanatory.

NOTES:

(a) Provide a process flow diagram to show the arrangement of the tanks, the ventilation system, and the control devices.
(b) Provide a brief description of the processes including all the chemical reactions taking place.
(c) IMPORTANT: Complete DEP7007N for the air pollution control equipment and the ventilation system, including emission calculations.

Commonwealth of Kentucky
Energy and Environment Cabinet
Department for Environmental Protection

DIVISION FOR AIR QUALITY

DEP7007DD

INSIGNIFICANT ACTIVITIES

INSIGNIFICANT ACTIVITY CRITERIA

1. Emissions from insignificant activities shall be counted toward the source's potential to emit;
2. Emissions from the activity shall not be subject to a federally enforceable requirement other than generally applicable requirements that apply to all activities and affected facilities such as 401 KAR 59:010, 61:020, 63:010, and others deemed generally applicable by the Cabinet;
3. The potential to emit a regulated air pollutant from the activity or affected facility shall not exceed 5 tons/yr.
4. The potential to emit of a hazardous air pollutant from the activity or affected facility shall not exceed 1,000 pounds/yr., or the deminimis level established under Section 112(g) of the Act, whichever is less;
5. The activity shall be included in the permit application, identifying generally applicable and state origin requirements.

Description of Activity Including Rated Capacity	Generally Applicable Regulations Or State Origin Requirements	Does the Activity meet the Insignificant Activity Criteria Listed Above?
See Attached Table		

SIGNATURE BLOCK

I, THE UNDERSIGNED, HEREBY CERTIFY UNDER PENALTY OF LAW, THAT I AM A RESPONSIBLE OFFICIAL, AND THAT I HAVE PERSONALLY EXAMINED, AND AM FAMILIAR WITH, THE INFORMATION SUBMITTED IN THIS DOCUMENT AND ALL ITS ATTACHMENTS. BASED ON MY INQUIRY OF THOSE INDIVIDUALS WITH PRIMARY RESPONSIBILITY FOR OBTAINING THE INFORMATION, I CERTIFY THAT THE INFORMATION IS ON KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE OR INCOMPLETE INFORMATION, INCLUDING THE POSSIBILITY OF FINE OR IMPRISONMENT.

BY _____
Authorized Signature

04 / 12 / 10
Date

Joseph A. Tirone
Typed or Printed Name of Signatory

Colonel, US Army, Commanding
Title of Signatory

Index of Insignificant Activities

(Cross-referenced by DEP7007DD Form)

Insign. Actv. #	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulations Or State Original Requirements
1	Boiler	Building 280	0.7 MMBtu/hr Propane Boiler	None
2	Source Removed			
3	Boiler	Building 228	0.79 MMBtu/hr NG Boiler	None
4	Boiler	Building 908	0.79 MMBtu/hr NG Boiler	None
5	Boiler	Buidling 1	0.5 MMBtu/hr NG Boiler	None
6	Boiler	Building S-2	0.4 MMBtu/hr NG Boiler	None
7	Source Removed			
8	Boiler	Building 261	0.34 MMBtu/hr NG Boiler	None
9	Source Removed			
10	Boiler	Building 1146	0.8 MMBtu/hr NG Boiler	None
11	Source Removed			
12	Heater	Building 850	0.75 MMBtu/hr NG Heater	None
13	Heaters	Building 208	(18) 0.4 MMBtu/hr NG Heaters	None
14	Heaters	Building 209	(18) 0.4 MMBtu/hr NG Heaters	None
15	Heaters	Building 210	(18) 0.4 MMBtu/hr NG Heaters	None
16	Heaters	Building 211	(18) 0.4 MMBtu/hr NG Heaters	None
17	Heaters	Building 232	(4) 0.4 MMBtu/hr NG Heaters	None
18	Heaters	Building 232	(2) 4.147 MMBtu/hr NG Heaters	None
19	Heaters	Building 232	(6) 0.1 MMBtu/hr NG Heaters	None
20	Heaters	Building 233	(1) 0.4 MMBtu/hr NG Heater	None
21	Heaters	Building 229	(8) 0.1 MMBtu/hr NG Heaters	None
22	Heaters	Building S-285	(4) 0.1 MMBtu/hr NG Heaters	None
23	Heaters	Building 212	(2) 0.075 MMBtu/hr NG Heaters	None
24	Internal Combustion Engine	Access Control Building	ACS Generator, NG, 221 hp, Emer. Gen.	401 KAR 63:020, NESHAP ZZZZ
25	Portable ICE	Not Subject to Title V		
26	Portable ICE	Not Subject to Title V		
27	Included in EU27			
28	Source Removed			
29	Source Removed			
30	Included in EU27			
31	Included in EU27			
32	Included in EU27			
33	Internal Combustion Engine	Area F Hut	Olympian G60F3, NG Emg. Gen. 80.4 hp	NESHAP ZZZZ
34	Internal Combustion Engine	Building 1660	Caterpillar, G3406-240KW, NG Emg. Gen. 321.6 hp	NESHAP ZZZZ
35	Internal Combustion Engine	Building 1661	Olympian G80F3, NG Emg. Gen. 100.5 hp	NESHAP ZZZZ
36	Internal Combustion Engine	Building 213	Olympian G60F1, NG Emg. Gen.	NESHAP ZZZZ
37	Internal Combustion Engine	Building 218	Olympian, G100F1, NG Emg. Gen. 134 hp	NESHAP ZZZZ
38	Source Removed			
39	Internal Combustion Engine	Building S-18	UBS, NG, 80.4 hp Emg. Gen.	NESHAP ZZZZ
40	Internal Combustion Engine	Building S-287	Olympian G75F35, NG 100.5 hp Emg. Gen.	NESHAP ZZZZ
41	Internal Combustion Engine	Building S-10	Olympian G12U3, NG, 16.1 hp, Emg. Gen.	NESHAP ZZZZ
42	Internal Combustion Engine	EOC S-18	Generac Model 9404761, NG, 23.0 hp Emg. Gen	NESHAP ZZZZ
43	Internal Combustion Engine	Hut 75 at light 8	Olympian G10U3S, NG 13.4 hp, Emg. Gen.	NESHAP ZZZZ
44	Internal Combustion Engine	North Area Pump Station	Caterpillar G3406NA-20.1 hp NG, Emg. Gen.	NESHAP ZZZZ
45	Internal Combustion Engine	Route 12 Pump Station	Caterpillar G30F3-40.2 hp NG, Emg. Gen.	NESHAP ZZZZ
46	Internal Combustion Engine	Route 2 Pump Station	Caterpillar G30F3-40.2 hp NG, Emg. Gen.	NESHAP ZZZZ
47	Internal Combustion Engine	Building 164	Olympian Model G50F3, 67 hp NG, Emg. Gen.	NESHAP ZZZZ

Index of Insignificant Activities

(Cross-referenced by DEP7007DD Form)

Insign. Actv. #	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulations Or State Original Requirements
48	Internal Combustion Engine	Building S-18	Olympian G100F3, 134 hp NG, Emg. Gen.	NESHAP ZZZZ
49	Internal Combustion Engine	Truck Gate	Olympian G75F3S, 80.5 hp NG, Emg. Gen.	NESHAP ZZZZ
50	Internal Combustion Engine	Treaty [Bldg. S-56]	Olympian G100F3, 134 hp NG, Emg. Gen.	NESHAP ZZZZ
51	Internal Combustion Engine	Fire Station [Bldg. S-11]	Olympian G20F3, 26.8 hp NG, Emg. Gen.	NESHAP ZZZZ
52	Internal Combustion Engine	LP 54 Hut	Olympian G10U3S, NG, 13.4 hp, Emg. Gen.	NESHAP ZZZZ
53	Source Removed			
54	Source Removed			
55	Source Removed			
56	Portable ICE	Not Subject to Title V		
57	Portable ICE	Not Subject to Title V		
58	Portable ICE	Not Subject to Title V		
59	Portable ICE	Not Subject to Title V		
60	Portable ICE	Not Subject to Title V		
61	Portable ICE	Not Subject to Title V		
62	Portable ICE	Not Subject to Title V		
63	Portable ICE	Not Subject to Title V		
64	Portable ICE	Not Subject to Title V		
65	Portable ICE	Not Subject to Title V		
66	Source Removed			
67	Portable ICE	Not Subject to Title V		
68	Source Removed			
69	Portable ICE	Not Subject to Title V		
70	Portable ICE	Not Subject to Title V		
71	Portable ICE	Not Subject to Title V		
72	Portable ICE	Not Subject to Title V		
73	Portable ICE	Not Subject to Title V		
74	Portable ICE	Not Subject to Title V		
75	Portable ICE	Not Subject to Title V		
76	Portable ICE	Not Subject to Title V		
77	Portable ICE	Not Subject to Title V		
78	Portable ICE	Not Subject to Title V		
79	Portable ICE	Not Subject to Title V		
80	Portable ICE	Not Subject to Title V		
81	Portable ICE	Not Subject to Title V		
82	Portable ICE	Not Subject to Title V		
83	Portable ICE	Not Subject to Title V		
84	Portable ICE	Not Subject to Title V		
85	Source Removed			
86	Source Removed			
87	Waste Water Treatment	Waste Water Treatment Plant	WWTP 0.22 mgd	None
88	Lab	Building 1661 Lab Hoods & 3193 (4 hoods)	TCM Lab, no process rate associated with this source	None
89	Storage Tank	Building S-10	10,000 gal Diesel	None
90	Storage Tank	Building S-10	10,000 gal Gasoline	None
91	Storage Tank	Building S-10	10,000 gal Gasoline	None
92	Storage Tank	Building 219 (for telephone)	550 gal Diesel	None
93	Storage Tank	Building 230	550 gal Diesel	None
94	Storage Tank	Building 1159	10,000 gal Gasoline	None

Index of Insignificant Activities

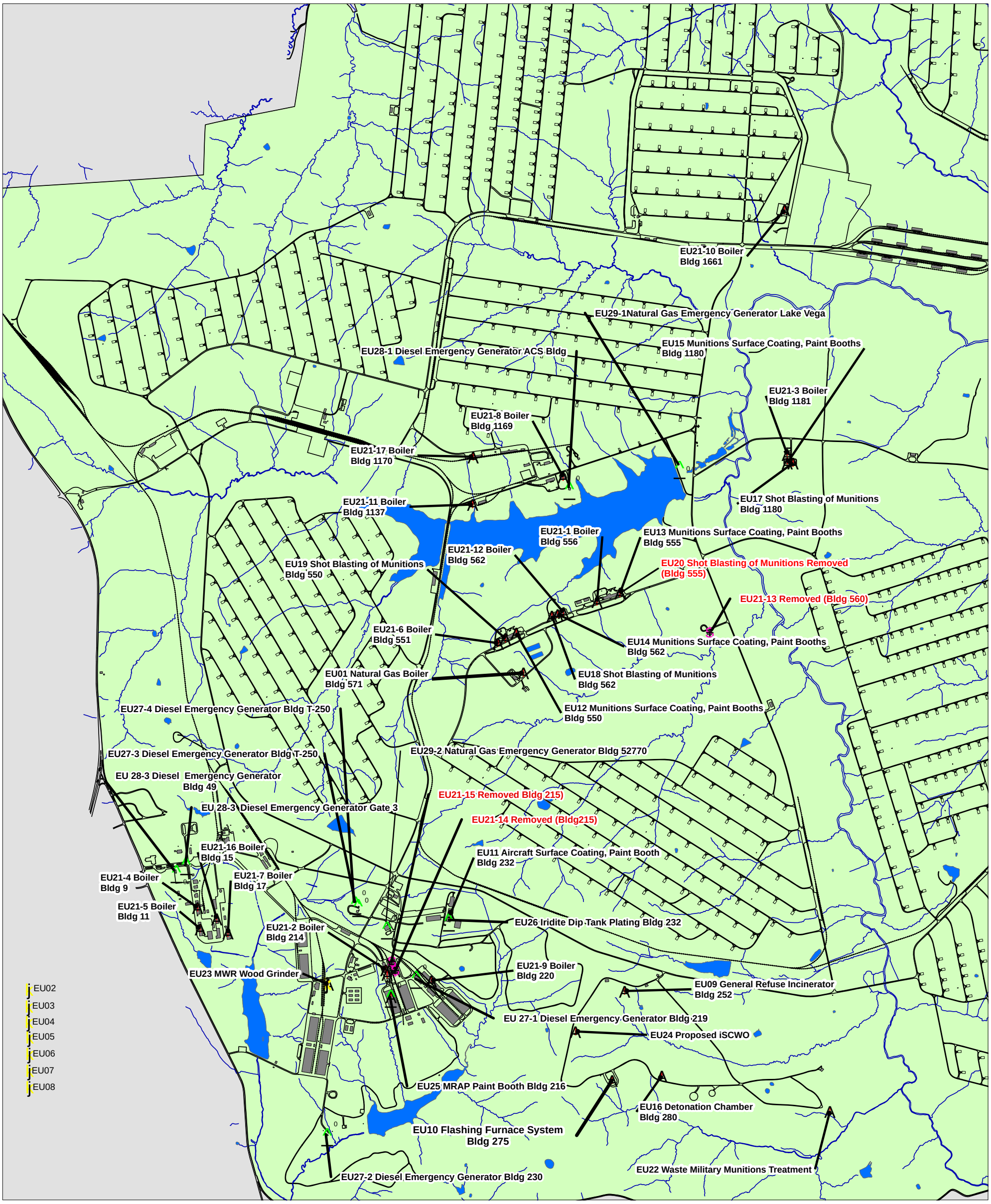
(Cross-referenced by DEP7007DD Form)

Insign. Actv. #	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulations Or State Original Requirements
95	Storage Tank	Building T-250	550 gal Diesel	None
96	Storage Tank	Building T-250	550 gal Diesel	None
97	Storage Tank	Building 1159	4,000 gal Diesel	None
98	Source Removed			
99	Storage Tank	Building S-28C	550 gal Diesel	None
100	Source Removed			
101	Source Removed			
102	Source Removed			
103	Source Removed			
104	Degreaser	Building 232	Paint Gun Degreaser, Emission Point P09	401 KAR 63:020
105	Degreaser	Building S-9	Degreaser, Emission Point P10	None
106	Degreaser	Building 254 (WH)	Degreaser, Emission Point P12	None
107	Wood Shop	Building S-13	Saws, Planers, Sanders, Emission Point P07	401 KAR 59:010
108	Box & Crate Woodworking	Building LP-92	Saws, Planers, Sanders, Emission Point P08	401 KAR 59:010
109	Wood Shop	Building S-17	Saws, Planers, Sanders, Emission Point P13	401 KAR 59:010
110	Source Removed			
111	Shot Blast Unit	Building 232	Trinco Model 48x36/DP-900RPC – Pressure Cabinet/Cartridge Dust Collector	401 KAR 59:010
112	Manual Grinding Operations with Cyclone Separator	Building 1180	Lamson Corporation, Exidust, SN 57846, 2500 CFM	401 KAR 59:010
113	Portable ICE	Not Subject to Title V		
114	Portable ICE	Not Subject to Title V		
115	Internal Combustion Engine	Bldg 571	Caterpillar Olympian Model G100F2, 134 hp, NG, Emg. Gen.	NESHAP ZZZZ
116	Portable ICE	Not Subject to Title V		
117	Portable ICE	Not Subject to Title V		
118	Portable ICE	Not Subject to Title V		
119	Portable ICE	Not Subject to Title V		
120	Thermal Arc Spray Process	Bldg 1180	Bomb renovation and maintenance	401 KAR 59:010
121	Paint Container Crusher	HAZMART Bldg	Can, Pail and Aerosol Crusher. Model: Super 6PJ-VC TeeMark Corporation	401 KAR 59:010
122	Tank	iSCWO System	TK-301 - 700 gallon diesel fuel tank	None
123	Tank	iSCWO System	TK-300 - 4000 gallon diesel fuel tank	None
124	Tank	iSCWO System	TK-100 - 5000 gallon propylene glycol tank	None
125	Tank	iSCWO System	TK-702 - 2000 gallon slurried M1 propellant tank	None
126	Tank	iSCWO System	TK-709 - 5000 gallon slurried M1 propellant tank	None
127	Tank	iSCWO System	TK-950 - 450 gallon Off-spec effluent tank	None
128	MIG Welding	Building 216	Millermatic 350P – Up to 12 Welding Stations	401 KAR 59:010
129	Plasma Metal Cutting	Building 216	MAX200 Heavy Duty – 2 Units	401 KAR 59:010
130	Wood Coloring	Limited Area	Mulch Coloring using Aqueous Dispersion	None
131	Wood Pallet Treatment Dip Tanks	Near Building S-17 & Near Building 575	Two (2) dip tanks containing water-borne preservative	None
132	Wood Pallet Treatment Heaters	Near Building S-17 & Near Building 575	Two (2) 2.0 MMBtu/hr natural gas-fired space heaters	None
133	Grit Blast Unit	Building 562	ISP Model WMTD72 Rotary Grit Blast Unit	401 KAR 59:010
134	Water Plant Emergency Backup Generator	Building 228	Olympian G125G1, Caterpillar, Inc. 125 kW (168 hp), Model Year 2008	NESHAP ZZZZ
135	Shot Blast Unit	Building 562	Econoline Shot Blast Cabinet	401 KAR 59:010
136	Hand Stenciling Paint Booth	Building 203	Hand Stenciling Operation	401 KAR 59:010

APPENDIX B

FACILITY SITE PLAN

AREA MAP



Legend

- Portable_E_Units
- Removed_E_Units
- New_E_Units
- Stationary_E_Units
- Surface Water Bodies
- Building

Blue Grass Army Depot

Emission Units, Permit #: V-05-020

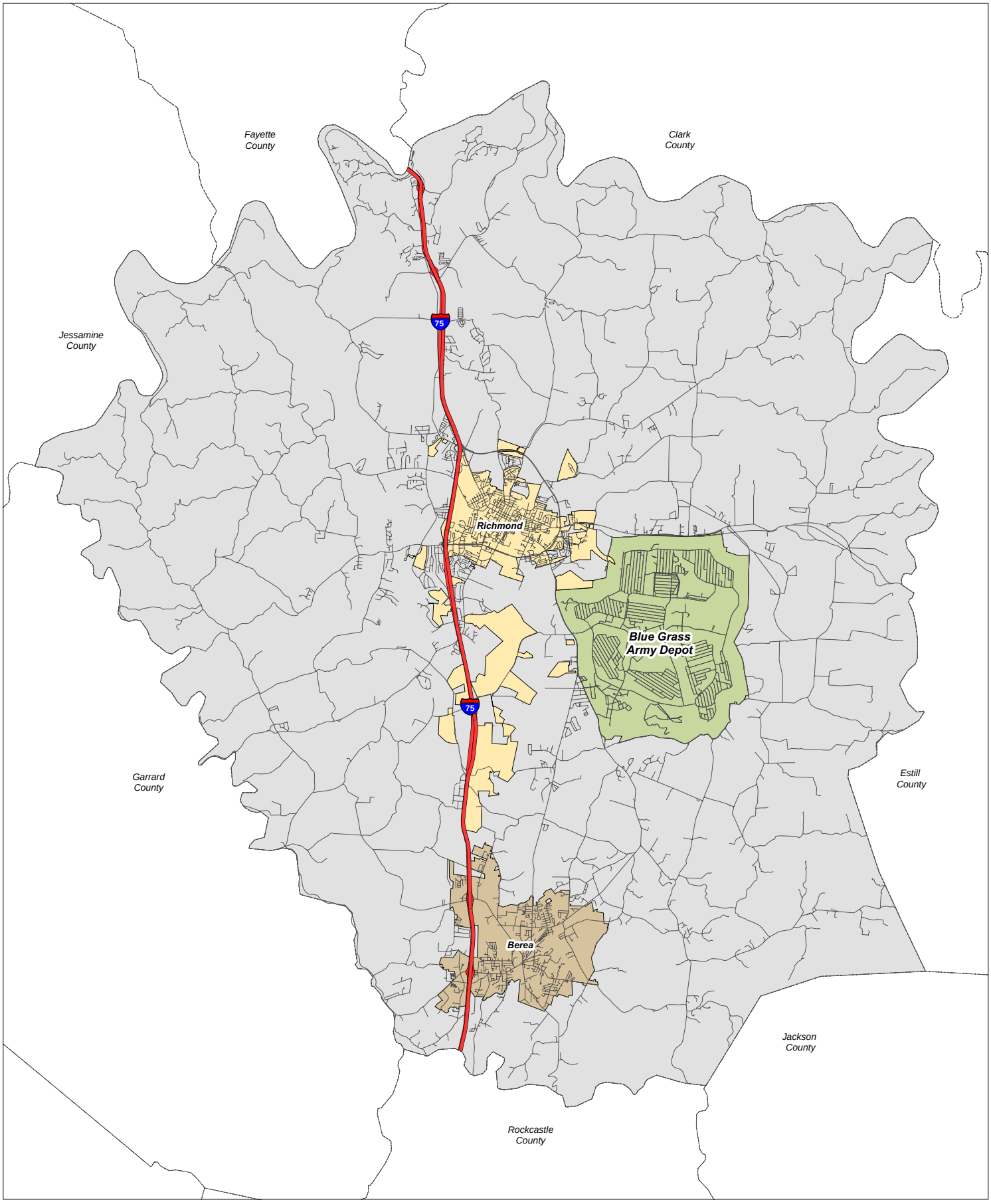
Last Update: April 14, 2010

VICINITY MAP:

0 500 1,000 2,000 3,000 Feet

Blue Grass Army Depot GIS
Printed:April, 2010

Projection: KY State Plane South
Horizontal Datum: NAD83
Units: Feet



Legend

- Madison County
- BGAD Boundary
- Richmond
- Berea
- Roads
- KY County

Blue Grass Army Depot

Vicinity Map

VICINITY MAP:

0 1 2 Miles

Blue Grass Army Depot
Directorate of Services & Support, GIS
Printed: January 22, 2007

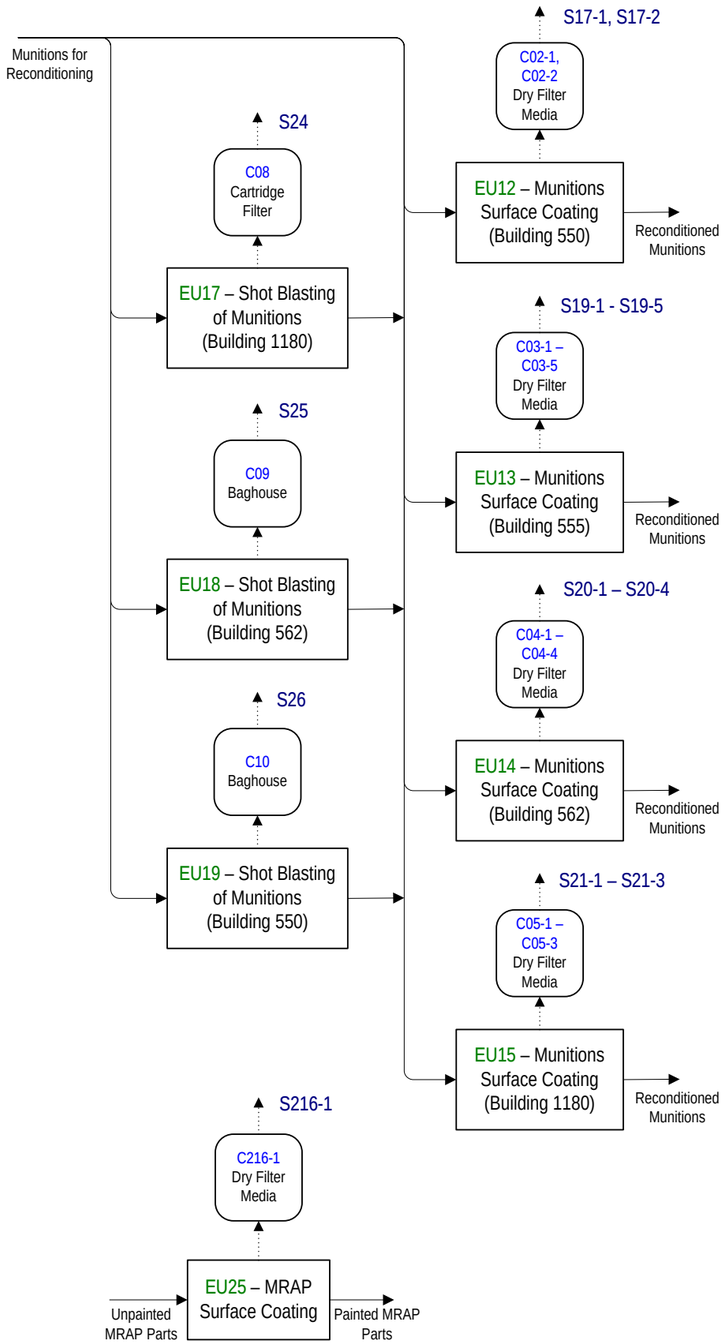
Projection: KY State Plane South
Horizontal Datum: NAD83
Units: Feet

1:54,545

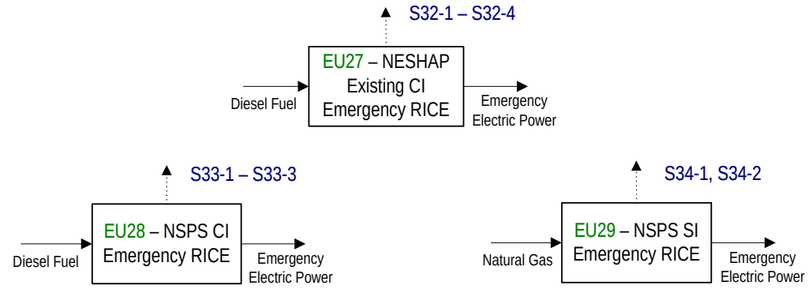
APPENDIX C

PROCESS FLOW DIAGRAMS

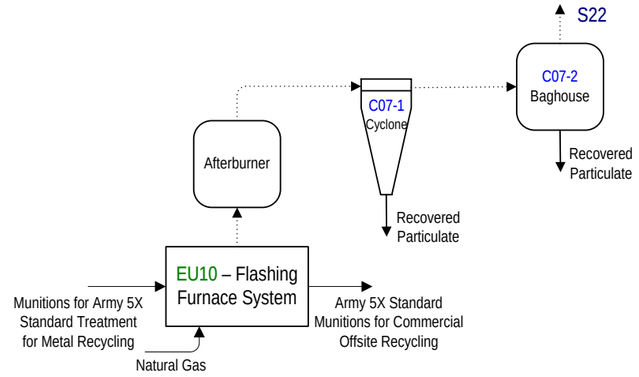
Surface Coating Operations



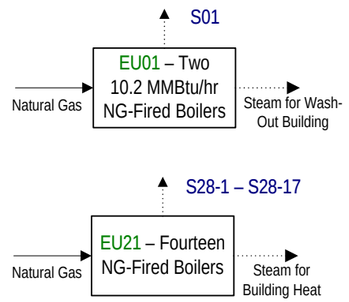
Emergency Generator Engines

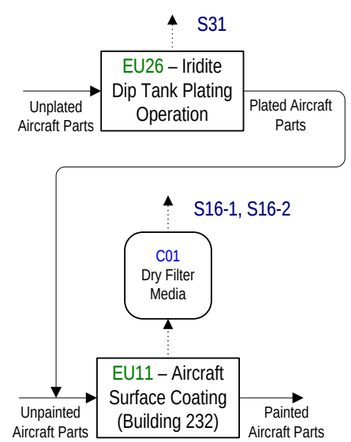


Flashing Furnace System

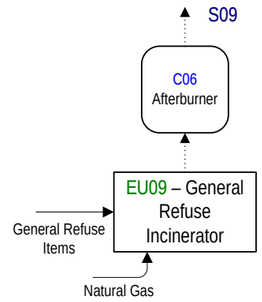


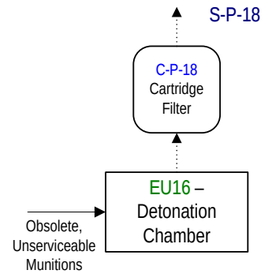
Natural Gas Boilers and Indirect Heat Exchangers

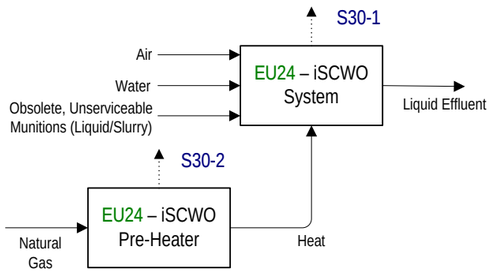


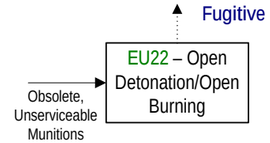


Munitions and General Refuse Disposal Operations









Only Significant Emission Units Shown

Air Permitting Process Flow Diagram for:

Blue Grass Army Depot
Richmond, Kentucky

Flow Legend
Process Flow
Gaseous or Emissions Flow

Trinity Consultants
Covington, Kentucky
859-341-8100

Project: 101801.0010
April 2010
BGAD PFD v2.0.vsd

APPENDIX D

DOCUMENTATION OF EMISSION CALCULATIONS

Potential Emissions Summary for Significant Emission Units

EU ID	Emission Unit Name	Particulate Matter (tpy)	Sulfur Dioxide (tpy)	Nitrogen Oxides (tpy)	Carbon Monoxide (tpy)	VOC (tpy)	Total HAP (tpy)
EU01	Natural Gas Boilers	0.67	0.05	8.76	7.36	0.48	0.16
EU09	General Refuse Incinerator	0.56	0.66	0.79	2.63	0.79	0.57
EU10	Flashing Furnace System	0.01	0.43	1.11	3.44	2.58	0.37
EU11	Aircraft Surface Coating	< 0.01	-	-	-	2.35	0.76
EU12	Munitions Surface Coating	< 0.01	-	-	-	10.15	0.61
EU13	Munitions Surface Coating	< 0.01	-	-	-	10.15	0.61
EU14	Munitions Surface Coating	< 0.01	-	-	-	10.15	0.61
EU15	Munitions Surface Coating	< 0.01	-	-	-	10.15	0.61
EU16	Detonation Chamber	0.84	0.06	17.87	86.46	0.17	4.17
EU17	Shot Blasting of Munitions	2.10	-	-	-	-	-
EU18	Shot Blasting of Munitions	0.46	-	-	-	-	-
EU19	Shot Blasting of Munitions	1.83	-	-	-	-	-
EU21	Natural Gas Fired Indirect Exchangers	1.24	0.10	16.27	13.67	0.89	0.31
EU22	Open Burning/Open Detonation	102.19	0.17	12.17	9.28	0.12	6.52
EU24	Industrial Supercritical Water Oxidation (i-SCWO) Systen	0.96	0.08	13.49	10.61	0.72	0.03
EU25	MRAP Paint Booth	< 0.01	-	-	-	10.15	0.61
EU26	Iridite Dip Tank Plating Operation	0.38	-	-	-	-	0.09
EU27	NESHAP Existing CI Emergency Generator Engines	0.34	0.32	4.81	1.04	0.39	< 0.01
EU28	NSPS-Subject CI Emergency Generator Engines	0.13	0.12	1.85	0.40	0.15	< 0.01
EU29	NSPS-Subject SI Emergency Generator Engines	0.01	< 0.01	0.66	0.43	0.09	0.06
Total		111.74	1.99	77.77	135.32	59.50	16.09

Emissions from Natural Gas Boilers

Emission Unit ID: EU01
Emission Unit Name: Natural Gas Boilers
Emission Unit Description: Cleaver Brooks Boiler (2 units)

Boiler Specifications

EU01-1	10.2	MMBtu/hr	Steam boiler maximum heat input capacity.
EU01-2	10.2	MMBtu/hr	Steam boiler maximum heat input capacity.
	20.4	MMBtu/hr, total	
	1,020	Btu/scf	Average fuel heat content for natural gas. (AP-42, Chapter 1.4)
	8,760	hr/yr	Potential hours of operation.
	0.02	MMscf/hr, total	Maximum natural gas hourly fuel firing rate.

Natural Gas Emission Factors and Emission Calculations

			Natural Gas Combustion	
	Emission Factor (lb/MMscf)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	7.6	b	0.15	0.67
Sulfur Dioxide	0.6	b	0.01	0.05
Nitrogen Oxides	100.0	a	2.00	8.76
Carbon Monoxide	84.0	a	1.68	7.36
VOC	5.5	b	0.11	0.48
Lead	5.0E-04	b	1.00E-05	4.38E-05
Benzene	2.1E-03	c	4.20E-05	1.84E-04
Dichlorobenzene	1.2E-03	c	2.40E-05	1.05E-04
Formaldehyde	7.5E-02	c	1.50E-03	6.57E-03
Hexane	1.8E+00	c	3.60E-02	1.58E-01
Naphthalene	6.1E-04	c	1.22E-05	5.34E-05
POM	8.8E-05	c	1.76E-06	7.73E-06
Toluene	3.4E-03	c	6.80E-05	2.98E-04

a: AP-42, Table 1.4-1, dated 7/98.
b: AP-42, Table 1.4-2, dated 7/98.
c: AP-42, Table 1.4-3, dated 7/98.

Emissions from General Refuse Incinerator

Emission Unit ID: EU09
Emission Unit Name: General Refuse Incinerator
Emission Unit Description: Advanced Combustion Systems, Model CAI-500

Unit Specifications

500	lb/hr	Maximum incineration rate.
526	ton/yr	Maximum incineration rate.
2,104	hr/yr	Potential hours of operation based on 526 tpy limit.

General Refuse Incinerator Emission Factors and Emission Calculations

	Uncontrolled Emission Factor (lb/ton)	Control Efficiency (%)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	8.28	74.3	a	0.53	0.56
Sulfur Dioxide	2.50	na	b	0.63	0.66
Nitrogen Oxides	3.00	na	c	0.75	0.79
Carbon Monoxide	10.00	na	c	2.50	2.63
VOC	3.00	na	c	0.75	0.79
Arsenic	6.69E-04	74.3	d	4.30E-05	4.52E-05
Cadmium	2.41E-03	74.3	d	1.55E-04	1.63E-04
Chromium	3.31E-03	74.3	d	2.13E-04	2.24E-04
Mercury	5.60E-03	na	d	1.40E-03	1.47E-03
Nickel	5.52E-03	74.3	d	3.55E-04	3.73E-04
HCl	2.15E+00	na	d	5.38E-01	5.65E-01
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	2.94E-06	na	d	7.35E-07	7.73E-07

a: Emission factor based on stack test conducted at BGAD on December 18-19, 2006. Control efficiency of 74.3% assumed.

b: Emission factor from 2002 KYEIS and 2004 Title V permit application.

c: Emission factor from Compliance Demonstration Method in Section D of V-05-020 R2.

d: Emission factors obtained from AP-42 5th edition Table 2.1-9 (10/96).

Emissions from Flashing Furnace System

Emission Unit ID: EU10
Emission Unit Name: Flashing Furnace System
Emission Unit Description: Army Peculiar Equipment 2048, single chamber incinerator

Unit Specifications

11,800	lb/hr	Maximum munitions processing rate.
12,300	ton/yr	Maximum incineration rate.
2,085	hr/yr	Potential hours of operation based on 12,300 tpy limit.

Flashing Furnace System Emission Factors and Emission Calculations

	Uncontrolled Emission Factor (lb/ton)	Control Efficiency (%)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	0.04	97.5	a	0.01	0.01
Sulfur Dioxide	0.07	na	c	0.41	0.43
Nitrogen Oxides	0.18	na	b, c	1.06	1.11
Carbon Monoxide	0.56	na	b, c	3.30	3.44
VOC	0.42	na	b, c	2.48	2.58
Arsenic	1.87E-05	97.5	c	2.76E-06	2.88E-06
Cadmium	6.72E-05	97.5	c	9.91E-06	1.03E-05
Chromium	9.24E-05	97.5	c	1.36E-05	1.42E-05
Mercury	1.56E-04	97.5	c	2.30E-05	2.40E-05
Nickel	1.56E-04	97.5	c	2.30E-05	2.40E-05
HCl	6.00E-02	na	c	3.54E-01	3.69E-01
2,3,7,8-Tetrachlorodibenzo-p-Dioxin	1.00E-07	na	c	5.90E-07	6.15E-07

a: Emission factor based on stack test conducted at BGAD on December 19-20, 2006. Control efficiency of 97.5% is assumed for cyclone and dust collector.

b: Emission factor from Compliance Demonstration Method in Section D of V-05-020 R2.

c: Emission factor based on testing conducted on similar unit at Toole Army Depot in Toole, Utah on July 27-30, 2003.

Emissions from Aircraft Surface Coating

Emission Unit ID: EU11
Emission Unit Name: Aircraft Surface Coating
Emission Unit Description: Four applicators and a shot blast machine in a paint booth

Specifications

1,040	hr/yr	Typical hours of operation.
8,760	hr/yr	Potential hours of operation.
3.2	tons/hr	Maximum abrasive consumption rate.
28,032.0	tons/yr	Maximum abrasive consumption rate.
99.9	%	Fabric filter control efficiency.

Aircraft Surface Coating VOC Emission Calculations

Product Name[1]	Product ID[1]	2009 Usage[1] (lb/yr)	2009 Usage[1] (gal/yr)	Density[2] (lb/gal)	VOC wt%[2] (%)	2009 Actual VOC Emissions[3] (lb/hr)	2009 Actual VOC Emissions[4] (tpy)	PTE Scaling Factor[5]	Potential VOC Emissions[6] (lb/hr)	Potential VOC Emissions[7] (tpy)
Paint Booth Coatings/Paints										
Hentzen Coatings	145-030	490.83	40.79	12.03	26%	0.12	0.06	8.42	0.12	0.54
Hentzen Coatings	145-031	97.21	13.68	7.11	13%	0.01	0.01	8.42	0.01	0.05
Deft, Inc	081-109	102.23	8.05	12.70	23%	0.02	0.01	8.42	0.02	0.10
Deft, Inc	081-110	21.65	2.69	8.05	35%	0.01	< 0.01	8.42	0.01	0.03
Deft, Inc	081-111	1.61	0.16	10.05	39%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Deft, Inc	081-112	0.45	0.05	9.01	26%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Comp A, MIL-PRF-22750F, 17925	081-125	34.77	2.55	13.64	21%	0.01	< 0.01	8.42	0.01	0.03
MIL-PRF-22750F (MIL-C-22750E)	081-127	6.68	0.86	7.77	63%	< 0.01	< 0.01	8.42	< 0.01	0.02
MIL-PRF-2275OF 595-2 SATIN B	1152-002	3.59	0.43	8.34	25%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
MIL-PRF-22750F 59526231 GRAY A	1152-007	6.07	0.52	11.68	22%	< 0.01	< 0.01	8.42	< 0.01	0.01
Hentzen Coatings	145-024	110.64	10.45	10.59	31%	0.03	0.02	8.42	0.03	0.14
NCP Coatings	209-036	36.51	4.92	7.42	80%	0.03	0.01	8.42	0.03	0.12
NCP Coatings	209-037	9.99	1.33	7.51	80%	0.01	< 0.01	8.42	0.01	0.03
N-8488A, Dynaspec Aircraft Black #37038 Type II	209-039	156.42	15.50	10.09	0%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
CARC Hardner (H2OB)	209-041	69.72	7.67	9.09	0%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
MIL-DTL-64159 Catalyst	335-109	33.19	3.73	8.90	31%	0.01	0.01	8.42	0.01	0.04
MIL-DTL-64159 Type II AC	335-111	9.04	0.90	10.04	65%	0.01	< 0.01	8.42	0.01	0.02
MIL-DTL-53039B TI AB	335-117	30.96	2.98	10.39	80%	0.02	0.01	8.42	0.02	0.10
MIL-DTL-64159 TII ABL	335-120	68.07	6.74	10.10	55%	0.04	0.02	8.42	0.04	0.16
Toluene - SW (Toluol)	367-045	32.88	4.58	7.18	100%	0.03	0.02	8.42	0.03	0.14
Sherwin Williams Automotive	367-110	0.35	0.04	8.67	33%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Sherwin Williams Automotive	367-111	0.90	0.11	8.17	46%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Sherwin Williams Automotive	367-185	0.09	0.01	9.24	54%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Sherwin Williams	367-213	31.76	2.66	11.94	21%	0.01	< 0.01	8.42	0.01	0.03
Sherwin Williams	367-218	5.22	0.68	7.68	46%	< 0.01	< 0.01	8.42	< 0.01	0.01
Sherwin Williams	367-308	4.84	0.48	10.09	34%	< 0.01	< 0.01	8.42	< 0.01	0.01
599-A8574-1 Part A (Lighting Guard)	623-043	9.06	1.03	8.80	26%	< 0.01	< 0.01	8.42	< 0.01	0.01
599-A8574-1 Part B Lightning Guard - Concentrate	623-044	290.63	14.02	20.73	18%	0.05	0.03	8.42	0.05	0.22
599-A8574-1 Part C (Retardant)	623-045	5.28	0.65	8.12	90%	< 0.01	< 0.01	8.42	< 0.01	0.02
CA 8211/F36118 Desothane HS Camouflage Gray	744-039	3.13	0.30	10.43	34%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
CA 8200B Desothane HS Activator	744-090	87.70	9.68	9.06	19%	0.02	0.01	8.42	0.02	0.07
CA8211/F37038 Desothane HS Flat Black	744-098	186.71	18.86	9.90	41%	0.07	0.04	8.42	0.07	0.32
CA-8211/F-34031 Desothane Camouflage Green	744-100	4.26	0.45	9.46	59%	< 0.01	< 0.01	8.42	< 0.01	0.01
CA821/F36231 Desothane HS Camouflage Gray	744-110	11.46	1.07	10.71	0%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
X-501; Curing Solution for 646-58 SER	857-004	2.40	0.30	8.00	51%	< 0.01	< 0.01	8.42	< 0.01	0.01
646-58-6251; Gray 595B-16251	857-028	2.76	0.26	10.60	27%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Clean Up Solvent										
n-Butanol	1164-001	5.61	0.83	6.75	100%	0.01	< 0.01	8.42	0.01	0.02
Isopropyl Alcohol	335-116	0.26	0.04	6.56	100%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Celanese Ltd. - Thinner	1075-001	0.27	0.04	6.75	100%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Sherwin Williams - Thinner	367-088	9.59	1.30	7.38	100%	0.01	< 0.01	8.42	0.01	0.04
Sherwin Williams Automotive - Thinner	367-141	0.37	0.05	7.50	100%	< 0.01	< 0.01	8.42	< 0.01	< 0.01
Total						**0.54**	**0.28**		**0.54**	**2.35**

1. Coating, paint, and clean up solvent usage for 2009 is representative of typical usage. Data from BGAD's CATERS emissions tracking system.
2. Density and VOC content data based on MSDSs for coatings, paints, and clean up solvents used at BGAD.
3. Actual VOC Emissions (lb/hr) = Actual Material Usage (gal/yr) / Typical Hours of Operation (hr/yr) x Material Density (lb/gal) x VOC Wt %
4. Actual VOC Emissions (tpy) = Actual VOC Emissions (lb/hr) x Typical Hours of Operation (hr/yr) / 2,000 lb/ton
5. PTE is estimated by scaling up emissions based on typical hours of operation (1,040 hr/yr) to potential hours of operation (8,760 hr/yr).
6. Potential VOC Emissions (lb/hr) = Actual Material Usage (gal/yr) * PTE Scaling Factor / Potential Hours of Operation (hr/yr) x Material Density (lb/gal) x VOC Wt %
7. Potential VOC Emissions (tpy) = Potential VOC Emissions (lb/hr) x Potential Hours of Operation (hr/yr) / 2,000 lb/ton

Emissions from Aircraft Surface Coating

Emission Unit ID: EU11
Emission Unit Name: Aircraft Surface Coating
Emission Unit Description: Four applicators and a shot blast machine in a paint booth

Aircraft Surface Coating HAP Contents[1]

Product Name[2]	Product ID[2]	Chromium (VI) wt % (%)	Chromium Compounds wt % (%)	Cumene wt % (%)	Ethyl-Benzene wt % (%)	Hexa-methylene-1,6-diiso cyanate wt % (%)	Methanol wt % (%)	MIBK wt % (%)	Toluene wt % (%)	Xylene wt % (%)
Paint Booth Coatings/Paints										
Hentzen Coatings	145-030	2.06%	12.47%	-	0.30%	-	-	-	-	1.28%
Hentzen Coatings	145-031	-	-	-	-	-	-	-	-	-
Deft, Inc	081-109	4.95%	30.00%	-	-	-	-	-	-	-
Deft, Inc	081-110	-	-	1.00%	-	-	-	-	-	-
Deft, Inc	081-111	-	-	-	0.23%	-	-	-	-	-
Deft, Inc	081-112	-	-	0.04%	-	0.14%	-	-	-	-
Comp A, MIL-PRF-22750F, 17925	081-125	-	-	10.00%	-	-	-	-	5.00%	-
MIL-PRF-22750F (MIL-C-22750E)	081-127	-	-	-	-	-	-	-	-	-
MIL-PRF-22750F 595-2 SATIN B	1152-002	-	-	5.00%	-	-	-	-	-	-
MIL-PRF-22750F 59526231 GRAY A	1152-007	-	-	0.50%	-	-	-	-	-	-
Hentzen Coatings	145-024	-	-	-	-	-	-	7.43%	-	1.01%
NCP Coatings	209-036	3.18%	7.04%	-	-	-	2.24%	1.15%	-	-
NCP Coatings	209-037	-	-	-	-	-	2.43%	1.25%	-	-
N-8488A, Dynaspec Aircraft Black #37038 Type II	209-039	-	-	-	-	-	-	-	-	-
CARC Hardner (H2OB)	209-041	-	-	-	-	-	-	-	-	-
MIL-DTL-64159 Catalyst	335-109	-	-	-	-	-	-	-	-	-
MIL-DTL-64159 Type II AC	335-111	-	-	-	-	-	-	-	-	-
MIL-DTL-53039B TI AB	335-117	-	-	-	-	-	-	-	-	-
MIL-DTL-64159 TII ABL	335-120	-	-	-	-	-	-	-	-	-
Toluene - SW (Toluol)	367-045	-	-	-	-	-	-	-	100.00%	-
Sherwin Williams Automotive	367-110	-	-	-	4.00%	0.10%	-	-	-	22.00%
Sherwin Williams Automotive	367-111	-	-	-	-	-	-	-	-	-
Sherwin Williams Automotive	367-185	-	-	-	3.00%	-	-	-	11.00%	17.00%
Sherwin Williams	367-213	-	-	-	0.50%	-	-	3.00%	-	3.00%
Sherwin Williams	367-218	-	-	-	-	-	-	-	-	-
Sherwin Williams	367-308	-	-	-	2.00%	-	-	5.00%	4.00%	9.00%
599-A8574-1 Part A (Lighting Guard)	623-043	-	-	-	3.00%	3.00%	-	-	-	12.50%
599-A8574-1 Part B Lightning Guard - Concentrate	623-044	-	-	-	-	-	-	-	7.50%	-
599-A8574-1 Part C (Retardant)	623-045	-	-	-	-	-	-	-	-	-
CA 8211/F36118 Desothane HS Camouflage Gray	744-039	-	-	-	-	-	-	-	-	-
CA 8200B Desothane HS Activator	744-090	-	-	-	-	-	-	-	-	-
CA8211/F37038 Desothane HS Flat Black	744-098	-	-	-	-	-	-	-	-	-
CA-8211/F-34031 Desothane Camouflage Green	744-100	-	-	-	-	-	-	-	-	-
CA821/F36231 Desothane HS Camouflage Gray	744-110	-	-	-	-	-	-	-	-	-
X-501; Curing Solution for 646-58 SER	857-004	-	-	-	-	-	-	-	-	-
646-58-6251; Gray 595B-16251	857-028	-	-	-	4.00%	-	-	-	-	5.00%
Clean Up Solvent										-
n-Butanol	1164-001	-	-	-	-	-	-	-	-	-
Isopropyl Alcohol	335-116	-	-	-	-	-	-	-	-	-
Celanese Ltd. - Thinner	1075-001	-	-	-	-	-	-	-	-	-
Sherwin Williams - Thinner	367-088	-	-	-	1.00%	-	-	-	10.00%	6.00%
Sherwin Williams Automotive - Thinner	367-141	-	-	-	-	-	-	-	-	-

1. HAP content data based on MSDSs for coatings, paints, and clean up solvents used at BGAD.
2. Coatings, paints, and clean up solvents used in 2009 to represent typical usage. Data from BGAD's CATERS emissions tracking system.

Emissions from Aircraft Surface Coating

Emission Unit ID: EU11
Emission Unit Name: Aircraft Surface Coating
Emission Unit Description: Four applicators and a shot blast machine in a paint booth

Aircraft Surface Coating Potential HAP Emissions[1,2]

Product Name	Product ID	Chromium (VI) Emissions (lb/yr)	Chromium Compounds Emissions (lb/yr)	Cumene Emissions (lb/yr)	Ethyl-Benzene Emissions (lb/yr)	Hexa-methylene-1,6-diiso cyanate Emissions (lb/yr)	Methanol Emissions (lb/yr)	MIBK Emissions (lb/yr)	Toluene Emissions (lb/yr)	Xylene Emissions (lb/yr)
Paint Booth Coatings/Paints										
Hentzen Coatings	145-030	0.77	515.55	-	12.40	-	-	-	-	52.92
Hentzen Coatings	145-031	-	-	-	-	-	-	-	-	-
Deft, Inc	081-109	0.38	258.34	-	-	-	-	-	-	-
Deft, Inc	081-110	-	-	1.82	-	-	-	-	-	-
Deft, Inc	081-111	-	-	-	0.03	-	-	-	-	-
Deft, Inc	081-112	-	-	0.00	-	0.01	-	-	-	-
Comp A, MIL-PRF-22750F, 17925	081-125	-	-	29.29	-	-	-	-	14.64	-
MIL-PRF-22750F (MIL-C-22750E)	081-127	-	-	-	-	-	-	-	-	-
MIL-PRF-2275OF 595-2 SATIN B	1152-002	-	-	1.51	-	-	-	-	-	-
MIL-PRF-22750F 59526231 GRAY A	1152-007	-	-	0.26	-	-	-	-	-	-
Hentzen Coatings	145-024	-	-	-	-	-	-	69.24	-	9.41
NCP Coatings	209-036	0.09	21.65	-	-	-	6.89	3.54	-	-
NCP Coatings	209-037	-	-	-	-	-	2.04	1.05	-	-
N-8488A, Dynaspec Aircraft Black #37038 Type II	209-039	-	-	-	-	-	-	-	-	-
CARC Hardner (H2OB)	209-041	-	-	-	-	-	-	-	-	-
MIL-DTL-64159 Catalyst	335-109	-	-	-	-	-	-	-	-	-
MIL-DTL-64159 Type II AC	335-111	-	-	-	-	-	-	-	-	-
MIL-DTL-53039B TI AB	335-117	-	-	-	-	-	-	-	-	-
MIL-DTL-64159 TII ABL	335-120	-	-	-	-	-	-	-	-	-
Toluene - SW (Toluol)	367-045	-	-	-	-	-	-	-	276.99	-
Sherwin Williams Automotive	367-110	-	-	-	0.12	0.00	-	-	-	0.64
Sherwin Williams Automotive	367-111	-	-	-	-	-	-	-	-	-
Sherwin Williams Automotive	367-185	-	-	-	0.02	-	-	-	0.09	0.13
Sherwin Williams	367-213	-	-	-	1.34	-	-	8.03	-	8.03
Sherwin Williams	367-218	-	-	-	-	-	-	-	-	-
Sherwin Williams	367-308	-	-	-	0.82	-	-	2.04	1.63	3.67
599-A8574-1 Part A (Lighting Guard)	623-043	-	-	-	2.29	2.29	-	-	-	9.54
599-A8574-1 Part B Lightning Guard - Concentrate	623-044	-	-	-	-	-	-	-	183.60	-
599-A8574-1 Part C (Retardant)	623-045	-	-	-	-	-	-	-	-	-
CA 8211/F36118 Desothane HS Camouflage Gray	744-039	-	-	-	-	-	-	-	-	-
CA 8200B Desothane HS Activator	744-090	-	-	-	-	-	-	-	-	-
CA8211/F37038 Desothane HS Flat Black	744-098	-	-	-	-	-	-	-	-	-
CA-8211/F-34031 Desothane Camouflage Green	744-100	-	-	-	-	-	-	-	-	-
CA821/F36231 Desothane HS Camouflage Gray	744-110	-	-	-	-	-	-	-	-	-
X-501; Curing Solution for 646-58 SER	857-004	-	-	-	-	-	-	-	-	-
646-58-6251; Gray 595B-16251	857-028	-	-	-	0.93	-	-	-	-	1.16
Clean Up Solvent										
n-Butanol	1164-001	-	-	-	-	-	-	-	-	-
Isopropyl Alcohol	335-116	-	-	-	-	-	-	-	-	-
Celanese Ltd. - Thinner	1075-001	-	-	-	-	-	-	-	-	-
Sherwin Williams - Thinner	367-088	-	-	-	0.81	-	-	-	8.08	4.85
Sherwin Williams Automotive - Thinner	367-141	-	-	-	-	-	-	-	-	-
Total		**1.24**	**795.54**	**32.88**	**18.75**	**2.30**	**8.93**	**83.89**	**485.03**	**90.36**

1. For all HAPs except Chromium (VI), Potential HAP Emissions (lb/yr) = Actual Material Usage (gal/yr) * PTE Scaling Factor x Material Density (lb/gal) x HAP Wt %
2. Chromium (VI) is emitted as a particulate, therefore a coating transfer efficiency and fabric filter control efficiency is used to calculate emissions.

Potential Chromium (VI) Emissions (tpy) = Potential Coating Usage (gal/yr) x Chromium (VI) Wt % * (1 - Coating Transfer Efficiency (%)) * (1 - Fabric Filter Control Efficiency (%))

Transfer Efficiency: 91.0 %
Fabric Filter Control Efficiency: 90.0 %

Emissions from Aircraft Surface Coating

Emission Unit ID: EU11
Emission Unit Name: Aircraft Surface Coating
Emission Unit Description: Four applicators and a shot blast machine in a paint booth

Aircraft Surface Coating Potential PM Emissions

Potential Coating Usage (lb/yr)[1]	16,585.5
Coating Transfer Efficiency (%)	90.0
Fabric Filter Control Efficiency (%)	99.9
Potential PM Emissions (tpy)[2]	0.00083
Potential PM Emissions (lb/hr)[3]	0.00019

1. Actual coating/paint usage for 2009 from CATERS multiplied by ratio of potential hours of operation (8,760 hr/yr) to typical hours of operation (1,040 hr/yr).
2. Potential PM Emissions (tpy) = Potential Coating Usage (lb/yr) / 2,000 lb/ton * (1 - Coating Transfer Efficiency (%)) * (1 - Fabric Filter Control Efficiency (%))
3. Potential PM Emissions (lb/hr) = Potential PM Emissions (tpy) * 2,000 lb/ton / Potential Hours of Operation (hr/yr)

Shot Blasting Emission Factors and Emission Calculations

Particulate Matter	Un-controlled Emission Factor (lb/ton)	Control Efficiency (%)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
EU11 Shot Blaster	8.0	99.9	a	0.03	0.11

a: Engineering estimate.

Emissions from Munitions Surface Coating

Emission Unit ID: EU12
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Two paint booths (EU12-1, EU12-2), one (1) paint gun per booth

Emission Unit ID: EU13
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Four paint booths (EU13-1, EU13-2, EU13-3, one (1) paint gun per booth) & (EU13-4 & 5, one booth with two paint guns)

Emission Unit ID: EU14
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Four paint booths (EU14-1, EU14-2, EU14-3 & EU14-4), one (1) paint gun per booth

Emission Unit ID: EU15
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Three paint booths (EU15-1A, EU15-1B, EU15-2 and Eu15-3), two paint guns in booth 1, one paint gun in booth 2, and one paint gun in booth 3.

Specifications

1,040 hr/yr	Typical hours of operation.
8,760 hr/yr	Potential hours of operation.

Munitions Surface Coating VOC Emission Calculations

Product Name[1]	2009 Usage[1] (lb/yr)	2009 Usage[1] (gal/yr)	Density[2] (lb/gal)	VOC wt%[2] (%)	2009 Actual VOC Emissions[3] (lb/hr)	2009 Actual VOC Emissions[4] (tpy)	PTE Scaling Factor[5]	Potential VOC Emissions[6] (lb/hr)	Potential VOC Emissions[7] (tpy)
Paint Booth Coatings									
686A Tan DTM Acrylic Emulsion	176.14	16.50	10.68	15%	0.02	0.01	8.42	0.02	0.11
NCP Coatings - Primer - Red Oxide [XE-8802]	774.71	70.75	10.95	40%	0.30	0.15	8.42	0.30	1.30
686A Tan Aqua-Zen Enamel	15,522.69	1,516.94	10.23	20%	2.95	1.53	8.42	2.95	12.90
Black CARC Paint	209.44	19.58	10.70	8%	0.02	0.01	8.42	0.02	0.07
Deft, Inc - Epoxy Topcoat - Base	321.82	34.09	9.44	53%	0.16	0.08	8.42	0.16	0.71
Deft, Inc - Epoxy Topcoat - Catalyst	88.18	11.36	7.76	63%	0.05	0.03	8.42	0.05	0.24
Green 383, 34094, MIL-DTL-53039B, TYPE II	369.50	33.00	11.20	9%	0.03	0.02	8.42	0.03	0.13
Part A - Primer, MIL-P-53022B, Type II	23,239.54	1,832.80	12.68	17%	3.70	1.92	8.42	3.70	16.21
Part B - Epoxy Hardner for Primer, MIL-P-53022B	3,541.79	458.20	7.73	49%	1.67	0.87	8.42	1.67	7.29
Sand Color Paint [NSN: 8010-HM-CAI-3697]	400.57	36.75	10.90	29%	0.11	0.06	8.42	0.11	0.49
TT-E-527D Orange Enamel	263.61	29.00	9.09	32%	0.08	0.04	8.42	0.08	0.36
Clean Up Solvent									
Deft, Inc - Epoxy Topcoat - Thinner	31.77	4.55	6.99	100%	0.03	0.02	8.42	0.03	0.13
Safety-Kleen Corp. - Laq. Thinner 6782	158.70	23.00	6.90	100%	0.15	0.08	8.42	0.15	0.67
Total					**9.27**	**4.82**		**9.27**	**40.61**

1. Coating, paint, and clean up solvent usage for 2009 is representative of typical usage. Data from BGAD's CATERS emissions tracking system.
2. Density and VOC content data based on MSDSs for coatings, paints, and clean up solvents used at BGAD.
3. Actual VOC Emissions (lb/hr) = Actual Material Usage (gal/yr) / Typical Hours of Operation (hr/yr) x Material Density (lb/gal) x VOC Wt %
4. Actual VOC Emissions (tpy) = Actual VOC Emissions (lb/hr) x Typical Hours of Operation (hr/yr) / 2,000 lb/ton
5. PTE is estimated by scaling up emissions based on typical hours of operation (1,040 hr/yr) to potential hours of operation (8,760 hr/yr).
6. Potential VOC Emissions (lb/hr) = Actual Material Usage (gal/yr) * PTE Scaling Factor / Potential Hours of Operation (hr/yr) x Material Density (lb/gal) x VOC Wt %
7. Potential VOC Emissions (tpy) = Potential VOC Emissions (lb/hr) x Potential Hours of Operation (hr/yr) / 2,000 lb/ton

Emissions from Munitions Surface Coating

Emission Unit ID: EU12
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Two paint booths (EU12-1, EU12-2), one (1) paint gun per booth

Emission Unit ID: EU13
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Four paint booths (EU13-1, EU13-2, EU13-3, one (1) paint gun per booth) & (EU13-4 & 5, one booth with two paint guns)

Emission Unit ID: EU14
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Four paint booths (EU14-1, EU14-2, EU14-3 & EU14-4), one (1) paint gun per booth

Emission Unit ID: EU15
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Three paint booths (EU15-1A, EU15-1B, EU15-2 and Eu15-3), two paint guns in booth 1, one paint gun in booth 2, and one paint gun in booth 3.

Munitions Surface Coating HAP Contents[1]

Product Name[2]	1,1,1-Trichloro-ethane wt % (%)	Chromium (VI) wt % (%)	Chromium Compounds wt % (%)	Ethyl-Benzene wt % (%)	Methanol wt % (%)	MIBK wt % (%)	Dichloro-methane wt % (%)	Naphtha-lene wt % (%)	Perchloro-ethylene wt % (%)	Styrene wt % (%)	Toluene wt % (%)	Xylene wt % (%)
Paint Booth Coatings												
686A Tan DTM Acrylic Emulsion	-	0.64%	1.23%	-	-	-	-	-	-	-	-	-
NCP Coatings - Primer - Red Oxide [XE-8802]	-	-	-	4.96%	-	-	-	-	-	-	-	29.48%
686A Tan Aqua-Zen Enamel	-	-	-	-	-	-	-	-	-	0.11%	-	-
Black CARC Paint	-	-	-	-	-	-	-	0.44%	-	-	-	-
Deft, Inc - Epoxy Topcoat - Base	-	-	-	-	-	-	-	-	-	-	3.05%	-
Deft, Inc - Epoxy Topcoat - Catalyst	-	-	-	-	-	-	-	-	-	-	-	-
Green 383, 34094, MIL-DTL-53039B, TYPE II	-	-	-	-	-	-	-	0.49%	-	-	-	-
Part A - Primer, MIL-P-53022B, Type II	-	-	-	-	-	-	-	-	-	-	-	-
Part B - Epoxy Hardner for Primer, MIL-P-53022B	-	-	-	-	-	-	-	-	-	-	-	-
Sand Color Paint [NSN: 8010-HM-CAI-3697]	-	-	-	-	-	-	-	-	-	-	-	-
TT-E-527D Orange Enamel	-	-	-	-	-	-	-	-	-	-	-	-
Clean Up Solvent												
Deft, Inc - Epoxy Topcoat - Thinner	-	-	-	-	-	18.91%	-	-	-	-	-	-
Safety-Kleen Corp. - Laq. Thinner 6782	1.00%	-	-	30%	4.00%	60.00%	1.00%	-	1.00%	-	60.00%	15.00%

1. HAP content data based on MSDSs for coatings, paints, and clean up solvents used at BGAD.

2. Coatings, paints, and clean up solvents used in 2009 to represent typical usage. Data from BGAD's CATERS emissions tracking system.

Emissions from Munitions Surface Coating

Emission Unit ID: EU12
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Two paint booths (EU12-1, EU12-2), one (1) paint gun per booth

Emission Unit ID: EU13
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Four paint booths (EU13-1, EU13-2, EU13-3, one (1) paint gun per booth) & (EU13-4 & 5, one booth with two paint guns)

Emission Unit ID: EU14
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Four paint booths (EU14-1, EU14-2, EU14-3 & EU14-4), one (1) paint gun per booth

Emission Unit ID: EU15
Emission Unit Name: Munitions Surface Coating
Emission Unit Description: Three paint booths (EU15-1A, EU15-1B, EU15-2 and Eu15-3), two paint guns in booth 1, one paint gun in booth 2, and one paint gun in booth 3.

Munitions Surface Coating Potential HAP Emissions[1,2]

Product Name	1,1,1-Trichloro-ethane Emissions (lb/yr)	Chromium (VI) Emissions (lb/yr)	Chromium Compounds Emissions (lb/yr)	Ethyl-Benzene Emissions (lb/yr)	Methanol Emissions (lb/yr)	MIBK Emissions (lb/yr)	Dichloro-methane Emissions (lb/yr)	Naphtha-lene Emissions (lb/yr)	Perchloro-ethylene Emissions (lb/yr)	Styrene Emissions (lb/yr)	Toluene Emissions (lb/yr)	Xylene Emissions (lb/yr)
Paint Booth Coatings												
686A Tan DTM Acrylic Emulsion	-	0.09	18.25	-	-	-	-	-	-	-	-	-
NCP Coatings - Primer - Red Oxide [XE-8802]	-	-	-	323.66	-	-	-	-	-	-	-	1,923.71
686A Tan Aqua-Zen Enamel	-	-	-	-	-	-	-	-	-	143.82	-	-
Black CARC Paint	-	-	-	-	-	-	-	7.76	-	-	-	-
Deft, Inc - Epoxy Topcoat - Base	-	-	-	-	-	-	-	-	-	-	82.67	-
Deft, Inc - Epoxy Topcoat - Catalyst	-	-	-	-	-	-	-	-	-	-	-	-
Green 383, 34094, MIL-DTL-53039B, TYPE II	-	-	-	-	-	-	-	15.25	-	-	-	-
Part A - Primer, MIL-P-53022B, Type II	-	-	-	-	-	-	-	-	-	-	-	-
Part B - Epoxy Hardner for Primer, MIL-P-53022B	-	-	-	-	-	-	-	-	-	-	-	-
Sand Color Paint [NSN: 8010-HM-CAI-3697]	-	-	-	-	-	-	-	-	-	-	-	-
TT-E-527D Orange Enamel	-	-	-	-	-	-	-	-	-	-	-	-
Clean Up Solvent												
Deft, Inc - Epoxy Topcoat - Thinner	-	-	-	-	-	50.66	-	-	-	-	-	-
Safety-Kleen Corp. - Laq. Thinner 6782	13.37	-	-	401.02	53.47	802.05	13.37	-	13.37	-	802.05	200.51
Total	**13.37**	**0.09**	**18.25**	**724.69**	**53.47**	**852.70**	**13.37**	**23.01**	**13.37**	**143.82**	**884.72**	**2,124.22**

1. For all HAPs except Chromium (VI), Potential HAP Emissions (lb/yr) = Actual Material Usage (gal/yr) * PTE Scaling Factor x Material Density (lb/gal) x HAP Wt %
2. Chromium (VI) is emitted as a particulate, therefore a coating transfer efficiency and fabric filter control efficiency is used to calculate emissions.
   Potential Chromium (VI) Emissions (tpy) = Potential Coating Usage (gal/yr) x Chromium (VI) Wt % * (1 - Coating Transfer Efficiency (%)) * (1 - Fabric Filter Control Efficiency (%))
   Transfer Efficiency: 91.0 %
   Fabric Filter Control Efficiency: 90.0 %

Emissions from Munitions Surface Coating

Emission Unit ID:	EU12
Emission Unit Name:	Munitions Surface Coating
Emission Unit Description:	Two paint booths (EU12-1, EU12-2), one (1) paint gun per booth
Emission Unit ID:	EU13
Emission Unit Name:	Munitions Surface Coating
Emission Unit Description:	Four paint booths (EU13-1, EU13-2, EU13-3, one (1) paint gun per booth) & (EU13-4 & 5, one booth with two paint guns)
Emission Unit ID:	EU14
Emission Unit Name:	Munitions Surface Coating
Emission Unit Description:	Four paint booths (EU14-1, EU14-2, EU14-3 & EU14-4), one (1) paint gun per booth
Emission Unit ID:	EU15
Emission Unit Name:	Munitions Surface Coating
Emission Unit Description:	Three paint booths (EU15-1A, EU15-1B, EU15-2 and Eu15-3), two paint guns in booth 1, one paint gun in booth 2, and one paint gun in booth 3.

Munitions Surface Coating Potential PM Emissions

Potential Coating Usage (lb/yr)[1]	378,263.5
Coating Transfer Efficiency (%)	90.0
Fabric Filter Control Efficiency (%)	99.9
Potential PM Emissions (tpy)[2]	0.01891
Potential PM Emissions (lb/hr)[3]	0.00432

1. Actual coating/paint usage for 2009 from CATERS multiplied by ratio of potential hours of operation (8,760 hr/yr) to typical hours of operation (1,040 hr/yr).
2. Potential PM Emissions (tpy) = Potential Coating Usage (lb/yr) / 2,000 lb/ton * (1 - Coating Transfer Efficiency (%)) * (1 - Fabric Filter Control Efficiency (%))
3. Potential PM Emissions (lb/hr) = Potential PM Emissions (tpy) * 2,000 lb/ton / Potential Hours of Operation (hr/yr)

Emissions from Detonation Chamber

Emission Unit ID: EU16
Emission Unit Name: Detonation Chamber
Emission Unit Description: Blast/detonation chamber and expansion chamber equipped with a cartidge filter unit

Unit Specifications

300	lb/hr	Maximum detonation rate.
2,628,000	lb/yr	Maximum detonation rate.
8,760	hr/yr	Potential hours of operation.

Detonation Chamber Emission Factors and Emission Calculations

	Uncontrolled Emission Factor (lb/lb)	Control Efficiency (%)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	0.642	99.9	a	0.19	0.84
Sulfur Dioxide	4.80E-05	na	b	0.01	0.06
Nitrogen Oxides	0.014	na	a, c	4.08	17.87
Carbon Monoxide	0.066	na	a, c	19.74	86.46
VOC	1.28E-04	na	a, c	0.04	0.17
Acetophenone	6.34E-07	na	a	1.90E-04	8.33E-04
Benzene	8.34E-06	na	a	2.50E-03	1.10E-02
1,3-Butadiene	4.43E-07	na	a	1.33E-04	5.82E-04
Cadmium Compounds	3.20E-05	99.0	a	9.60E-05	4.20E-04
Chromium Compounds	1.45E-04	99.0	a	4.35E-04	1.91E-03
1,4-Dichlorobenzene	5.39E-07	na	a	1.62E-04	7.08E-04
Ethylbenzene	7.98E-07	na	a	2.39E-04	1.05E-03
HCl	3.15E-03	na	a	9.45E-01	4.14E+00
Hexane	2.84E-06	na	a	8.52E-04	3.73E-03
Lead Compounds	4.61E-06	na	a	1.38E-03	6.06E-03
Manganese Compounds	1.91E-07	99.0	a	5.73E-07	2.51E-06
Naphthalene	2.40E-07	na	a	7.20E-05	3.15E-04
Nickel Compounds	2.93E-07	99.0	a	8.79E-07	3.85E-06
Toluene	2.08E-06	na	a	6.24E-04	2.73E-03
Xylenes	2.84E-06	na	a	8.52E-04	3.73E-03

a: Controlled emission factors based on August 2001 stack test conducted at BGAD. Control efficiencies estimated.

b: Emission factor based on 2009 KyEIS report for BGAD.

c: Emission factor from Compliance Demonstration Method in Section D of V-05-020 R2.

Emissions from Shot Blasting of Munitions

Emission Unit ID: EU17
Emission Unit Name: Shot Blasting of Munitions
Emission Unit Description: Wheelabrator

Unit Specifications

60.0	tons/hr	Maximum abrasive consumption rate.
525,600	tons/yr	Maximum abrasive consumption rate.
99.9	%	Cartridge filter control efficiency.
8,760	hr/yr	Potential hours of operation.

Emission Unit ID: EU18
Emission Unit Name: Shot Blasting of Munitions
Emission Unit Description: Wheelabrator

Unit Specifications

13.1	tons/hr	Maximum abrasive consumption rate.
114,318	tons/yr	Maximum abrasive consumption rate.
99.9	%	Baghouse control efficiency.
8,760	hr/yr	Potential hours of operation.

Emission Unit ID: EU19
Emission Unit Name: Shot Blasting of Munitions
Emission Unit Description: Disa Goff, Inc. Model BC4-20

Unit Specifications

52.2	tons/hr	Maximum abrasive consumption rate.
457,272	tons/yr	Maximum abrasive consumption rate.
99.9	%	Baghouse control efficiency.
8,760	hr/yr	Potential hours of operation.

Shot Blasting Emission Factors and Emission Calculations

Particulate Matter	Uncontrolled Emission Factor (lb/ton)	Control Efficiency (%)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
EU17	8.0	99.9	a	0.48	2.10
EU18	8.0	99.9	a	0.10	0.46
EU19	8.0	99.9	a	0.42	1.83

a: Engineering estimate.

Emissions from Natural Gas Fired Indirect Heat Exchangers

Emission Unit ID: EU21
Emission Unit Name: Natural Gas Fired Indirect Exchangers
Emission Unit Description: Ranging Between >1 and <5 MMBtu/hr x 14 units

Boiler Specifications

EU21-1	4.24	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-2	4.20	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-3	5.24	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-4	3.10	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-5	3.10	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-6	2.60	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-7	2.50	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-8	2.34	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-9	2.20	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-10	2.05	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-11	1.90	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-12	1.70	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-16	1.36	MMBtu/hr	Steam boiler maximum heat input capacity.
EU21-17	1.36	MMBtu/hr	Steam boiler maximum heat input capacity.
	37.9	MMBtu/hr, total	
	1,020	Btu/scf	Average fuel heat content for natural gas. (AP-42, Chapter 1.4)
	8,760	hr/yr	Potential hours of operation.
	0.04	MMscf/hr, total	Maximum natural gas hourly fuel firing rate.

Natural Gas Emission Factors and Emission Calculations

	Emission Factor (lb/MMscf)	Ref.	Natural Gas Combustion: Hourly Emission Rate (lb/hr)	Natural Gas Combustion: Potential Annual Emissions (tpy)
Particulate Matter	7.6	b	0.28	1.24
Sulfur Dioxide	0.6	b	0.02	0.10
Nitrogen Oxides	100.0	a	3.71	16.27
Carbon Monoxide	84.0	a	3.12	13.67
VOC	5.5	b	0.20	0.89
Lead	5.0E-04	b	1.86E-05	8.14E-05
Benzene	2.1E-03	c	7.80E-05	3.42E-04
Dichlorobenzene	1.2E-03	c	4.46E-05	1.95E-04
Formaldehyde	7.5E-02	c	2.79E-03	1.22E-02
Hexane	1.8E+00	c	6.69E-02	2.93E-01
Naphthalene	6.1E-04	c	2.27E-05	9.92E-05
POM	8.8E-05	c	3.28E-06	1.44E-05
Toluene	3.4E-03	c	1.26E-04	5.53E-04

a: AP-42, Table 1.4-1, dated 7/98.
b: AP-42, Table 1.4-2, dated 7/98.
c: AP-42, Table 1.4-3, dated 7/98.

Emissions from Open Detonation/Open Burning

Emission Unit ID: EU22
Emission Unit Name: Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning

Unit Specifications

1,265.8	lb/hr	Maximum detonation rate.
2,468,310.0	lb/yr	Maximum detonation rate.
1,950	hr/yr	Potential hours of operation based on operational restrictions.

Open Detonation/Open Burning Emission Factors and Emission Calculations

	Uncontrolled Emission Factor (lb/lb)	Control Efficiency (%)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	8.28E-02	na	a	5.24E-02	102.19
Sulfur Dioxide	1.41E-04	na	a	8.92E-05	0.17
Nitrogen Oxides	9.86E-03	na	a	6.24E-03	12.17
Carbon Monoxide	7.52E-03	na	a	4.76E-03	9.28
VOC	1.00E-04	na	a	6.33E-05	0.12
Acetophenone	4.10E-07	na	b	2.59E-07	5.06E-04
Antimony (Total and Dissolved)	2.88E-06	na	c	1.82E-06	3.55E-03
Arsenic (Total and Dissolved)	7.77E-08	na	c	4.92E-08	9.59E-05
Benzene	4.97E-05	na	b	3.15E-05	6.13E-02
1,3-Butadiene	1.71E-06	na	a	1.08E-06	2.11E-03
Berryllium (Total and Dissolved)	1.07E-08	na	b	6.77E-09	1.32E-05
Bis (2-Ethylhexyl) Phthalate	2.16E-07	na	b	1.37E-07	2.67E-04
Cadmium (Total and Dissolved)	7.74E-06	na	a	4.90E-06	9.55E-03
Chromium Compounds	1.74E-06	na	a	1.10E-06	2.15E-03
Cyclotrimethylenetrinitramine	9.59E-06	na	a	6.07E-06	1.18E-02
Dibenzofuran	8.68E-08	na	b	5.49E-08	1.07E-04
Ethylbenzene	2.14E-06	na	b	1.35E-06	2.64E-03
Hexane	9.31E-07	na	a	5.89E-07	1.15E-03
Lead	5.57E-04	na	a	3.53E-04	6.87E-01
Manganese Compounds	3.78E-07	na	b	2.39E-07	4.67E-04
Mercury (and Compounds)	1.10E-07	na	b	6.96E-08	1.36E-04
Methyl Chloride	7.38E-07	na	a	4.67E-07	9.11E-04
Naphthalene	1.18E-05	na	a	7.47E-06	1.46E-02
Nickel Compounds	4.61E-03	na	c	2.92E-03	5.69E+00
Nitrobenzene	5.19E-08	na	b	3.28E-08	6.40E-05
n-Nitrosodibutylamine	5.39E-08	na	b	3.41E-08	6.65E-05
Phenol	4.06E-08	na	b	2.57E-08	5.01E-05
2,4,6-Trinitrotoluene	8.18E-06	na	a	5.18E-06	1.01E-02
Toluene	1.00E-05	na	b	6.33E-06	1.23E-02
Xylenes	8.70E-06	na	a	5.51E-06	1.07E-02

a: Based on EPA 600/R-98/103: Emission Factors for the Disposal of Energetic Materials by Open Burning and Open Detonation (OB/OD), Mitchell and Suggs, August 1998.

b: Based on test detonations of conventional munitions at the U.S. Department of Energy's Nevada Test Site (NTS) X - Tunnel complex located in Area 25 conducted in late 1996 and early 1997.

c: Calculated emission factors are based on mass balance equations assuming that all the metal in the energetic material, as well as the metal that is intended to fragment upon use, is transformed into the corresponding metal oxide.

Emissions from iSCWO

Emission Unit ID: EU24
Emission Unit Name: Industrial Supercritical Water Oxidation (i-SCWO) System

Unit Specifications

8,760 hr/yr	Potential hours of operation.
28,800 scf/hr	Preheater burner rating.

iSCWO Process Vent Emission Factors and Emission Calculations

	Hourly Emission Rate (lb/hr)	Ref.	Potential Annual Emissions (tpy)
Particulate Matter	1.00E-03	a	4.38E-03
Sulfur Dioxide	8.00E-04	a	3.50E-03
Nitrogen Oxides	2.00E-01	a	8.76E-01
Carbon Monoxide	3.00E-03	a	1.31E-02
VOC	7.00E-03	a	3.07E-02
2,4-Dinitrotoluene	3.37E-04	b	1.47E-03
Acetophenone	1.83E-05	b	8.02E-05
Antimony (and Compounds)	1.00E-04	b	4.38E-04
Arsenic (and Compounds)	4.31E-04	b	1.89E-03
Benzene	2.22E-03	b	9.73E-03
Berryllium Compounds	4.31E-04	b	1.89E-03
Bis (2-Ethylhexyl) Phthalate	9.70E-06	b	4.25E-05
Cadmium (and Compounds)	1.08E-03	b	4.73E-03
Dibutyl Phthalate	4.09E-05	b	1.79E-04
Ethylbenzene	9.52E-05	b	4.17E-04
Lead	1.00E-04	b	4.38E-04
Naphthalene	5.27E-04	b	2.31E-03
Nickel (and Compounds)	1.00E-04	b	4.38E-04
Nitrobenzene	2.30E-06	b	1.01E-05
Phenol	1.82E-06	b	7.97E-06
Selenium (and Compounds)	1.00E-04	b	4.38E-04
Toluene	4.46E-04	b	1.95E-03
Xylenes	6.57E-04	b	2.88E-03

a: Based on testing conducted in 2001 on a similar iSCWO system built by General Atomics and reported in the July 2007 permit application.

b: Based on derived surrogate emission rates for compounds of potential concern (COPCs) evaluated by the risk assessment that is part of the RCRA application for the iSCWO system.

Emissions from iSCWO

Emission Unit ID: EU24
Emission Unit Name: Industrial Supercritical Water Oxidation (i-SCWO) System

Unit Specifications

8,760	hr/yr	Potential hours of operation.
28,800	scf/hr	Preheater burner rating.

iSCWO Natural Gas-Fired Preheater Emission Factors and Emission Calculations

	Emission Factor (lb/MMscf)	Ref.	Natural Gas Combustion Hourly Emission Rate (lb/hr)	Natural Gas Combustion Potential Annual Emissions (tpy)
Particulate Matter	7.6	b	0.22	0.96
Sulfur Dioxide	0.6	b	0.02	0.08
Nitrogen Oxides	100.0	a	2.88	12.61
Carbon Monoxide	84.0	a	2.42	10.60
VOC	5.5	b	0.16	0.69

a: AP-42, Table 1.4-1, dated 7/98.

b: AP-42, Table 1.4-2, dated 7/98.

Emissions from MRAP Surface Coating

Emission Unit ID: EU25
Emission Unit Name: MRAP Paint Booth
Emission Unit Description: MRAP Paint Booth

Specifications

1,040 hr/yr	Typical hours of operation.
8,760 hr/yr	Potential hours of operation.

MRAP Surface Coating VOC Emission Calculations

Product Name[1]	Typical Usage[1] (lb/yr)	Typical Usage[1] (gal/yr)	Density[2] (lb/gal)	VOC wt%[2] (%)	Typical Actual VOC Emissions[3] (lb/hr)	Typical Actual VOC Emissions[4] (tpy)	PTE Scaling Factor[5]	Potential VOC Emissions[6] (lb/hr)	Potential VOC Emissions[7] (tpy)
Paint Booth Coatings									
686A Tan DTM Acrylic Emulsion	44.04	4.13	10.68	15%	0.01	< 0.01	8.42	0.01	0.03
NCP Coatings - Primer - Red Oxide [XE-8802]	193.68	17.69	10.95	40%	0.07	0.04	8.42	0.07	0.32
686A Tan Aqua-Zen Enamel	3,880.67	379.24	10.23	20%	0.74	0.38	8.42	0.74	3.23
Black CARC Paint	52.36	4.90	10.70	8%	< 0.01	< 0.01	8.42	< 0.01	0.02
Deft, Inc - Epoxy Topcoat - Base	80.46	8.52	9.44	53%	0.04	0.02	8.42	0.04	0.18
Deft, Inc - Epoxy Topcoat - Catalyst	22.05	2.84	7.76	63%	0.01	0.01	8.42	0.01	0.06
Green 383, 34094, MIL-DTL-53039B, TYPE II	92.38	8.25	11.20	9%	0.01	< 0.01	8.42	0.01	0.03
Part A - Primer, MIL-P-53022B, Type II	5,809.89	458.20	12.68	17%	0.93	0.48	8.42	0.93	4.05
Part B - Epoxy Hardner for Primer, MIL-P-53022B	885.45	114.55	7.73	49%	0.42	0.22	8.42	0.42	1.82
Sand Color Paint [NSN: 8010-HM-CAI-3697]	100.14	9.19	10.90	29%	0.03	0.01	8.42	0.03	0.12
TT-E-527D Orange Enamel	65.90	7.25	9.09	32%	0.02	0.01	8.42	0.02	0.09
Clean Up Solvent									
Deft, Inc - Epoxy Topcoat - Thinner	7.94	1.14	6.99	100%	0.01	< 0.01	8.42	0.01	0.03
Safety-Kleen Corp. - Laq. Thinner 6782	39.68	5.75	6.90	100%	0.04	0.02	8.42	0.04	0.17
Total					**2.32**	**1.21**		**2.32**	**10.15**

1. Coating, paint, and clean up solvent usage for one munitions surface coating building for 2009 is a conservative estimate of typical usage. Data from BGAD's CATERS emissions tracking system.
2. Density and VOC content data based on MSDSs for coatings, paints, and clean up solvents used at BGAD.
3. Actual VOC Emissions (lb/hr) = Actual Material Usage (gal/yr) / Typical Hours of Operation (hr/yr) x Material Density (lb/gal) x VOC Wt %
4. Actual VOC Emissions (tpy) = Actual VOC Emissions (lb/hr) x Typical Hours of Operation (hr/yr) / 2,000 lb/ton
5. PTE is estimated by scaling up emissions based on typical hours of operation (1,040 hr/yr) to potential hours of operation (8,760 hr/yr).
6. Potential VOC Emissions (lb/hr) = Actual Material Usage (gal/yr) * PTE Scaling Factor / Potential Hours of Operation (hr/yr) x Material Density (lb/gal) x VOC Wt %
7. Potential VOC Emissions (tpy) = Potential VOC Emissions (lb/hr) x Potential Hours of Operation (hr/yr) / 2,000 lb/ton

Emissions from MRAP Surface Coating

Emission Unit ID: EU25
Emission Unit Name: MRAP Paint Booth
Emission Unit Description: MRAP Paint Booth

MRAP Surface Coating HAP Contents[1]

Product Name[2]	1,1,1-Trichloroethane wt % (%)	Chromium (VI) wt % (%)	Chromium Compounds wt % (%)	Ethyl-Benzene wt % (%)	Methanol wt % (%)	MIBK wt % (%)	Dichloromethane wt % (%)	Naphthalene wt % (%)	Perchloroethylene wt % (%)	Styrene wt % (%)	Toluene wt % (%)	Xylene wt % (%)
Paint Booth Coatings												
686A Tan DTM Acrylic Emulsion	-	0.64%	1.23%	-	-	-	-	-	-	-	-	-
NCP Coatings - Primer - Red Oxide [XE-8802]	-	-	-	4.96%	-	-	-	-	-	-	-	29.48%
686A Tan Aqua-Zen Enamel	-	-	-	-	-	-	-	-	-	0.11%	-	-
Black CARC Paint	-	-	-	-	-	-	-	0.44%	-	-	-	-
Deft, Inc - Epoxy Topcoat - Base	-	-	-	-	-	-	-	-	-	-	3.05%	-
Deft, Inc - Epoxy Topcoat - Catalyst	-	-	-	-	-	-	-	-	-	-	-	-
Green 383, 34094, MIL-DTL-53039B, TYPE II	-	-	-	-	-	-	-	0.49%	-	-	-	-
Part A - Primer, MIL-P-53022B, Type II	-	-	-	-	-	-	-	-	-	-	-	-
Part B - Epoxy Hardner for Primer, MIL-P-53022B	-	-	-	-	-	-	-	-	-	-	-	-
Sand Color Paint [NSN: 8010-HM-CAI-3697]	-	-	-	-	-	-	-	-	-	-	-	-
TT-E-527D Orange Enamel	-	-	-	-	-	-	-	-	-	-	-	-
Clean Up Solvent												
Deft, Inc - Epoxy Topcoat - Thinner	-	-	-	-	-	18.91%	-	-	-	-	-	-
Safety-Kleen Corp. - Laq. Thinner 6782	1.00%	-	-	30%	4.00%	60.00%	1.00%	-	1.00%	-	60.00%	15.00%

1. HAP content data based on MSDSs for coatings, paints, and clean up solvents used at BGAD.
2. Coatings, paints, and clean up solvents used in 2009 to represent typical usage. Data from BGAD's CATERS emissions tracking system.

Emissions from MRAP Surface Coating

Emission Unit ID: EU25
Emission Unit Name: MRAP Paint Booth
Emission Unit Description: MRAP Paint Booth

MRAP Surface Coating Potential HAP Emissions[1,2]

Product Name	1,1,1-Trichloro-ethane wt % (lb/yr)	Chromium (VI) wt % (lb/yr)	Chromium Compounds wt % (lb/yr)	Ethyl-Benzene wt % (lb/yr)	Methanol wt % (lb/yr)	MIBK wt % (lb/yr)	Dichloro-methane wt % (lb/yr)	Naphthalene wt % (lb/yr)	Perchloro-ethylene wt % (lb/yr)	Styrene wt % (lb/yr)	Toluene wt % (lb/yr)	Xylene wt % (lb/yr)
Paint Booth Coatings												
686A Tan DTM Acrylic Emulsion	-	0.02	4.56	-	-	-	-	-	-	-	-	-
NCP Coatings - Primer - Red Oxide [XE-8802]	-	-	-	80.92	-	-	-	-	-	-	-	480.93
686A Tan Aqua-Zen Enamel	-	-	-	-	-	-	-	-	-	35.96	-	-
Black CARC Paint	-	-	-	-	-	-	-	1.94	-	-	-	-
Deft, Inc - Epoxy Topcoat - Base	-	-	-	-	-	-	-	-	-	-	20.67	-
Deft, Inc - Epoxy Topcoat - Catalyst	-	-	-	-	-	-	-	-	-	-	-	-
Green 383, 34094, MIL-DTL-53039B, TYPE II	-	-	-	-	-	-	-	3.81	-	-	-	-
Part A - Primer, MIL-P-53022B, Type II	-	-	-	-	-	-	-	-	-	-	-	-
Part B - Epoxy Hardner for Primer, MIL-P-53022B	-	-	-	-	-	-	-	-	-	-	-	-
Sand Color Paint [NSN: 8010-HM-CAI-3697]	-	-	-	-	-	-	-	-	-	-	-	-
TT-E-527D Orange Enamel	-	-	-	-	-	-	-	-	-	-	-	-
Clean Up Solvent												
Deft, Inc - Epoxy Topcoat - Thinner	-	-	-	-	-	12.66	-	-	-	-	-	-
Safety-Kleen Corp. - Laq. Thinner 6782	3.34	-	-	100.26	13.37	200.51	3.34	-	3.34	-	200.51	50.13
Total	**3.34**	**0.02**	**4.56**	**181.17**	**13.37**	**213.18**	**3.34**	**5.75**	**3.34**	**35.96**	**221.18**	**531.05**

1. For all HAPs except Chromium (VI), Potential HAP Emissions (lb/yr) = Actual Material Usage (gal/yr) * PTE Scaling Factor x Material Density (lb/gal) x HAP Wt %
2. Chromium (VI) is emitted as a particulate, therefore a coating transfer efficiency and fabric filter control efficiency is used to calculate emissions.
   Potential Chromium (VI) Emissions (tpy) = Potential Coating Usage (gal/yr) x Chromium (VI) Wt % * (1 - Coating Transfer Efficiency (%)) * (1 - Fabric Filter Control Efficiency (%))
   Transfer Efficiency: 91.0 %
   Fabric Filter Control Efficiency: 90.0 %

MRAP Surface Coating Potential PM Emissions

Potential Coating Usage (lb/yr)[1]	94,565.9
Coating Transfer Efficiency (%)	90.0
Fabric Filter Control Efficiency (%)	99.9
Potential PM Emissions (tpy)[2]	0.00473
Potential PM Emissions (lb/hr)[3]	0.00108

1. Actual coating/paint usage for 2009 from CATERS multiplied by ratio of potential hours of operation (8,760 hr/yr) to typical hours of operation (1,040 hr/yr).
2. Potential PM Emissions (tpy) = Potential Coating Usage (lb/yr) / 2,000 lb/ton * (1 - Coating Transfer Efficiency (%)) * (1 - Fabric Filter Control Efficiency (%))
3. Potential PM Emissions (lb/hr) = Potential PM Emissions (tpy) * 2,000 lb/ton / Potential Hours of Operation (hr/yr)

Emissions from Iridite Dip Tank Plating Operations

Emission Unit ID: EU26
Emission Unit Name: Iridite Dip Tank Plating Operation

Unit Specifications

1.0 gal/hr	Maximum make up chemical rate usage.
8,760 hr/yr	Potential hours of operation.
8,760 gal/yr	Maximum make up chemical rate usage.

Iridite Dip Tank Emission Factors and Emission Calculations

	Emission Factor (lb/gal)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	1.25E-02	a	1.25E-02	5.48E-02
Chromium Compounds	7.50E-03	b	7.50E-03	3.29E-02
Cr VI	3.90E-03	c	3.90E-03	1.71E-02

a: An average of 0.125 pounds of Iridite (1.5 to 2.5 ounces) will be used per gallon of water. Assuming a 90% transfer efficiency, approximately 10% of the Iridite used is assumed to be emitted to the atmosphere as PM.

b: Iridite is made up of up to 60% by weight chromium trioxide. The particulate matter emission rate is multipied by 0.6 to develop this emission factor.

c: Chromium trioxide is made up of one chromium atom and three oxygen atoms. Therefore, the ratio of the molecular weight of one chromium atom (51.9961 lb/lb-mol) to the molecular weight of chromium trioxide (99.9943 lb/lb-mol) is multiplied by the chromium compound emission factor to develop a Cr VI factor.

Isoprep Dip Tank Emission Factors and Emission Calculations

	Emission Factor (lb/gal)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	7.50E-02	a	7.50E-02	3.29E-01
Chromium Compounds	7.50E-03	b	7.50E-03	3.29E-02
Cr VI	2.65E-03	c	2.65E-03	1.16E-02

a: An average of 0.75 pounds of Isoprep (8 to 16 ounces) will be used per gallon of water. Assuming a 90% transfer efficiency, approximately 10% of the Isoprep used is assumed to be emitted to the atmosphere as PM.

b: Isoprep is made up of up to 10% by weight potassium bichromate. The particulate matter emission rate is multipied by 0.1 to develop this emission factor.

c: Potassium bichromate is made up of two potassium atoms, two chromium atoms, and seven oxygen atoms. Therefore, the ratio of the molecular weight of two chromium atoms (51.9961 lb/lb-mol, each) to the molecular weight of potassium bichromate (294.185 lb/lb-mol) is multiplied by the chromium compound emission factor to develop a Cr VI factor.

Emissions from Stationary Emergency Generators

Emission Unit ID: EU27
Emission Unit Name: NESHAP Existing CI Emergency Generator Engines

Engine Specifications

EU27-1	107.2	hp	Engine maximum horsepower output rating.
EU27-2	100.5	hp	Engine maximum horsepower output rating.
EU27-3	207.7	hp	Engine maximum horsepower output rating.
EU27-4	207.7	hp	Engine maximum horsepower output rating.
	623.1	hp, total	
	31.2	gal/hr	Fuel usage
	7,000	Btu/hp-hr	Heat input/power output conversion factor
	500	hr/yr	Potential hours of operation.

Diesel-Fired Internal Combustion Engine Emission Factors and Emission Calculations

	Emission Factor (lb/MMBtu)	Emission Factor (lb/hp-hr)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	0.31	2.17E-03	a	1.35	0.34
Sulfur Dioxide	0.29	2.03E-03	a	1.26	0.32
Nitrogen Oxides	4.41	3.09E-02	a	19.24	4.81
Carbon Monoxide	0.95	6.65E-03	a	4.14	1.04
VOC	0.36	2.52E-03	a	1.57	0.39
Acetaldehyde	7.67E-04	5.37E-06	b	3.35E-03	8.36E-04
Acrolein	9.25E-05	6.48E-07	b	4.03E-04	1.01E-04
Benzene	9.33E-04	6.53E-06	b	4.07E-03	1.02E-03
1,3-Butadiene	3.91E-05	2.74E-07	b	1.71E-04	4.26E-05
Formaldehyde	1.18E-03	8.26E-06	b	5.15E-03	1.29E-03
POM	1.68E-04	1.18E-06	b	7.33E-04	1.83E-04
Toluene	4.09E-04	2.86E-06	b	1.78E-03	4.46E-04
Xylenes	2.85E-04	2.00E-06	b	1.24E-03	3.11E-04

a: AP-42, Table 3.3-1, dated 10/96.

b: AP-42, Table 3.3-2, dated 10/96.

Emissions from Stationary Emergency Generators

Emission Unit ID: EU28
Emission Unit Name: NSPS-Subject CI Emergency Generator Engines
Emission Unit Description: Kohler Emg. Gen., Model 50REOZJC

Engine Specifications

EU28-1	80.0	hp	Engine maximum horsepower output rating.
EU28-2	80.0	hp	Engine maximum horsepower output rating.
EU28-3	80.0	hp	Engine maximum horsepower output rating.
	240.0	hp, total	
	12.0	gal/hr	Fuel usage
	7,000	Btu/hp-hr	Heat input/power output conversion factor
	500	hr/yr	Potential hours of operation.

Diesel-Fired Internal Combustion Engine Emission Factors and Emission Calculations

	Emission Factor (lb/MMBtu)	Emission Factor (lb/hp-hr)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	0.31	2.17E-03	a	0.52	0.13
Sulfur Dioxide	0.29	2.03E-03	a	0.49	0.12
Nitrogen Oxides	4.41	3.09E-02	a	7.41	1.85
Carbon Monoxide	0.95	6.65E-03	a	1.60	0.40
VOC	0.36	2.52E-03	a	0.60	0.15
Acetaldehyde	7.67E-04	5.37E-06	b	1.29E-03	3.22E-04
Acrolein	9.25E-05	6.48E-07	b	1.55E-04	3.89E-05
Benzene	9.33E-04	6.53E-06	b	1.57E-03	3.92E-04
1,3-Butadiene	3.91E-05	2.74E-07	b	6.57E-05	1.64E-05
Formaldehyde	1.18E-03	8.26E-06	b	1.98E-03	4.96E-04
POM	1.68E-04	1.18E-06	b	2.82E-04	7.06E-05
Toluene	4.09E-04	2.86E-06	b	6.87E-04	1.72E-04
Xylenes	2.85E-04	2.00E-06	b	4.79E-04	1.20E-04

a: AP-42, Table 3.3-1, dated 10/96.

b: AP-42, Table 3.3-2, dated 10/96.

Emissions from Stationary Emergency Generators

Emission Unit ID: EU29
Emission Unit Name: NSPS-Subject SI Emergency Generator Engines

Engine Specifications

	Engine Rating (hp)	Fuel Consumption Rate (scf/hr)
EU29-1	189.0	1,786
EU29-2	168.0	1,260

357.0	hp, total	
3046.0	scf/hr	Fuel usage
1020.0	Btu/scf	Heat content of natural gas
3.11	MMBtu/hr	Fuel usage
500	hr/yr	Potential hours of operation.

Natural Gas-Fired Internal Combustion Engine Emission Factors and Emission Calculations

	Emission Factor (lb/MMBtu)	Ref.	Hourly Emission Rate (lb/hr)	Potential Annual Emissions (tpy)
Particulate Matter	9.99E-03	a	0.03	0.01
Sulfur Dioxide	5.88E-04	a	0.00	0.00
Nitrogen Oxides	0.847	a	2.63	0.66
Carbon Monoxide	0.557	a	1.73	0.43
VOC	0.118	a	0.37	0.09
Acenaphthene	1.25E-06	a	3.88E-06	9.71E-07
Acenaphthylene	5.53E-06	a	1.72E-05	4.30E-06
Acetaldehyde	8.36E-03	a	2.60E-02	6.49E-03
Acrolein	5.14E-03	a	1.60E-02	3.99E-03
Benzene	4.40E-04	a	1.37E-03	3.42E-04
Benzo(b)fluoranthene	1.66E-07	a	5.16E-07	1.29E-07
Benzo(e)pyrene	4.15E-07	a	1.29E-06	3.22E-07
Benzo(g,h,i)perlyene	4.14E-07	a	1.29E-06	3.22E-07
Biphenyl	2.12E-04	a	6.59E-04	1.65E-04
1,3-Butadiene	2.67E-04	a	8.30E-04	2.07E-04
Carbon Tetrachloride	3.67E-05	a	1.14E-04	2.85E-05
Chlorobenzene	3.04E-05	a	9.45E-05	2.36E-05
Chloroform	2.85E-05	a	8.85E-05	2.21E-05
Chrysene	6.93E-07	a	2.15E-06	5.38E-07
1,3-Dichloropropene	2.64E-05	a	8.20E-05	2.05E-05
Ethylbenzene	3.97E-05	a	1.23E-04	3.08E-05
Ethylene Dibromide	4.43E-05	a	1.38E-04	3.44E-05
Fluoranthene	1.11E-06	a	3.45E-06	8.62E-07
Fluorene	5.67E-06	a	1.76E-05	4.40E-06
Formaldehyde	5.28E-02	a	1.64E-01	4.10E-02
Methanol	2.50E-03	a	7.77E-03	1.94E-03
Methylene Chloride	2.00E-05	a	6.21E-05	1.55E-05
2-Methylnaphthalene	3.32E-05	a	1.03E-04	2.58E-05
Naphthalene	7.44E-05	a	2.31E-04	5.78E-05
n-Hexane	1.11E-03	a	3.45E-03	8.62E-04
PAH	2.69E-05	a	8.36E-05	2.09E-05
Phenanthrene	1.04E-05	a	3.23E-05	8.08E-06
Phenol	2.40E-05	a	7.46E-05	1.86E-05
Pyrene	1.36E-06	a	4.23E-06	1.06E-06
Styrene	2.36E-05	a	7.33E-05	1.83E-05
Toluene	4.08E-04	a	1.27E-03	3.17E-04
1,1,2,2-Tetrachloroethane	4.00E-05	a	1.24E-04	3.11E-05
1,1,2-Trichloroethane	3.18E-05	a	9.88E-05	2.47E-05
2,2,4-Trimethylpentane	2.50E-04	a	7.77E-04	1.94E-04
Vinyl Chloride	1.49E-05	a	4.63E-05	1.16E-05
Xylene	1.84E-04	a	5.72E-04	1.43E-04

a: AP-42, Table 3.2-2 for 4-Stroke Lean-Burn Natural Gas Fired Engines, dated 7/00.

APPENDIX E

EXISTING TITLE V PERMIT WITH SUGGESTED CHANGES MARKED

TABLE OF CONTENTS

	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action
V-05-020	**Initial Issuance**	**APE20040005**	**12/15/2004**	**10/20/2005**	**Initial Operating/Construction Permit**
V-05-020 Rev 1	**Minor Revision**	**APE20060002**	**05/31/2006**	**07/03/2006**	**Revision of Names and Operating Conditions for EU09 and EU10 Reconstruction/Modification of EU10**
V-05-020 Rev 2	**Minor Revision**	**APE20070008**	**8/21/2007**		**Addition of iSCWO System, EU24, revision of visible emission monitoring requirements and record keeping requirements, refer to Statement of Basis for other changes.**

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first submitting a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS

EU01 ~~**(B01)**~~ **Natural Gas Boiler**
Description: Cleaver Brooks Boiler (2 units)
Rated Capacity: 10.2 MMBTU/HR
Fuel: Natural Gas
Date Installed: 2006
Location: Building 571

Comment [TS1]: Secondary unit IDs that were used in previous permits can be removed. These IDs have no significance for BGAD and the permit would be simpler with only one set of IDs for emission units.

APPLICABLE REGULATIONS:
~~401 KAR 59:015, New indirect heat exchanger, applicable to each indirect heat exchanger having a heat input capacity of more than 1,000,000 Btu per hour commenced on or after April 9, 1972.~~

Comment [TS2]: As discussed in Section 4.7 of the Title V renewal application text, Section 2(2) of 401 KAR 59:015 specifically exempts units subject to NSPS Subpart Dc from compliance with this regulation.

401 KAR 60:005, incorporating by reference 40 CFR 60, Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, for units less than or equal to 100 MMBTU/HR but greater than or equal to 10 MMBTU/HR commenced after June 9, 1989.

NONAPPLICABLE REGULATIONS:
401 KAR 59:015, Section 2(2) specifically exempts units subject to NSPS Subpart Dc from compliance with the provisions of 401 KAR 59:015. These units are subject to NSPS Subpart Dc and are therefore exempt from 401 KAR 59:015.

1. **Operating Limitations:** ~~20.4 MMBTU/HR~~ None

Comment [TS3]: This operating limit is unnecessary because it simply restates the maximum rated capacity of the units.

2. **Emission Limitations:** None

~~A. i) Particulate emissions shall not exceed 0.38 lb/MMBTU~~
~~ii) Sulfur dioxide emissions shall not exceed 0.50 lb/MMBTU~~
~~iii) Visible emissions shall not exceed 20 percent opacity.~~

Comment [TS4]: These requirements are derived from 401 KAR 59:015. As discussed above, the EU01 boilers are exempt from this regulation because they are subject to NSPS Subpart Dc.

~~**Compliance Demonstration Method:**~~
~~Compliance will be assured when the unit is burning natural gas.~~

~~B. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
~~Refer to Section D, Compliance Demonstration Method (A).~~
~~C. Source wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
~~Refer to Section D, Compliance Demonstration Method (D).~~
~~D. Source wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
~~Refer to Section D, Compliance Demonstration Method (E).~~

Comment [TS5]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

3. **Testing Requirements:**
Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

4. **Specific Monitoring Requirements:**
Monthly monitoring of the volume of natural gas burned shall be required.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. **Specific Record Keeping Requirements:**
   Monthly records of the volume of natural gas burned shall be maintained. Refer to Section D, D.3, D.5 and D.6

6. **Specific Reporting Requirements:**
   None ~~Refer to Section F, F.6.~~

7. **Specific Control Equipment Operating Conditions:**
   None

Comment [TS6]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU01. Therefore, this reference is not necessary and can be removed.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Units 2 – 6 **Motor Pool Portable Compressors**
Description: Five (5) diesel fired air compressors with respective horsepowers of 250, 73.5, 73.5, 53 and 53

Comment [TS7]: As discussed in Section 4.3 of this application, several internal combustion engines listed as significant activities in Section B of BGAD's current Title V permit are not stationary sources, but are rather portable sources of emissions, and should not be regulated under the Title V permit for BGAD. The engines currently listed as EU02 through EU08 and EU23 are all classified as non-road engines, as defined in 40 CFR 1068.30. Therefore, these sections should be removed from BGAD's renewed Title V permit.

APPLICABLE REGULATION:
401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. Operating Limitations:
None

2. Emission Limitations:
A. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (A).
B. Source-wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (D).
C. Source-wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (E).
D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

5. Specific Record Keeping Requirements:
Monthly records of the volume of diesel fuel burned shall be maintained. Refer to Section D, D.3, D.5 and D.6.

6. Specific Reporting Requirements:
Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ID	Description	Horsepower	Fuel	Date Installed
EU07 (E06)	Wood Grinder	325	Diesel	2004

Comment [TS8]: Engine is a portable internal combustion engine, not subject to Title V, and should be removed from the renewed permit. See comment for EU02-EU06 above.

APPLICABLE REGULATION:
401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. Operating Limitations:
None

2. Emission Limitations:
A. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (A).
B. Source-wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (D).
C. Source-wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (E).
D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

5. Specific Record Keeping Requirements:
Monthly records of the volume of diesel fuel burned shall be maintained. Refer to Section D, D.3, D.5 and D.6.

6. Specific Reporting Requirements:
Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU08 (E07) Portable Air Compressor
Description: Air Compressor (F006)
Horsepower: 67.5
Rated capacity: 0.47 MMBTU/HR
Fuel: Gasoline
Date installed: 1982

APPLICABLE REGULATION:
None

1. Operating Limitations:
None

2. Emission Limitations:
A. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (A).
B. Source-wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (D).
C. Source-wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (E).
D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

5. Specific Record Keeping Requirements:
Monthly records of the hours of operation shall be maintained. Refer to Section D, D.3, D.5 and D.6.

6. Specific Reporting Requirements:
Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:
None

Comment [TS9]: Engine is a portable internal combustion engine, not subject to Title V, and should be removed from the renewed permit. See comment for EU02-EU06 above.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU09 ~~(I01)~~ **General Refuse Incinerator**

Description: Advanced Combustion Systems, Model CAI-500 or equivalent
Rated capacity: 500 lb/hr
Types of waste burned: paper, cardboard, wood, cartons, cloth, ~~and~~ munitions packaging papers, and badging ribbons.
Control Equipment: Secondary Burner or equivalent
Date installed: April, 1981
Location: Building 252

Comment [TS10]: BGAD desires to be permitted to upgrade emission units or control devices as necessary to ensure consistent and continuous availability of operations at the depot. Therefore, we request that in cases where specific model numbers or very specific descriptions are provided in the permit for emission units and control devices, the phrase "or equivalent" be added, to provide this desired flexibility.

Comment [TS11]: The list of materials allowed to be processed through the General Refuse Incinerator (GRI) (EU09) was updated through an October 7, 2008 Section 502(b)(10) change notification to include used card printer ribbons, referred to as "badging ribbons". This additional material should be added to the list of wastes burned.

APPLICABLE REGULATIONS:
401 KAR 59:020, New incinerators, applicable to each incinerator commenced on or after June 6, 1979.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:**
   A. The treatment of hazardous waste in the General Refuse Incinerator is prohibited.
   B. Operation of this unit is allowed when it is burning the types of waste specified in the description above.
   C. The maximum quantity of waste burned shall not exceed 526 tons per year.

2. **Emission Limitations:**
   A. Pursuant to 401 KAR 59:020, § 3(2)(a), gases emitted to the atmosphere shall not contain particulate matter in excess of 0.23 g/dscm (one-tenth (0.1) gr/dscf) corrected to twelve (12) percent carbon dioxide excluding the contribution of carbon dioxide from auxiliary fuel.
   Compliance Demonstration Method: Refer to Testing Requirements
   B. Pursuant to 401 KAR 59:020, § 3(1), visible emissions shall not exceed 20 percent opacity.
   Compliance Demonstration Method: Refer to Testing Requirements
   ~~C. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
   ~~Refer to Section D, Compliance Demonstration Method (A).~~
   ~~D. Source wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
   ~~Refer to Section D, Compliance Demonstration Method (D).~~
   ~~E. Source wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
   ~~Refer to Section D, Compliance Demonstration Method (E).~~
   ~~F. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

Comment [TS12]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Testing Requirements:

A. Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4. Compliance with Emission Limitation (A) shall be demonstrated by following the test methods and procedures specified in 401 KAR 59:020, §§ 6 and 7.

~~B. Opacity of emissions shall be determined from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.~~

C. If the Division requires it, the permittee shall use the test methods and procedures in 401 KAR 59:020, §§ 6 and 7 to determine the particulate matter concentration in the exhaust gases from the unit.

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on an annual ~~daily~~ basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water vapor within the plume), then the opacity shall be determined by Reference Method 9. If emissions are in excess of twenty percent opacity then an inspection shall be initiated of the incinerator unit for all necessary repairs.

B. Charge rates and hours of operation shall be monitored monthly.

C. The types of waste burned shall be monitored monthly.

5. Specific Record Keeping Requirements:

A. A record of operation of the incinerator shall be maintained indicating the intervals in days the unit operated.

B. Monthly records of the tons of waste charged and the hours of operation shall be maintained. Refer to Section D, D.3, D.5 and D.6.

C. ~~Method 9 readings~~ Visual opacity observations shall be recorded, including the date and time of the reading.

D. The results of any required inspection and repair, as a result of a recorded opacity over 20 percent shall be recorded, including the date and time of the inspection and repair

E. Monthly records of the types of waste burned shall be maintained.

6. Specific Reporting Requirements:

None ~~Refer to Section F, F.6.~~

7. Specific Control Equipment Operating Conditions:

A. The incinerator unit shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

B. Records regarding the maintenance and operation of the incinerator unit shall be maintained.

Comment [TS13]: Annual Method 9 observations conducted over the past several years have shown minimal opacity from this operation. Additionally, daily visual observations required in Condition 4.A have shown no visual emissions. Therefore, a formal Method 9 test is unnecessary to demonstrate compliance with opacity limitations. Instead the annual visual observation suggested below would be sufficient.

Comment [TS14]: Daily visual observations for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. Therefore , daily visual observations are both unnecessary for this unit and are sometimes not possible (at night). An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity).

Comment [TS15]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU09. Therefore, this reference is not necessary and can be removed.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU10 ~~(I02)~~ **Flashing Furnace System**

Description: Army Peculiar Equipment 2048, single chamber incinerator or equivalent
Capacity: 11,800 lb of munitions bodies/hr
Charge Rate: Approximately 86 grams of explosive/hr
Types of waste burned: Explosive residue on scrap metal
Control Equipment: Afterburner, Cyclone and Bag-house or equivalent
Date Installed: September 2006
Location: Building 275

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 59:020, New incinerators, applicable to each incinerator commenced on or after June 6, 1979.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:**
   A. The treatment of hazardous waste in the flashing furnace is prohibited.
   B. Operation of this unit is allowed when it is burning the types of waste specified in the description above.
   C. The maximum quantity of items flashed shall not exceed 12,300 tons per year.
   D. Refer to Section H for Alternate Operating Scenario.

2. **Emission Limitations:**
   A. Opacity and mass limits at the bag-house stack:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:020, § 3(1).
      (ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
      401 KAR 59:010, § 3(2).
      Compliance Demonstration Method:
      Refer to Specific Monitoring Requirements for compliance with Emission Limit A (i).
      Refer to Specific Control Equipment Operating Conditions for compliance with Emission Limit A (ii).
   ~~B. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (A).~~
   ~~C. Source wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (D).~~
   ~~D. Source wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (E).~~

Comment [TS16]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. ~~401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

3. Testing Requirements:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

~~A. Opacity of emissions shall be determined from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.~~

B. If the Division requires it, the owner or operator shall perform Reference Method 5 tests, or other methods approved by the Division, to determine the emission rate of particulate matter. [401 KAR 59:010, Section 4(1), Test Methods and Procedures]

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on an annual ~~daily~~ basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. The weight of munitions bodies processed and hours of operation shall be monitored monthly.

C. The types of waste burned shall be monitored monthly.

5. Specific Record Keeping Requirements:

A. A record of operation of the flashing furnace shall be maintained indicating the intervals in days the unit operated.

B. Monthly records of the weight of munition bodies (prior to flashing) processed and the hours of operation shall be maintained. Refer to Section D, D.3, D.5 and D.6.

C. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.

D. The results of ~~Method 9 readings~~ visual opacity observations shall be recorded, including the date and time of the reading.

E. Monthly records documenting the types of waste burned shall be maintained.

6. Specific Reporting Requirements:

None ~~Refer to Section F, F.6.~~

7. Specific Control Equipment Operating Conditions:

A. The cyclone and bag-house shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

B. Records regarding the maintenance and operation of the control equipment shall be maintained.

Comment [TS17]: Annual Method 9 observations conducted over the past several years have shown minimal opacity from this operation. Additionally, daily visual observations required in Condition 4.A have shown no visual emissions. Therefore, a formal Method 9 test is unnecessary to demonstrate compliance with opacity limitations. Instead the annual visual observation suggested below would be sufficient.

Comment [TS18]: Daily visual observations for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. Therefore , daily visual observations are both unnecessary for this unit and are sometimes not possible (at night). An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity).

Comment [TS19]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU10. Therefore, this reference is not necessary and can be removed.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU11 ~~**(K01)**~~ **Aircraft Surface Coating**

Description: Four applicators and a shot blast machine in a paint booth.
Cleanup solvent is VOC based.
Control Equipment: Fabric filter or equivalent
Control Efficiency: 90 percent
Date constructed: 1992
Location: Building 232

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:** The following limits shall apply to assure compliance with Emission Limitations C (ii) and D (ii).
   A. Filters shall be in place at all times during shot blasting operations.
   B. Filters shall be in place at all times during painting operations.
   C. Filters shall be replaced when determined to be inefficient (as determined through visual inspection).

2. **Emission Limitations:**
   ~~A. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
   ~~Refer to Section D, Compliance Demonstration Method (A).~~
   ~~B. HAP emissions shall not equal or exceed 9 tons per year of any single HAP or 22.5 tons per year of any combination of HAPs. These source wide limitations shall not be exceeded during any consecutive (12) month period.~~
   ~~Refer to Section D, Compliance Demonstration Methods (B) and (C).~~
   C. Opacity and mass limits apply during shot blasting operations:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:010, § 3 (1)(a).
      (ii) Particulate emissions shall not equal or exceed the emission rate determined by the following equation:
      E = 3.59 x (P)^(0.62)
      Where,
      E = Emission rate in pounds per hour.
      P = Process weight rate in tons per hour of plastic shot media.
      401 KAR 59:010, § 3(2).

Comment [TS20]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. Emission Limitations (Continued**):**

D. Opacity and mass limits apply during painting operations:
(i) Visible emissions shall not equal or exceed 20 percent opacity.
401 KAR 59:010, § 3 (1)(a).
(ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
401 KAR 59:010, § 3 (2).
Refer to Specific Monitoring Requirements for compliance with C (i) and D (i).
Refer to Specific Control Equipment Operating Conditions for Compliance with C (ii) and D (ii).

~~E. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

Comment [TS21]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

3. Testing Requirements:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on an annual ~~weekly~~ basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

Comment [TS22]: Weekly visual observations for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. Therefore , weekly visual observations are both unnecessary for this unit and are sometimes not possible (at night). An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity). Recordkeeping conditions should also be updated as appropriate.

B. The filters shall be visually inspected for solids build-up on days when the units are operating.

Comment [TS23]: Monitoring requirements for the existing paint booths (EU11 through EU15 and EU25) are not consistent with visual inspections of paint booth filters for solids build up required for some paint booths and daily filter pressure drop monitoring required for others. The visual inspections are the most effective way to ensure proper control of particulate emissions from the paint booths through replacement of filters when solids build up would clog the filters to the extent that their control effectiveness would be decreased. Because painting typically occurs at one location in the paint booth, the filter area directly behind this location becomes soiled needs to be replaced before other sections of the filter require replacement. Air can continue to flow effectively through the remaining filter area, so that the pressure drop measured at the paint booths remains within ranges that would indicate that the filter is operating properly. In fact, operators frequently use visual inspections to determine that filters require replacement when the pressure drop continues to indicate that the filters are unclogged. Therefore, we request that pressure drop monitoring be removed from the permit for these emission units, as it is not used by operators to ensure that paint booth filters are operating properly, and that daily visual inspections be required instead.

~~C. The filter pressure drop shall be monitored daily on days when the unit is operating.~~

5. Specific Record Keeping Requirements:

A. A record of operation of the booth shall be maintained indicating the intervals in days the unit operated.
B. The permittee shall maintain monthly records of the usage of the paints and solvents or any VOC/HAP containing material. Refer to Section D, D.3 and D.4.
C. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.
D. ~~Method 9 readings~~ Visual opacity observations shall be recorded, including the date and time of the reading.
E. The visual inspection of filters shall be recorded daily on days when the booths are operating.

~~F. The fabric filter pressure drop shall be recorded daily on days when the unit is operating.~~

6. Specific Reporting Requirements:

The permittee shall submit an emissions calculation worksheet, which utilizes product specific emission factors. These worksheets shall be submitted as a hardcopy and shall serve as the method of determining compliance with the source wide limitations for HAP and VOC emissions. Refer to Section F, F.6.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

7. Specific Control Equipment Operating Conditions:
Exhaust filters shall be in place at all times when the booth is operating and shall be changed as needed to comply with the emission limitations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU12 ~~(K02)~~ **Munitions Surface Coating**
Description: Two paint booths (~~K02~~ ~~550~~ EU12-1, ~~K02~~ ~~550~~ EU12-2), one (1) paint gun per booth.
Cleanup solvent is water based.
Control Equipment: Dry Filter Media or equivalent primary and secondary filters.
Control Efficiency: 90 percent
Construction Date: 2005
Location: Building 550

Comment [TS24]: These paint booth IDs were based on emission unit IDs used in previous permits and can be removed. These IDs have no significance for BGAD and the permit would be simpler with consistent IDs for emission units and their associated paint booths.

EU13 ~~(K03)~~ **Munitions Surface Coating**
Descriptions: Four paint booths (EU13-1, EU13-2, EU13-3, one paint gun per booth) & (EU13-4 & 5, one booth with two paint guns)
Cleanup Solvent is water and oil based.
Control Equipment: Dry Filter Media or equivalent primary and secondary filters
Control Efficiency: 90 percent
Construction Date: Prior to 1980
Location: Building 555

Comment [TS25]: Munitions surface coating operations at BGAD (EU12 through EU15) all have identical regulatory applicability requirements. Therefore, to make the permit simpler and to ease administrate burden for BGAD staff when completing compliance certification reports, we request that the four current sections in Section B of the Title V be combined into a single section.

EU14 ~~(K04)~~ **Munitions Surface Coating**
Description: Four paint booths (EU14-1, EU14-2, EU14-3 & EU14-4), one paint gun per booth.
Cleanup solvent is water based.
Control Equipment: Dry filter media or equivalent primary and secondary filters
Control Efficiency: 90 percent
Construction Date: 1970
Location: Building 562

EU15 ~~(K05)~~ **Munitions Surface Coating**
Description: Three paint booths (EU15-1A, EU15-1B, EU15-2 and EU15-3), two paint guns in booth 1, one paint gun in booth 2 and one paint gun in booth 3.
Cleanup solvent is VOC based.
Control Equipment: Dry Media or equivalent primary and secondary filters
Control Efficiency: 90 percent
Construction Date: 2006
Location: Building 1180

EU25 **MRAP Surface Coating**
Description: One paint booth (EU25-1), one paint gun.
Cleanup solvent is VOC based.
Control Equipment: Dry Media or equivalent primary and secondary filters
Control Efficiency: 90 percent
Construction Date: 2008
Location: Building 216

Comment [TS26]: BGAD notified KDAQ that a new paint booth would be added to supplement MRAP operations in Building 216 through a May 12, 2008 off permit change notification. This operation has been identified as EU25 in BGAD's 2008 and 2009 KyEIS reports and should be added to Section B of the permit. Regulatory applicability for this emission unit is identical to that outlined in Section B of the permit for existing surface coating operations (EU12 through EU15); therefore, this emission unit should be added to this section of the permit.

APPLICABLE REGULATION:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:** The following limits shall apply to assure compliance with Emission Limitation C (ii).
   A. Filters shall be in place at all times during paint application.
   B. Filters shall be replaced when determined to be inefficient (as determined through visual inspection).

2. **Emission Limitations:**
   ~~A. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
   ~~Refer to Section D, Compliance Demonstration Method (A).~~
   ~~B. HAP emissions shall not equal or exceed 9 tons per year of any single HAP or 22.5 tons per year of any combination of HAPs. These source wide limitations shall not be exceeded during any consecutive twelve (12) month period.~~
   ~~Refer to Section D, Compliance Demonstration Method (B).~~
   C. Opacity and mass limits apply during painting operations:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:010, § 3 (1)(a).
      (ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
      401 KAR 59:010, § 3 (2).
      Refer to Specific Monitoring Requirements for compliance with C (i).
      Refer to Specific Control Equipment Operating Conditions for compliance with C (ii).
   D. ~~401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

Comment [TS27]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on an annual ~~weekly~~ basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. The filters shall be visually inspected for solids build-up on days when the units are operating.

~~C. The filter pressure drop for each booth shall be monitored daily on days when the unit is operating.~~

5. Specific Record Keeping Requirements:

A. A record of operation of the booths shall be maintained indicating the intervals in days the unit operated.

B. The permittee shall maintain monthly records of the usage of the paints and solvents or any VOC/HAP containing material. Refer to Section D.3 and D.4.

C. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.

D. ~~Method 9 readings~~ Visual opacity observations shall be recorded, including the date and time of the reading.

E. The visual inspection of filters shall be recorded daily on days when the booths are operating.

~~F. The filter pressure drop for each booth shall be recorded daily on days when the unit is operating.~~

6. Specific Reporting Requirements:

The permittee shall submit an emissions calculation worksheet, which utilizes product specific emission factors. These worksheets shall be submitted as a hardcopy and shall serve as the method of determining compliance with source wide limitations for HAP and VOC emissions. Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:

Exhaust filters shall be in place at all times when a booth is operating and shall be changed as needed to comply with the emission limitations.

Comment [TS28]: Weekly visual observations for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. Therefore , weekly visual observations are both unnecessary for this unit and are sometimes not possible (at night). An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity). Recordkeeping conditions should also be updated as appropriate.

Comment [TS29]: Monitoring requirements for the existing paint booths (EU11 through EU15 and EU25) are not consistent with visual inspections of paint booth filters for solids build up required for some paint booths and daily filter pressure drop monitoring required for others. The visual inspections are the most effective way to ensure proper control of particulate emissions from the paint booths through replacement of filters when solids build up would clog the filters to the extent that their control effectiveness would be decreased. Because painting typically occurs at one location in the paint booth, the filter area directly behind this location becomes soiled needs to be replaced before other sections of the filter require replacement. Air can continue to flow effectively through the remaining filter area, so that the pressure drop measured at the paint booths remains within ranges that would indicate that the filter is operating properly. In fact, operators frequently use visual inspections to determine that filters require replacement when the pressure drop continues to indicate that the filters are unclogged. Therefore, we request that pressure drop monitoring be removed from the permit for these emission units, as it is not used by operators to ensure that paint booth filters are operating properly, and that daily visual inspections be required instead.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU13 (K03) Munitions Surface Coating
Descriptions: Four paint booths (K03-555-1, K03-555-2, K03-555-3, one paint gun per booth) & (K03-555-4 & 5, one booth with two paint guns)
Cleanup Solvent is water and oil based.
Control Equipment: Dry Filter Media – primary and secondary filters
Control Efficiency: 90 percent
Construction Date: Prior to 1980
Location: Building 555

Comment [TS30]: Munitions surface coating operations at BGAD (EU12 through EU15) all have identical regulatory applicability requirements. Therefore, to make the permit simpler and to ease administrate burden for BGAD staff when completing compliance certification reports, we request that the four current sections in Section B of the Title V be combined into a single section.

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:** The following limits shall apply to assure compliance with Emission Limitation C (ii).
   A. Filters shall be in place at all times during paint application.
   B. Filters shall be replaced when determined to be inefficient (as determined through visual inspection).

2. **Emission Limitations:**
   A. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
      Refer to Section D, Compliance Demonstration Method (A).
   B. HAP emissions shall not equal or exceed 9 tons per year of any single HAP or 22.5 tons per year of any combination of HAPs. These source-wide limitations shall not be exceeded during any twelve (12) consecutive month period.
      Refer to Section D, Compliance Demonstration Method (B).
   C. Opacity and mass limits apply during painting operations:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
         401 KAR 59:010, § 3 (1)(a).
      (ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
         401 KAR 59:010, § 3 (2).
      Refer to Specific Monitoring Requirements for compliance with C (i).
      Refer to Specific Control Equipment Operating Conditions for compliance with C (ii).
   D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on a weekly basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. The filters for booths 555-1, 555-2 and 555-3 shall be visually inspected for solids build-up on days when the booths are operating.

C. The filter pressure drop for booth 555-4 & 5 shall be monitored daily on days when the booth is operating.

5. Specific Record Keeping Requirements:

A. The permittee shall maintain monthly records of the usage of the paints and solvents or any VOC/HAP containing material. Refer to Section D, D.3 and D.4.

B. A record of operation of the booths shall be maintained indicating the intervals in days the unit operated.

C. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.

D. Method 9 readings shall be recorded, including the date and time of the reading.

E. The visual inspection of filters for booths 555-1, 555-2 and 555-3 shall be recorded daily on days when the booths are operating.

F. The filter pressure drop for booth 555-4 & 5 shall be recorded daily on days when the booth is operating.

6. Specific Reporting Requirements:

The permittee shall submit an emissions calculation worksheet, which utilizes product specific emission factors. These worksheets shall be submitted as a hardcopy and shall serve as the method of determining compliance with source wide limitations for HAP and VOC emissions. Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:

Exhaust filters shall be in place at all times when a booth is operating and shall be changed as needed to comply with the emission limitations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU14 (K04) Munitions Surface Coating

Description: Four paint booths (K04-562-1, K04-562-2, K04-562-3 & K04-562-4), one paint gun per booth.
Cleanup solvent is water based.
Control Equipment: Dry filter media - primary and secondary filters
Control Efficiency: 90 percent
Construction Date: 1970
Location: Building 562

Comment [TS31]: Munitions surface coating operations at BGAD (EU12 through EU15) all have identical regulatory applicability requirements. Therefore, to make the permit simpler and to ease administrate burden for BGAD staff when completing compliance certification reports, we request that the four current sections in Section B of the Title V be combined into a single section.

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:** The following limits shall apply to assure compliance with Emission Limitation C (ii).
   A. Filters shall be in place at all times during paint application.
   B. Filters shall be replaced when determined to be inefficient (as determined through visual inspection).

2. **Emission Limitations:**
   A. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
      Refer to Section D, Compliance Demonstration Method (A).
   B. HAP emissions shall not equal or exceed 9 tons per year of any single HAP or 22.5 tons per year of any combination of HAPs. These source wide limitations shall not be exceeded during any consecutive twelve (12) month period.
      Refer to Section D, Compliance Demonstration Method (B).
   C. Opacity and mass limits apply during painting operations:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:010, § 3 (1)(a).
      (ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
      401 KAR 59:010, § 3(2).
      Refer to Specific Monitoring Requirements for compliance with C (i).
      Refer to Specific Control Equipment Operating Conditions for compliance with C (ii).
   D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on a weekly basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. The filters shall be visually inspected for solids build up on days when the units are operating.

5. Specific Record Keeping Requirements:

A. The permittee shall maintain monthly records of the usage of the paints and solvents or any VOC/HAP containing material. Refer to Sections D.3 and D.4.

B. A record of operation of the booths shall be maintained indicating the intervals in days the unit operated.

C. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.

D. Method 9 readings shall be recorded including the date and time of the reading.

E. The visual inspection of the filters shall be recorded daily on days when the booths are operating.

6. Specific Reporting Requirements:

The permittee shall submit an emissions calculation worksheet, which utilizes product specific emission factors. These worksheets shall be submitted as a hardcopy and shall serve as the method of determining compliance with the source wide limitations for HAP and VOC emissions. Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:

Exhaust filters shall be in place at all times when a booth is operating and shall be changed as needed to comply with the emission limitations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU15 (K05) Munitions Surface Coating

Description: Three paint booths (K05-1180-1A, K05-1180-1B, K05-1180-2 and K05-1180-3), two paint guns in booth 1, one paint gun in booth 2 and one paint gun in booth 3.
Cleanup solvent is VOC based.
Control Equipment: Dry Media primary and secondary filters
Control Efficiency: 90 percent
Construction Date: 2006
Location: Building 1180

Comment [TS32]: Munitions surface coating operations at BGAD (EU12 through EU15) all have identical regulatory applicability requirements. Therefore, to make the permit simpler and to ease administrate burden for BGAD staff when completing compliance certification reports, we request that the four current sections in Section B of the Title V be combined into a single section.

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:** The following limits shall apply to assure compliance with Emission Limitation C (ii).
   A. Filters shall be in place at all times during paint application.
   B. Filters shall be replaced when determined to be inefficient (as determined through visual inspection).

2. **Emission Limitations:**
   A. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
      Refer to Section D, Compliance Demonstration Method (A).
   B. HAP emissions shall not equal or exceed 9 tons per year for any single HAP or 22.5 tons per year of any combination of HAPs. These source-wide limitations shall not be exceeded during any consecutive twelve (12) month period.
   C. Opacity and mass limits apply during painting operations:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:010, § 3 (1)(a).
      (ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
      401 KAR 59:010, § 3 (2).
      Refer to Specific Monitoring Requirements for compliance with C (i).
      Refer to Specific Control Equipment Operating Conditions for compliance with C (ii).
   D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on a weekly basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. The filter pressure drop shall be monitored daily on days when the booths are operating.

5. Specific Record Keeping Requirements:

A. The permittee shall maintain monthly records of the usage of the paints and solvents or any VOC/HAP containing material. Refer to Section D.3 and D.4.

B. A record of operation of the paint booths shall be maintained indicating the intervals in days the unit operated.

C. Corrective actions taken as a result of seeing visible emissions shall be recorded, including date and time of the corrective action.

D. Method 9 readings shall be recorded, including date and time of the reading.

E. The filter pressure drop shall be recorded daily on days when the booths are operating.

6. Specific Reporting Requirements:

The permittee shall submit an emissions calculation worksheet, which utilizes product specific emission factors. These worksheets shall be submitted as a hardcopy and shall serve as the method of determining compliance with the source wide limitations for HAP and VOC emissions. Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:

Exhaust filters shall be in place at all times when a booth is operating and shall be changed as need to comply with the emission limitations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU16 ~~**(P18)**~~ **Detonation Chamber:**
Equipment includes: Blast/detonation chamber and expansion chamber equipped with a cartridge filter unit or equivalent.
Control Efficiency: 99.9 percent
Date Constructed: May 1999
Location: Building 280

Maximum Material Process Rates:
Water: 300 lb/hour
Metal: 6000 lb/hour
Explosive: 300 lb/hour

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:**
   The usage rate of raw materials used in the detonation chamber shall be limited so that the emission limitations set forth in item 2, below are not exceeded.

2. **Emission Limitations:**
   A. Particulate emissions shall not equal or exceed the emission rate determined by the following equation:
      E = 3.59 x (P)^(0.62)
      Where,
      E = Emission rate in pounds per hour.
      P = Process input weight rate in tons per hour of explosive into the detonation chamber.
      401 KAR 59:010, § 3(2).
   B. Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:010, § 3(1)(a).
      Compliance Demonstration Method: Refer to Monitoring and Record Keeping Requirements.
   ~~C. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (A).~~
   ~~D. Source wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (D).~~
   ~~E. Source wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (E).~~
   ~~F. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

Comment [TS33]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Testing Requirements:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4. ~~Opacity of emissions from the stack shall be determined by EPA Reference Method 9 annually, or more frequently if requested by the Division.~~

4. Specific Monitoring Requirements:

A. A qualitative visual observation of the opacity of emissions from the stack shall be performed on an annual ~~weekly~~ basis and a log of observations maintained. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. The processing rates and hours of operation shall be monitored on a daily basis on days when the unit is operating.

C. The cartridge filter house pressure drop shall be monitored on a daily basis on days when the unit is operating.

5. Specific Record Keeping Requirements:

A. A record of operation of the detonation chamber shall be maintained indicating the intervals in days the unit operated.

B. Records documenting the results of each opacity reading by visual observation ~~EPA Reference Method 9~~ shall be maintained.

C. The processing rates and hours of operation shall be recorded on a daily on days the unit operates.

D. Refer to Section D, D.3, D.5 and D.6.

E. Corrective actions taken as a result of seeing visible emissions shall be recorded including the date and time of corrective action.

~~F. Method 9 readings shall be recorded including date and time of the reading.~~

G. The cartridge filter house pressure drop shall be recorded on a daily basis on days the unit is operating.

6. Specific Reporting Requirements:

None ~~Refer to Section F, F.6.~~

7. Specific Control Equipment Operating Conditions:

A. The filter unit shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.

B. Records regarding the maintenance and operation of the control equipment shall be maintained.

Comment [TS34]: Weekly visual observations for the past several years have all shown no visible emissions. Therefore, as suggested below, an annual visual observation would be sufficient to ensure compliance with opacity limitations.

Comment [TS35]: Weekly visual observations for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. Therefore , weekly visual observations are both unnecessary for this unit and are sometimes not possible (at night). An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity). Recordkeeping conditions should also be updated as appropriate.

Comment [TS36]: This condition is redundant with Condition B.5.B above.

Comment [TS37]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU16. Therefore, this reference is not necessary and can be removed.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU17 ~~**(P01)**~~ **Shot Blasting of Munitions**
Process Equipment: Wheelabrator or equivalent
Control Equipment: ~~Bag House~~ Cartridge Filter or equivalent
Control Efficiency: 99.9 percent
Date Installed: 1960
Location: Building 1180

Comment [TS38]: Emission unit EU17 is a Wheelabrator shot blaster used for the shot blasting of munitions at Building 1180. A bag house is listed in the Title V permit as the control device associated with this emission unit. However, the bag house was replaced in September 2007 with a cartridge filter type control device that continues to provide at least 99.9% control efficiency for PM. The description of the control equipment associated with EU17 should be updated here.

APPLICABLE REGULATION:
401 KAR 61:020, Existing process operations applicable to each emission unit which commenced construction before July 2, 1975.

1. **Operating Limitations:** The usage rate of raw materials used in the shot blaster shall be limited so that the emission limitations set forth in item 2, below, are not exceeded.

2. **Emission Limitations:**
   Opacity and mass limits apply during shot blasting operations:
   (i) Visible emissions shall not equal or exceed 40 percent opacity.
   401 KAR 61:020, § 3 (1)(a).
   (ii) Particulate emissions shall not equal or exceed the emission rate determined by the following equation:
   E = [55 x (P)^(0.11)] – 40
   Where,
   E = Emission rate in pounds per hour.
   P = Process input weight rate in tons per hour of steel shot media.
   401 KAR 61:020, § 3(2).
   Compliance Demonstration Method: Refer to Monitoring and Record Keeping Requirements

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 61:005, § 2(2) and 50:045, § 4. In addition, once a calendar year, ~~EPA Reference Method 9 or equivalent reading~~ qualitative visual opacity observations shall be performed.

Comment [TS39]: Annual Method 9 tests for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity). Recordkeeping conditions should also be updated as appropriate.

4. **Specific Monitoring Requirements:**
   The bag house pressure drop shall be monitored daily during shot blasting operations.

5. **Specific Record Keeping Requirements:**
   A. A record of operation of the shot blasting unit shall be maintained indicating the intervals in days the unit operated.
   B. Records documenting the results of each opacity reading by qualitative visual opacity observations ~~EPA Reference Method 9~~ shall be maintained.
   C. Records documenting the results of any required inspection and repair, as a result of a recorded opacity over 40 percent shall be maintained.
   D. The permittee shall record bag house pressure drop daily on days when the unit is operating.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
The bag house shall be maintained and operated in accordance with manufacturer's recommendations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU18 ~~(P02)~~ **Shot Blasting of Munitions**
Process Equipment: Wheelabrator or equivalent
Control Equipment: Bag House or equivalent
Control Efficiency: 99.9 percent
Date installed: After July 2, 1975
Location: Building 562

EU19 ~~(P03)~~ **Shot Blasting of Munitions**
Process Equipment: Disa Goff, Inc. Model BC4-20 or equivalent
Control Equipment: Cartridge Collector or equivalent
Control Efficiency: 99.9 percent
Date Installed: 2004
Location: Building 550

Comment [TS40]: New shot blasting operations at BGAD (EU18 and EU19) have identical regulatory applicability requirements. Therefore, to make the permit simpler and to ease administrate burden for BGAD staff when completing compliance certification reports, we request that these two current sections in Section B of the Title V be combined into a single section.

APPLICABLE REGULATION:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

1. **Operating Limitations:** The usage rate of raw materials used in the shot blaster shall be limited so that the emission limitations set forth in item 2, below, are not exceeded.

2. **Emission Limitations:**
Opacity and mass limits apply during shot blasting operations:
(i) Visible emissions shall not equal or exceed 20 percent opacity.
401 KAR 59:010, § 3 (1)(a)
(ii) Particulate emissions shall not equal or exceed the emission rate determined by the following equation:
E = 17.3 x (P)^(0.16)
Where,
E = Emission rate in pounds per hour.
P = Process input weight rate in tons per hour of steel shot media.
401 KAR 59:010, § 3(2).
Compliance Demonstration Method: Refer to Monitoring and Record Keeping Requirements

3. **Testing Requirements:**
Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4. In addition, once a calendar year, ~~EPA Reference Method 9 or equivalent reading~~ qualitative visual opacity observations shall be performed.

Comment [TS41]: Annual Method 9 tests for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity). Recordkeeping conditions should also be updated as appropriate.

4. **Specific Monitoring Requirements:**
The bag house shall be inspected daily during shot blasting operations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

5. Specific Record Keeping Requirements:

A. A record of operation of the shot blasting unit shall be maintained indicating the intervals in days the unit operated.

B. Records documenting the results of each opacity reading by qualitative visual opacity observations ~~EPA Reference Method 9~~ shall be maintained.

C. Records documenting the results of any required inspection and repair, as a result of a recorded opacity over 20 percent shall be maintained.

D. The bag house visual inspection shall be recorded daily on days when the unit is operating.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

The bag house shall be maintained and operated in accordance with manufacturer's recommendations.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU19 (P03) Shot Blasting of Munitions
Process Equipment: Disa Goff, Inc. Model BC4-20
Control Equipment: Cartridge Collector
Control Efficiency: 99.9 percent
Date Installed: 2004
Location: Building 550

APPLICABLE REGULATION:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

1. **Operating Limitations:** The usage rate of raw materials used in the shot blaster shall be limited so that the emission limitations set forth in item 2, below are not exceeded.

2. **Emission Limitations:**
Opacity and mass limits apply during shot blasting operations:
(i) Visible emissions shall not equal or exceed 20 percent opacity.
401 KAR 59:010, § 3 (1)(a).
(ii) Particulate emissions shall not equal or exceed the emission rate determined by the following equation:
E = 17.31 x (P)^(0.16)
Where,
E = Emission rate in pounds per hour.
P = Process input weight rate in tons per hour of steel shot media.
401 KAR 59:010, § 3(2).
Compliance Demonstration Method: Refer to Monitoring and Record Keeping Requirements

3. **Testing Requirements:** Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4. In addition, once a calendar year, EPA Reference Method 9 or equivalent reading shall be performed.

4. **Specific Monitoring Requirements:**
The cartridge filter house pressure drop shall be monitored daily during shot blasting operations.

5. **Specific Record Keeping Requirements:**
A. A record of operation of the shot blasting unit shall be maintained indicating the intervals in days the unit operated.
B. Records documenting the results of each opacity reading by EPA Reference Method 9 shall be maintained.
C. Records documenting the results of any required inspection and repair, as a result of recorded opacity over 20 percent shall be maintained.
D. The cartridge filter house pressure drop shall be recorded daily on days when the unit is operating.

Comment [TS42]: New shot blasting operations at BGAD (EU18 and EU19) have identical regulatory applicability requirements. Therefore, to make the permit simpler and to ease administrate burden for BGAD staff when completing compliance certification reports, we request that these two current sections in Section B of the Title V be combined into a single section.

~~**SECTION B – EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)**~~

~~**6. Specific Reporting Requirements:** None~~

~~**7. Specific Control Equipment Operating Conditions:**~~
~~Filter houses shall be maintained and operated in accordance with manufacturer's recommendations.~~

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU20 (P04) Shot Blasting of Munitions
Process Equipment: APE 1029 Jet Wheelblast Model PB-18
Control Equipment: Bag House
Control Efficiency: 99.9 percent
Date Installed: 1990
Location: Building 555

APPLICABLE REGULATION:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

1. **Operating Limitations:** The usage rate of raw materials used in the shot blaster shall be limited so that the emission limitations set forth in item 2, below, are not exceeded.

2. **Emission Limitations:**
Opacity and mass limits apply during shot blasting operations:
(i) Visible emissions shall not equal or exceed 20 percent opacity.
401 KAR 59:010, § 3 (1)(a).
(ii) Particulate emissions shall not equal or exceed the emission rate determined by the following equation:
E = 17.31 x (P)^(0.16)
Where,
E = Emission rate in pounds per hour.
P = Process input weight rate in tons per hour of steel shot media.
401 KAR 59:010, § 3 (2).
Compliance Demonstration Method: Refer to Monitoring and Record Keeping Requirements

3. **Testing Requirements:** Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4. In addition, once a calendar year, EPA Reference Method 9 or equivalent reading shall be performed.

4. **Specific Monitoring Requirements:**
Daily visual inspection of the bag house shall be conducted on days when the unit is in operation.

5. **Specific Record Keeping Requirements:**
A. A record of operation of the shot blasting unit shall be maintained indicating the intervals in days the unit operated.
B. Records documenting the results of each opacity reading by EPA Reference Method 9 shall be maintained.
C. Records documenting the results of any required inspection and repair, as a result of a recorded opacity over 20 percent shall be maintained.
D. The bag house visual inspection shall be recorded daily on days when the unit is operating.

Comment [TS43]: The current Title V permit for BGAD includes a munitions shot blasting unit located in Building 555, identified as EU20. This unit has been removed from the facility and should therefore be removed from the permit.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

~~**6. Specific Reporting Requirements:** None~~

~~**7. Specific Control Equipment Operating Conditions:**~~
~~Bag houses shall be maintained and operated in accordance with manufacturer's recommendations.~~

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU21 **Natural Gas Fired Indirect Heat Exchangers ranging between >1 and <5 MMBTU/hr x 14~~17~~ units**
Date Constructed: Approximately 1979

Comment [TS44]: BGAD notified KDAQ of the removal of three natural gas-fired boilers from the facility in an October 8, 2008 letter. These three boilers were EU21-13, IA9, and IA11 and were gradually replaced with electrical heat pump and HVAC installation, as part of the Energy Conservation Investment Program (ECIP). After submittal of the October 8 letter, BGAD has also removed two boilers from Building 215 (EU21-14 and EU21-15). These five boilers should be removed from the facility's permit.

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
1	Boiler	Building 556	4.24MMBTU/hr NG Boiler	401 KAR 59:015
2	Boiler	Building 214	4.2MMBTU/hr NG Boiler	401 KAR 59:015
3	Boiler	Building 1181	5.24MMBTU/hr NG Boiler	401 KAR 59:015
4	Boiler	Building S-9	3.1MMBTU/hr NG Boiler	401 KAR 59:015
5	Boiler	Building S-11	3.1MMBTU/hr NG Boiler	401 KAR 59:015
6	Boiler	Building 551	2.6MMBTU/hr NG Boiler	401 KAR 59:015
7	Boiler	Building S-17	2.5MMBTU/hr NG Boiler	401 KAR 59:015
8	Boiler	Building 1169	2.34MMBTU/hr NG Boiler	401 KAR 59:015
9	Boiler	Building 220	2.2MMBTU/hr NG Boiler	401 KAR 59:015
10	Boiler	Building 1661	2.05MMBTU/hr NG Boiler	401 KAR 59:015
11	Boiler	Building 1137	1.9MMBTU/hr NG Boiler	401 KAR 59:015
12	Boiler	Building 562	1.7MMBTU/hr NG Boiler	401 KAR 59:015
~~13~~	~~Boiler~~	~~Building 560~~	~~1.7MMBTU/hr NG Boiler~~	~~401 KAR 59:015~~
~~14~~	~~Boiler~~	~~Building 215~~	~~1.7MMBTU/hr NG Boiler~~	~~401 KAR 59:015~~
~~15~~	~~Boiler~~	~~Building 215~~	~~1.7MMBTU/hr NG Boiler~~	~~401 KAR 59:015~~
16	Boiler	Building S-15	1.36MMBTU/hr NG Boiler	401 KAR 59:015
17	Boiler	Building 1170	1.36MMBTU/hr NG Boiler	401 KAR 59:015

APPLICABLE REGULATION:
Regulation 401 KAR 59:015, New Indirect Heat Exchangers applicable to an emission unit with a capacity less than 250 MMBTU per hour and commenced on or after April 9, 1972.

1. **Operating Limitations: Total Heat Input for Units 1 – 14 ~~17~~:** 37.9~~42.99~~ MMBTU/HR
   Compliance Demonstration Method: The unit shall be deemed to be in compliance when the unit is burning natural gas.

Comment [TS45]: The total heat input rating for EU21 should be updated to reflect the removal of three boilers, as mentioned in the previous comment.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

2. Emission Limitations:

A. i) Particulate emissions shall not exceed 0.40 lb/MMBTU

ii) Sulfur dioxide emissions shall not exceed 1.65 lb/MMBTU

iii) Visible emissions shall not exceed 20% opacity

Compliance Demonstration Method:
Compliance is assured when the units are burning natural gas.

~~B. Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
~~Refer to Section D, Compliance Demonstration Method (A).~~
~~C. Source wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
~~Refer to Section D, Compliance Demonstration Method (D).~~
~~D. Source wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
~~Refer to Section D, Compliance Demonstration Method (E).~~

Comment [TS46]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

3. Testing Requirements:
Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.

4. Specific Monitoring Requirements:
Monthly monitoring of the volume of natural gas burned shall be required.

5. Specific Record Keeping Requirements:
The permittee shall keep monthly records of the volume of natural gas burned. Refer to Section D, D.3, D.5 and D.6.

6. Specific Reporting Requirements: None ~~Refer to Section F, F.6.~~

Comment [TS47]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU21. Therefore, this reference is not necessary and can be removed.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

EU22 Waste Military Munitions Treatment (including propellants and explosives) by Open Detonation and Open Burning

APPLICABLE REGULATIONS:
401 KAR 63:005, Open Burning
401 KAR 63:010, Fugitive Emissions
401 KAR 63:020, Potentially Hazardous Matter and Toxic Substance Emissions

1. **Operating Limitations:**
   A. 401 KAR 63:005, § 4(5), open burning of waste military munitions shall only be conducted under the following circumstances:
      i. An immediate threat to life, health, or Government property exists; and
      ii. For the disposal of potentially unstable munitions in a configuration known to be capable of self-ignition
   B. 401 KAR 63:010, § 3(2), no person shall cause or permit the discharge of visible fugitive dust emissions beyond the lot line of the property on which the emissions originate.
   C. 401 KAR 63:020, § 3, no owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants.

2. **Emission Limitations:** None
~~401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

Comment [TS48]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

3. **Testing Requirements:** None

4. **Specific Monitoring Requirements:**
   A. The net explosive weight of waste military munitions processed by open detonation shall be monitored. Net explosive weight is defined as the weight of explosive or propellant fill that is wholly contained in metal (i.e., brass aluminum, or steel), non-metallic (e.g., plastic or fiberglass) or composite casings.
   B. The net explosive weight of waste military munitions processed by open burning shall be monitored.

5. **Specific Record Keeping Requirements:**
   A. Annual records of the net explosive weight of waste military munitions processed shall be maintained separately for open burning and open detonation.
   B. A record of days that open burning occurred shall be maintained indicating the intervals in days the open burning of waste military munitions took place.
   C. Records of the net explosive weight of waste military munitions processed shall be maintained for each day of open burning operation. The records shall include the rationale for disposal that meets the criteria specified in Operating Limitation A.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Reporting Requirements:

Reports shall be submitted annually July 30th, on a calendar year basis, to the Frankfort Regional Office summarizing the open burning and open detonation records.

7. Specific Control Equipment Operating Conditions: None

8. Alternate Operating Scenarios: None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

ID	Description	Horsepower	Fuel	Date Installed
EU23 ( )	Wood Grinder - Duratech HD-12 Industrial Tub Grinder, Model No. 3408C, Year: 1997	535	Diesel	2007

Comment [TS49]: As discussed in Section 4.3 of this application, several internal combustion engines listed as significant activities in Section B of BGAD's current Title V permit are not stationary sources, but are rather portable sources of emissions, and should not be regulated under the Title V permit for BGAD. The engines currently listed as EU02 through EU08 and EU23 are all classified as non-road engines, as defined in 40 CFR 1068.30. Therefore, these sections should be removed from BGAD's renewed Title V permit.

APPLICABLE REGULATION:
401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. Operating Limitations:
None

2. Emission Limitations:
A. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (A).
B. Source-wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (D).
C. Source-wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.
Refer to Section D, Compliance Demonstration Method (E).
D. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

5. Specific Record Keeping Requirements:
Monthly records of the volume of diesel fuel burned shall be maintained. Refer to Section D, D.3, D.5 and D.6.

6. Specific Reporting Requirements:
Refer to Section F, F.6.

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 24 ~~(-)~~ Industrial Supercritical Water Oxidation (i-SCWO) System

Description: Major components include i-SCWO reactor, natural gas-fired preheater, NaOH feed drum, quench pump and low pressure gas/liquid separator. Refer to Insignificant Activities List for storage tanks.

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

Regulation 401 KAR 59:015, New Indirect Heat Exchangers applicable to an emission unit (natural gas-fired preheater) with a capacity less than 250 MMBTU per hour and commenced on or after April 9, 1972.

Comment [TS50]: The iSCWO natural gas-fired preheater has a heat input rating of 29.4 MMBtu/hr, which makes it subject to the requirements of 401 KAR 59:015. These requirements should be added to the permit.

1. **Operating Limitations:** None

2. **Emission Limitations:**
   A. There shall be no visible emissions greater than or equal to 20% opacity. [401 KAR 59:010 Section 3(1)(a), Standards for Particulate Matter]
   B. Emissions of particulate matter shall not exceed 2.34 lbs/hr. [401 KAR 59:010, Section 3(2)]
   C. i) Particulate emissions from the preheater shall not exceed 0.43 lb/MMBTU.
      ii) Sulfur dioxide emissions from the preheater shall not exceed 1.93 lb/MMBTU.
      iii) Visible emissions from the preheater shall not exceed 20% opacity.

Compliance Demonstration Method:

A. Opacity Standard:
For compliance with the opacity standard, the permittee shall perform a qualitative visual observation of the opacity of emissions at each stack no less than daily and maintain a log of the observations. If visible emissions from the stacks are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. Mass Standard:
For compliance with the mass standard, the permittee shall conduct a stack test to determine the concentration of particulate matter in the i-SCWO vent effluent. Refer to **Testing Requirements**.

C. Preheater Emission Standards:
Compliance is assured when the units are burning natural gas.

D. ~~Source wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.Refer to **Testing Requirements**.~~

Comment [TS51]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

~~E. Source wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period. Refer to **Testing Requirements**.~~

~~F. Source wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period. Refer to **Testing Requirements**.~~

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

3. Testing Requirements:

A. The permittee shall perform Reference Method 5 tests, or other methods approved by the Division, to determine the emission rate of particulate matter from the i-SCWO vent no later than 180 days from the startup date of the unit. [401 KAR 59:010, Section 4(1), Test Methods and Procedures]

B. The permittee shall perform Reference Method 7 tests, or other methods approved by the Division, to determine the emission rate of nitrogen oxides from the i-SCWO vent no later than 180 days from the startup date of the unit. [401 KAR 50:045, Section 1]

C. The permittee shall perform Reference Method 10 tests, or other methods approved by the Division, to determine the emission rate of carbon monoxide from the i-SCWO vent no later than 180 days from the startup date of the unit. [401 KAR 50:045, Section1]

D. The permittee shall perform Reference Method 25 tests, or other methods approved by the Division, to determine the emission rate of volatile organic compounds from the i-SCWO vent no later than 180 days from the startup date of the unit. [401 KAR 50:045, Section 1]

4. Specific Monitoring Requirements:

A. The permittee shall monitor visible emissions daily as described in Compliance Demonstration Method 1 above.

B. The permittee shall monitor the hours of operation of the i-SCWO system monthly.

5. Specific Recordkeeping Requirements:

A. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.

B. Method 9 readings shall be recorded including the date and time of the reading.

C. Monthly records of the hours of operation of iSCWO system shall be maintained.

D. Annual records of natural gas usage shall be maintained.

6. Specific Reporting Requirements:

None ~~Refer to Section F, F.6.~~

7. Specific Control Equipment Operating Conditions: N/A

Comment [TS52]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU24. Therefore, this reference is not necessary and can be removed.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 26 Building 232 Iridite Dip Tank Plating Operation

Description: Iridite Dip Tank and Isoprep Dip Tank.
Date Installed: 1992

Comment [TS53]: As discussed in Section 2.2 of this application, an Iridite Dip Tank Plating Operation has been operated in Building 232 since 1992 and has been treated as an insignificant activity in previous revisions to this permit. This operation recently became submit to NESHAP Subpart WWWWWW and therefore should now be listed in Section B of the renewed permit.

APPLICABLE REGULATIONS:
401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

40 CFR 63, Subpart WWWWWW – National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations are applicable to the non-electrolytic chromate conversion coating process (EU26).

1. **Operating Limitations:**
§ 63.11507(g). The permittee shall implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.
(1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.
(2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
(3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
(4) Use tank covers, if already owned and available at the facility, whenever practicable.
(5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
(6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
(7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
(8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.
(9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
(10) Minimize spills and overflow of tanks, as practicable.
(11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
(12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Compliance Demonstration Method:
§ 63.11508 (d)(8). The permittee shall demonstrate continuous compliance according to paragraphs (d)(8)(i) and (ii) of this section.

(i) The permittee shall implement the applicable management practices during all times that the affected tank or process is in operation.

(ii) The permittee shall state in their annual compliance certification that they have implemented the applicable management practices, as practicable.

2. Emission Limitations:

A. Visible emissions shall not equal or exceed 20% opacity.
401 KAR 59:010, Section 3(1)(a).

Compliance Demonstration Method for opacity:
Compliance with the opacity standard shall be determined by the permittee performing a qualitative visual observation of emissions at the stack no less than weekly and maintaining a log of the observations. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.

B. Particulate emissions shall not equal or exceed 2.34 lbs/hour.
401 KAR 59:010, Section 3(2).

Compliance Demonstration Method:
The emission points are assumed to be in compliance with the particulate matter.

3. Testing Requirements:
Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, Section 2(2) and 50:045, Section 4. See Specific Monitoring Requirements.

4. Specific Monitoring Requirements: None

5. Specific Recordkeeping Requirements:

A. § 63.11509(e). The permittee shall keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A copy of any Initial Notification and Notification of Compliance Status and all documentation supporting those notifications.

(2) The records specified in the Section G of this permit.

(3) The records required to show continuous compliance with each management practice.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

B. § 63.11509(f). The permittee shall keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee shall keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record. The permittee may keep the records offsite for the remaining 3 years.

6. Specific Notification and Reporting Requirements:

A. § 63.11509(b). The permittee shall submit a notification of compliance status to the Division before compliance date specified in § 63.11506. The compliance status must include the items specified in paragraphs (b)(2)(i) through (iv) of this section.

B. § 63.11509(c)(6). The permittee shall state in compliance certification that they have implemented the applicable management practices, as practicable.

C. § 63.11509(c)(7). Each annual compliance report shall be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily accessible location for inspector review. If a deviation has occurred during the year, each annual compliance report shall be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.

D. § 63.11509(d). The permittee report the deviations, along with the corrective action taken, and submit this report to the Division.

7. Specific Control Equipment Operating Conditions: None

8. Alternate Operating Scenarios: None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 27 NESHAP Existing CI Emergency Generator Engines

Description: **Compression Ignition Stationary Emergency Generator Engines**
Date Installed: Pre-2004

ID	Source Type	Source Location	Description & Rated Capacity
1	CI ICE	Building 219	Kohler 107.2 hp
2	CI ICE	Building 230	Onan 100.5 hp
3	CI ICE	Building T-250	Cummins 207.7 hp
4	CI ICE	Building T-250	Cummins 207.7 hp

Comment [TS54]: As discussed in Section 2.2 of this application, BGAD operates four existing CI emergency generator engines that will become subject to operating limitations of NESHAP Subpart ZZZZ on May 3, 2013. These engines, while meeting one of the categories of insignificant activities designated by KDAQ, will be subject to a federal regulation and should therefore be included as a significant unit in BGAD's Title V.

APPLICABLE REGULATIONS:

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines are applicable to stationary compression ignition (CI) emergency generator engines located at area sources of HAP emissions and installed prior to June 12, 2006. The compliance date for this rule for existing stationary CI emergency generator engines is May 3, 2013.

1. **Operating Limitations:**
   - **A.** Comply with the following applicable operating limitations in Table 2d of NESHAP Subpart ZZZZ:
     - **(1)** Change oil and filter every 500 hours of operation or annually, whichever comes first.
     - **(2)** Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first.
     - **(3)** Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
   - **B.** § 63.6605(b): At all times you must operate and maintain the affected sources in a manner consistent with good air pollution control practices for minimizing emissions.
   - **C.** § 63.6625(e) and 63.6640(a): Operate and maintain the stationary RICE according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

Comment [TS55]: Suggested conditions can be replaced with standardized NESHAP Subpart ZZZZ conditions used by KDAQ as appropriate.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

D. § 63.6640(f):

(1) For owners or operators of emergency engines, any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for more than 50 hours per year, as permitted below, is prohibited.

(2) There is no time limit on the use of emergency stationary RICE in emergency situations.

(3) You may operation your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year, unless otherwise allowed by the appropriate permitting authority.

(4) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations (with certain conditions), but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

2. Emission Limitations: None

3. Testing Requirements:

Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, Section 2(2) and 50:045, Section 4. See Specific Monitoring Requirements.

4. Specific Monitoring Requirements:

A. § 63.6625(f): Install a non-resettable hour meter if one is not already installed.

B. § 63.6625(i): As an alternate option to extend the specified oil change requirement in Table 2d, you may utilize an oil analysis program. The oil analysis must be performed at the same frequency specified in Table 2d. If this alternate option is chosen, records must be kept of the parameters that are analyzed, the results of the analysis, and the oil changes for the engine.

5. Specific Recordkeeping Requirements:

A. Keep a copy of records relating to Startup, Shutdown, and Malfunction as required by § 63.6655(a).

B. Keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE according to you own maintenance plan per § 63.6655(e).

C. Per § 63.6655(f), keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. Document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If engines are used for demand response operation, the owner or operator must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. Specific Notification and Reporting Requirements:

A. § 63.6650(b). Submit semiannual compliance reports by July 31 and January 31 for the preceding calendar halves containing the information required by 40 CFR 63.6650(c), (d), and (e). The initial semiannual compliance report is due by July 31, 2013.

B. § 63.6640(b). Report each instance in which you did not meet and operating limitation in Table 2d as a deviation per 63.6650

7. Specific Control Equipment Operating Conditions: None

8. Alternate Operating Scenarios: None

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 28 NSPS-Subject CI Emergency Generator Engines

Comment [TS56]: As discussed in Section 2.2 of this application, BGAD recently installed three new CI emergency generator engines that are subject to the requirements of NSPS Subpart IIII. These engines, while meeting one of the categories of insignificant activities designated by KDAQ, are subject to a federal regulation and should therefore be included as significant units in BGAD's Title V.

Description: **Compression Ignition Stationary Emergency Generator Engines**
Date Installed: After April 1, 2006

ID	Date Installed	Source Location	Description & Rated Capacity
1	2009	ACS Building	Kohler 80 hp
2	2009	Building 49	Kohler 80 hp
3	2009	Gate 3	Kohler 80 hp

APPLICABLE REGULATIONS:
401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

40 CFR 60, Subpart IIII – New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines are applicable to stationary compression ignition (CI) emergency generator engines (that are not fire pump engines) for which construction is commenced after July 11, 2005 and which are manufactured after April 1, 2006.

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines are applicable to stationary compression ignition (CI) emergency generator engines located at area sources of HAP emissions and installed after June 12, 2006. However, pursuant to 40 CFR 63.6590(c) new stationary RICE located at an area source may comply with requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart IIII (for CI RICE).

1. **Operating Limitations:**
   [Include applicable requirements from NSPS Subpart IIII]

2. **Emission Limitations:**
   [Include applicable requirements from NSPS Subpart IIII]

3. **Testing Requirements:**
   [Include applicable requirements from NSPS Subpart IIII]

4. **Specific Monitoring Requirements:**
   [Include applicable requirements from NSPS Subpart IIII]

5. **Specific Recordkeeping Requirements:**
   [Include applicable requirements from NSPS Subpart IIII]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Notification and Reporting Requirements:**
   [Include applicable requirements from NSPS Subpart IIII]

7. **Specific Control Equipment Operating Conditions:**
   [Include applicable requirements from NSPS Subpart IIII]

8. **Alternate Operating Scenarios:**
   [Include applicable requirements from NSPS Subpart IIII]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

Emission Unit 29 **NSPS-Subject SI Emergency Generator Engines**

Comment [TS57]: As discussed in Section 2.2 of this application, BGAD recently installed a two new SI emergency generator engines that is subject to the requirements of NSPS Subpart JJJJ. These engines, while meeting one of the categories of insignificant activities designated by KDAQ, are subject to a federal regulation and should therefore be included as a significant unit in BGAD's Title V.

Description: **Spark Ignition Stationary Emergency Generator Engines**
Date Installed: After January 1, 2009

ID	Date Installed	Source Location	Description & Rated Capacity
1	2009	Lake Vega	Caterpillar 189 hp
2	2009	Building 52770 (Fire Station)	Caterpillar 168 hp

APPLICABLE REGULATIONS:
401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

40 CFR 60, Subpart JJJJ – New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines are applicable to stationary spark ignition (SI) emergency generator engines greater than 25 hp for which construction is commenced after June 12, 2006 and which are manufactured after January 1, 2009.

40 CFR 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines are applicable to stationary (SI) emergency generator engines located at area sources of HAP emissions and installed after June 12, 2006. However, pursuant to 40 CFR 63.6590(c) new stationary RICE located at an area source may comply with requirements of Subpart ZZZZ by meeting the requirements of 40 CFR 60 Subpart JJJJ (for SI RICE).

1. **Operating Limitations:**
   [Include applicable requirements from NSPS Subpart JJJJ]

2. **Emission Limitations:**
   [Include applicable requirements from NSPS Subpart JJJJ]

3. **Testing Requirements:**
   [Include applicable requirements from NSPS Subpart JJJJ]

4. **Specific Monitoring Requirements:**
   [Include applicable requirements from NSPS Subpart JJJJ]

5. **Specific Recordkeeping Requirements:**
   [Include applicable requirements from NSPS Subpart JJJJ]

SECTION B - EMISSION POINTS, EMISSION UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

6. **Specific Notification and Reporting Requirements:**
   [Include applicable requirements from NSPS Subpart JJJJ]

7. **Specific Control Equipment Operating Conditions:**
   [Include applicable requirements from NSPS Subpart JJJJ]

8. **Alternate Operating Scenarios:**
   [Include applicable requirements from NSPS Subpart JJJJ]

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, § 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary. Refer to Section D, Compliance Demonstration Method (A), Compliance Demonstration Method (D) and Compliance Demonstration Method (E).

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
1	Boiler	Building 280	0.7MMBTU/hr Propane Boiler	None
2	Source removed ~~Boiler~~	~~Building 1168~~	~~0.79 MMBTU/hr NG Boiler~~	~~None~~
3	Boiler	Building 228	0.79 MMBTU/hr NG Boiler	None
4	Boiler	Building 908	0.79 MMBTU/hr NG Boiler	None
5	Boiler	Building 1	0.5 MMBTU/hr NG Boiler	None
6	Boiler	Building S-2	0.4 MMBTU/hr NG Boiler	None
7	Source removed			
8	Boiler	Building 261	0.34 MMBTU/hr NG Boiler	None
9	Source removed ~~Boiler~~	~~34 Reserve~~	~~0.34 MMBTU/hr NG Boiler~~	~~None~~
10	Boiler	Building 1146	0.8 MMBTU/hr NG Boiler	None
11	Source removed ~~Boiler~~	~~Building 162~~	~~0.25 MMBTU/hr NG Boiler~~	~~None~~

Comment [TS58]: This unit has been removed from the facility and should be removed from the renewed Title V.

Comment [TS59]: BGAD notified KDAQ of the removal of three natural gas-fired boilers from the facility in an October 8, 2008 letter. These three boilers were EU21-13, IA9, and IA11 and were gradually replaced with electrical heat pump and HVAC installation, as part of the Energy Conservation Investment Program (ECIP). These boilers should be removed from the facility's permit.

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
12	Heater	Building 850	0.75 MMBTU/hr NG Heater	None
13	Heaters	Building 208	(18) 0.4 MMBTU/hr NG Heaters	None
14	Heaters	Building 209	(18) 0.4 MMBTU/hr NG Heaters	None
15	Heaters	Building 210	(18) 0.4 MMBTU/hr NG Heaters	None
16	Heaters	Building 211	(18) 0.4 MMBTU/hr NG Heaters	None
17	Heaters	Building 232	(4) 0.4 MMBTU/hr NG Heaters	None
18	Heaters	Building 232	(2) 4.147 MMBTU/hr NG Heaters	None
19	Heaters	Building 232	(6) 0.1 MMBTU/hr NG Heaters	None
20	Heater	Building 233	(1) 0.4 MMBTU/hr NG Heater	None
21	Heaters	Building 229	(8) 0.1 MMBTU/hr NG Heaters	None
22	Heaters	Building S-285	(4) 0.1 MMBTU/hr NG Heaters	None
23	Heaters	Building 212	(2) 0.075 MMBTU/hr NG Heaters	None
24	Internal Combustion Engine	Access Control Building	ACS Generator, NG, 221 hp, Emg. Gen.	401 KAR 63:020*, NESHAP ZZZZ
25	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA-092, Decon M12A1, Diesel 37.5 hp, Emg. Gen.~~	~~401 KAR 63:020*~~
26	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA-094, Decon M12A1, Diesel, 37.5hp, Emg. Gen.~~	~~401 KAR 63:020*~~
27	See EU27 ~~Internal Combustion Engine~~	~~Building 219~~	~~Kohler Emg. Gen., Diesel 107.2 hp~~	~~401 KAR 63:020*~~
28	Source removed			
29	Source removed			
30	See EU27 ~~Internal Combustion Engine~~	~~Building 230~~	~~DL-230, Onan 75 ODYC-15R/23117K, Diesel, 100.5 hp Emg. Gen.~~	~~401 KAR 63:020*~~
31	See EU27 ~~Internal Combustion Engine~~	~~Building T-250~~	~~Emg. Gen. #1 Cummins 6BTA, Diesel 207.7 hp~~	~~401 KAR 63:020*~~
32	See EU27 ~~Internal Combustion Engine~~	~~Building T-250~~	~~Emg. Gen. #2 Cummins 6BTA, Diesel 207.7 hp~~	~~401 KAR 63:020*~~
33	Internal Combustion Engine	Area F Hut	Olympian G60F3, NG Emg. Gen. 80.4 hp	NESHAP ZZZZ ~~None~~

Comment [TS60]: NESHAP Subpart ZZZZ is generally applicable to all existing and new internal combustion engines. However, there are no relevant requirements for existing spark ignition emergency generator engines. Therefore, NESHAP ZZZZ should be listed as a general applicable requirements for all existing spark ignition emergency generator engines at BGAD.

Comment [TS61]: As discussed in Section 4.3 of this application, several internal combustion engines listed as insignificant activities in Section C are not stationary sources, but are rather portable sources of emissions, and should not be regulated under the Title V permit for BGAD. These engines, currently classified as insignificant activities, including welder engines, portable light sources, and other portable engines should also be removed from Section C of BGAD's Title V

Comment [TS62]: As discussed in Section 2.2 of this application, BGAD operates four existing CI emergency generator engines that will become subject to operating limitations of NESHAP Subpart ZZZZ on May 3, 2013. These engines, while meeting one of the categories of insignificant activities designated by KDAQ, will be subject to a federal regulation and should therefore be included as a significant unit (EU27) in BGAD's Title V.

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
34	Internal Combustion Engine	Building 1660	Catepiller, G3406-240KW, NG Emg. Gen. 321.6 hp	NESHAP ZZZZ ~~None~~
35	Internal Combustion Engine	Building 1661	Olympian, G80F3, NG Emg. Gen. 100.5 hp	NESHAP ZZZZ ~~None~~
36	Internal Combustion Engine	Building 213 ~~Building 212 Hut~~	Olympian, G60F1, NG Emg. Gen. ~~Olympian, G10U3S NG Emg. Gen. 13.4 hp~~	NESHAP ZZZZ ~~None~~
37	Internal Combustion Engine	Building 218	Olympian, G100F1, NG Emg. Gen. 134 hp	NESHAP ZZZZ ~~None~~
38	Source removed			
39	Internal Combustion Engine	Building S-18	UBS, NG, 80.4 hp Emg. Gen.	NESHAP ZZZZ ~~None~~
40	Internal Combustion Engine	Building S-287	Olympian G75F35, NG 100.5 hp Emg. Gen.	NESHAP ZZZZ ~~None~~
41	Internal Combustion Engine	Building S-10 ~~S-3~~	Olympian G12U3, NG, 16.1 hp, Emg. Gen.	NESHAP ZZZZ ~~None~~
42	Internal Combustion Engine	EOC S-18	Generac Model 9404761, NG, 23.0 hp Emg. Gen.	NESHAP ZZZZ ~~None~~
43	Internal Combustion Engine	Hut 75 at light 8	Olympian G10U3S, NG 13.4 hp, Emg. Gen.	NESHAP ZZZZ ~~None~~
44	Internal Combustion Engine	North Area Pump Station	Catepiller G3406NA-20.1~~201~~ hp, NG, Emg. Gen.	NESHAP ZZZZ ~~None~~
45	Internal Combustion Engine	Route 12 Pump Station	Catepillar G30F3-40.2 hp NG, Emg. Gen	NESHAP ZZZZ ~~None~~
46	Internal Combustion Engine	Route 2 Pump Station	Catepillar G30F3-40.2 hp NG, Emg. Gen.	NESHAP ZZZZ ~~None~~
47	Internal Combustion Engine	Building 164	Olympian Model G50F3, 67 hp NG, Emg. Gen.	NESHAP ZZZZ ~~None~~
48	Internal Combustion Engine	Building S-18	Olympian G100F3, 134 hp NG, Emg. Gen.	NESHAP ZZZZ ~~None~~
49	Internal Combustion Engine	Truck Gate	Olympian G75F3S, 80.5 hp NG, Emg. Gen.	NESHAP ZZZZ ~~None~~
50	Internal Combustion Engine	Treaty [Bldg. S-56]	Olympian G100F3, 134 hp NG Emg. Gen.	NESHAP ZZZZ ~~None~~
51	Internal Combustion Engine	Fire Station [Bldg. S-11]	Olympian G20F3, 26.8 hp NG Emg. Gen.	NESHAP ZZZZ ~~None~~
52	Internal Combustion Engine	LP 54 Hut	Olympian G10U3S, NG, 13.4 hp, Emg. Gen.	NESHAP ZZZZ ~~None~~
53	Source removed			
54	Source removed			
55	Source removed ~~Internal Combustion Engine~~	~~Lake Vega~~	~~Kohler Model 80RZ282, Propane, 107.2 hp Emg. Gen.~~	~~None~~

Comment [TS63]: The Olympian 10 kW emergency generator previously located at the Building 212 Hut has been removed. Instead, a Olympian 60 kW emergency generator has been installed at Building 213. This unit should be designated as IA36 in the renewed Title V. Note that the 60 kW unit was manufactured in 2000 and is therefore not subject to NSPS Subpart JJJJ.

Comment [TS64]: This unit has been relocated from Building S-3 to Building S-10.

Comment [TS65]: Rating of unit has been updated to correct typo contained in previous Title V.

Comment [TS66]: IA55 at Lake Vega was replaced by a new natural gas-fired emergency generator. The new engine is subject to NSPS Subpart JJJJ and is therefore included in Section B as part of EU29.

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
56	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA50 Filter Unit, Trailer Mounted, w/generator, Diesel, 24.12 hp~~	~~401 KAR 63:020*~~
57	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA51 Filter Unit, Trailer mounted, w/generator, Diesel, 24.12 hp~~	~~401 KAR 63:020*~~
58	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA52 Filter Unit, Trailer Mounted, w/generator, Diesel, 21.44 hp~~	~~401 KAR 63:020*~~
59	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA53 Filter Unit, Trailer mounted, w/generator, Diesel, 18.09 hp~~	~~401 KAR 63:020*~~
60	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGAD Motor Pool, LP-1~~	~~A115, Lightset, Diesel, 8.0 hp~~	~~401 KAR 63:020*~~
61	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGAD Motor Pool, LP-1~~	~~A116, Light Source, Kubota D905B, Diesel 8.0 hp~~	~~401 KAR 63:020*~~
62	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGAD Motor Pool, LP-1~~	~~A117, Light Source, Kubota D905B, Diesel 8.0 hp~~	~~401 KAR 63:020*~~
63	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGAD Motor Pool~~	~~CA 074, Portable Lights, Ing Rand L6-4MH, Diesel 8.04 hp~~	~~401 KAR 63:020*~~
64	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA 075, Portable Lights, Ing Rand L6-4MH Diesel 8.0 hp~~	~~401 KAR 63:020*~~
65	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~BGCA Motor Pool~~	~~CA 076, Portable Lights, Ing Rand L6-4MH, Diesel 8.0 hp~~	~~401 KAR 63:020*~~
66	Source removed			
67	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Garage near S-7~~	~~CA 071, Generator, Diesel, 16.08 hp~~	~~401 KAR 63:020*~~
68	Source removed			
69	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Building 215~~	~~C-067 Hobart Mega-arc 200-G Welder, Gasoline, 4.0 hp~~	~~None~~
70	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA351 RTAP #1, Gasoline, 9.4 hp~~	~~None~~
71	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA354, RTAP #2, Gasoline, 9.4 hp~~	~~None~~
72	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA356, RTAP #1, Onan 7HGJA-2132B, Gasoline, 9.4 hp~~	~~None~~
73	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA356, RTAP #2 Kohler Confidant 7000, Gasoline, 9.4 hp~~	~~None~~

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
74	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA357, RTAP #1 Kohler Confidant 7000, Gasoline, 9.4 hp~~	~~None~~
75	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA350, RTAP #1, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
76	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA350, RTAP #2, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
77	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA351, RTAP #2, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
78	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA353, RTAP #1, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
79	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA353, RTAP #2, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
80	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA354, RTAP #1, Onan CMM 7000, Gasoline, 9.1 hp~~	~~None~~
81	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA357, RTAP #2, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
82	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA352, RTAP, Gasoline, 9.1 hp~~	~~None~~
83	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA352, RTAP, Onan Marquis 7000, Gasoline, 9.1 hp~~	~~None~~
84	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~GX 390 Honda, Gasoline, 13 hp~~	~~None~~
85	Source removed ~~Process~~	~~Molten Salt Destruction Unit~~	~~30 lb/hr TNT, 60 lb/hr Water, 220 lb/hr Salt~~	~~401 KAR 63:020*~~
86	Source removed ~~Process~~	~~TNT Washout Facility Bldg 570~~	~~2,100 lb/hr Explosives, 10,500 lb/hr Metal~~	~~None~~
87	Waster Water Treatment	Waste Water Treatment Plant	WWTP 0.22 mgd	None
88	Lab	Building 1661 Lab Hoods	TCM Lab, no process rate associated with this source.	None
89	Storage Tank	Building S-10	10,000 gal Diesel	None
90	Storage Tank	Building S-10	10,000 gal Gasoline	None
91	Storage Tank	Building S-10	10,000 gal Gasoline	None
92	Storage Tank	Building 219	550 gal Diesel	None
93	Storage Tank	Building 230	550 gal Diesel	None
94	Storage Tank	Building 1159	10,000 gal Gasoline	None ~~401 KAR 59:050**~~
95	Storage Tank	Building T-250	550 gal Diesel	None
96	Storage Tank	Building T-250	550 gal Diesel	None

Comment [TS67]: The molten salt destruction unit (IA85) and TNT washout facility (IA86) currently listed as insignificant activities in the Title V have been removed from operation at BGAD. Therefore, these units should be removed from the list of insignificant activities.

Comment [TS68]: As discussed in Section 4.7, petroleum liquid storage tanks at BGAD are not subject to the requirements of 401 KAR 59:050. Therefore, this regulatory reference should be removed from the permit.

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
97	Storage Tank	Building 1159	4,000 gal Diesel	None
98	Source removed			
99	Storage Tank	Building S-28C	550 gal Gasoline	None
100	Source removed			
101	Source removed			
102	Source removed			
103	Source removed			
104	Degreaser	Building 232	Paint Gun Degreaser, Emission Point P09	401 KAR 63:020*
105	Degreaser	Building S-9	Degreaser, Emission Point P10	None
106	Degreaser	Building 254	Degreaser, Emission Point P12	None
107	Wood Shop	Building S-13	Saws, Planers, Sanders, Emission Point P07	401 KAR 59:010
108	Box & Crate Woodworking	Building LP-92	Saws, Planers, Sanders, Emission Point P08	401 KAR 59:010
109	Wood Shop	Building S-17	Saws, Planers, Sanders, Emission Point P13	401 KAR 59:010
110	Source Removed			
111	Shot Blast Unit	Building 232	~~Emission Point P05 equipped with two (2) bag filter collectors~~ Trinco Model 48x36/DP-900RPC – Pressure Cabinet/Cartridge Dust Collector	401 KAR 59:010
112	Manual Grinding Operations with Cyclone Separator	Building 1180	Lamson Corporation, Exidust, SN 57846, 2500 CFM	401 KAR 59:010
113	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA358-1, RTAP, Onan CMM 7000, Gasoline, 9.1 hp, S/N:B050750213~~	~~None~~
114	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Limited Area~~	~~CA358-2, RTAP, Onan CMM 7000, Gasoline, 9.1 hp, S/M:B050750217~~	~~None~~
115	Internal Combustion Engine	Bldg 571	Caterpillar Olympian Model G100F3, 134 hp, NG, Emg. Gen.	NESHAP ZZZZ ~~None~~
116	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Security~~	~~S101, Terex Model RL 4060D, Kubota, 12 hp, Diesel, S/N: EIF-05469~~	~~401 KAR 63:020*~~

Comment [TS69]: The shot blast unit (IA111) in Building 232 was replaced in 2008, as described in a March 24, 2008 minor revision application. The description of the shot blast unit should be updated to reflect this change.

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
117	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Security~~	~~S102, Terex Model RL 4060D, Kubota, 12 hp, Diesel, S/N: EIF-05478~~	~~401 KAR 63:020*~~
118	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Security~~	~~S103, Terex Model RL 4060D, Kubota, 12 hp, Diesel, S/N: EIF-05480~~	~~401 KAR 63:020*~~
119	Portable ICE ~~Internal Combustion Engine~~	Not Subject to Title V ~~Security~~	~~S104, Terex Model RL 4060D, Kubota, 12 hp, Diesel, S/N: EIF-05481~~	~~401 KAR 63:020*~~
120	Thermal Arc Spray Process	Bldg 1180	Bomb renovation and maintenance.	401 KAR 59:010
121	Paint Container Crusher	HAZMART Bldg	Can, Pail and Aerosol Crusher Model: Super 6PJ-VC TeeMark Corporation	401 KAR 59:010
122	Tank	iSCWO System	TK-301 – 700 gallon diesel fuel tank	None
123	Tank	iSCWO System	TK-300, 4000 gallon diesel fuel tank	None
124	Tank	iSCWO System	TK-100, 5000 gallon propylene glycol tank	None
125	Tank	iSCWO System	TK-702, 2000 gallon slurried M1 propellant tank	None
126	Tank	iSCWO System	TK-709, 5000 gallon slurried M1 propellant	None
127	Tank	iSCWO System	TK-950, 450 gallon Off-spec effluent tank	None
128	MIG Welding	Building 216	Millermatic 350P – Up to 12 Welding Stations	401 KAR 59:010
129	Plasma Metal Cutting	Building 216	MAX200 Heavy Duty – 2 Units	401 KAR 59:010
130	Wood Coloring	Limited Area	Mulch Coloring using Aqueous Dispersion	None
131	Wood Pallet Treatment Dip Tanks	Varies	Two (2) dip tanks containing water-borne preservative	None
132	Wood Pallet Treatment Heaters	Varies	Two (2) 2.0 MMBtu/hr natural gas-fired space heaters	None
133	Grit Blast Unit	Building 562	ISP Model WMTD72 Rotary Grit Blast Unit	401 KAR 59:010
134	Water Plant Emergency Backup Generator	Building 228	Olympian G125G1, Caterpillar, Inc. 125 kW (168 hp), Model Year 2008	NESHAP ZZZZ

Comment [TS70]: MIG welding and plasma metal cutting operations associated with Mine Resistant Ambush Protected (MRAP) surface coating operations in Building 216 were added at the facility in 2008, as described in a March 24, 2008 minor revision application. These operations should be added to the insignificant activities list as IA128 and IA129.

Comment [TS71]: A wood coloring operation associated with the existing Estill Wood Products wood grinding operations was added in 2008, as described in a February 7, 2008 off permit change and a March 24, 2008 minor revision application. In this operation, wood products processed into mulch form through the wood grinder as colored using an aqueous dispersion. This operation is an insignificant activity and should be added to the insignificant activities list as IA130.

Comment [TS72]: Two wood pallet treatment systems, each consisting of a dip tank and thermal treatment unit with heat provided by a 2.0 MMBtu/hr natural gas-fired space heater, were added as insignificant units at BGAD through a February 26, 2009 off permit change notification. An additional Section 502(b)(10) change was submitted on November 9, 2009 to notify KDAQ that pentachlorophenol (PCP) preservative treated wood would also be processed through this treatment systems. These systems should be added to the insignificant activities list as IA131 and IA132.

Comment [TS73]: An off permit change request was submitted on June 17, 2009 to incorporate a new grit blast unit to be located in Building 562 into the Title V. The potential emissions for this unit were below insignificant activity thresholds; therefore, this unit should be added to the insignificant activities list as IA133.

Comment [TS74]: An August 19, 2009 off permit change request notified KDAQ of the installation of a new natural gas-fired emergency generator at the Water Plant (Building 228). This engine is a 125 kW (168 hp) unit manufactured by Caterpillar, Inc. The engine was manufactured in 2008 and is therefore not subject to NSPS Subpart JJJJ, because it is a spark ignition emergency engine that was manufactured prior to January 1, 2009. Therefore, this unit qualifies as an insignificant activity based on its potential emissions. This unit should be added to the insignificant activities list as IA134.

SECTION C - INSIGNIFICANT ACTIVITIES (CONTINUED)

ID	Source Type	Source Location	Description & Rated Capacity	Generally Applicable Regulation
135	Shot Blast Unit	Building 562	Econoline Shot Blast Cabinet	401 KAR 59:010
136	Hand Stenciling Paint Booth	Building 203	Hand Stenciling Operation	401 KAR 59:010

* Refer to Section D, D.7 and Compliance Demonstration Method (F).
** Note that the source locations shown above refer to the insignificant activity locations at the time of the most recent Title V permit application. Sources that qualify as insignificant activities are occasionally relocated at the facility.

Comment [TS75]: A small Econoline shot blast cabinet is operated in Building 562. Operation of this unit is very limited (estimated to be a maximum of about four (4) hours per week). This unit is similar to other small shot blast cabinets currently included in BGAD's Title V permit as insignificant activities and should be added to the list as insignificant activities as IA135.

Comment [TS76]: BGAD operates a small stenciling paint booth in Building 203 for occasional hand stenciling operations. All operations at this booth are completed by hand making potential emissions from this operation negligible. Therefore, this operation should be added to the list of insignificant activities as IA136.

Comment [TS77]: BGAD is not required by Title V regulations to list the locations of all insignificant activities at the facility. This source locations are provided here to make tracking of the addition and removal of insignificant activities easier for BGAD and for KDAQ.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, § 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

2. Source wide emission limitations for VOC, HAP, CO and NO_X shall apply to the specified emission sources listed in Section B and C of this permit and the specified emission sources that will be listed in Section B and C of the forthcoming Blue Grass Army Depot Chemical Agent Destruction Pilot Plant Title V permit.

3. VOC emissions shall not exceed 90 tons during any consecutive twelve (12) month period. Monthly records to demonstrate compliance with this limitation shall be maintained and total VOC emissions shall be reported on a semi-annual basis. VOC emissions shall be calculated and recorded on a *monthly* basis. These records shall be summarized in tons per month of VOC emissions; subsequently, tons of VOC emissions per rolling 12-month period shall be recorded. In addition, these records shall demonstrate compliance with the VOC emission limitations listed herein for the conditional major limitations. These records shall be maintained on site for a period of five years from the date the data was collected and shall be provided to the Division upon request.

4. The emissions of any individual Hazardous Air Pollutant (HAP) shall not exceed nine (9) tons during any consecutive twelve (12) month period. The emissions of combined HAP shall not exceed twenty-two and one-half (22.5) tons per year. Monthly records, which demonstrate compliance with this limitation, shall be maintained and total HAP emissions shall be reported on a semi-annual basis. HAP emissions shall be calculated and recorded on a *monthly* basis. These records shall be summarized in tons per month HAP emissions; subsequently, tons of HAP emissions per rolling 12-month period shall be recorded. In addition, these records shall demonstrate compliance with HAP emission limitations listed herein for the conditional major limitations. These records, as well as purchase orders and invoices for all HAP containing materials, shall be maintained on site for a period of five years from the date the data was collected and shall be provided to the Division upon request.

5. CO emissions shall not exceed 225 tons during any consecutive twelve (12) month period. Monthly records to demonstrate compliance with this limitation shall be maintained and total CO emissions shall be reported on a semi-annual basis. CO emissions shall be calculated and recorded on a *monthly* basis. These records shall be summarized in tons per month of CO emissions; subsequently, tons of CO emissions per rolling 12-month period shall be recorded. In addition, these records shall demonstrate compliance with the CO emission limitations listed herein for the synthetic minor limitations. These records shall be maintained on site for a period of five years from the date the data was collected and shall be provided to the Division upon request.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

6. NO_X emissions shall not exceed 225 tons during any consecutive twelve (12) month period. Monthly records to demonstrate compliance with this limitation shall be maintained and total NO_X emissions shall be reported on a semi-annual basis. NO_X emissions shall be calculated and recorded on a *monthly* basis. These records shall be summarized in tons per month of NO_X emissions; subsequently, tons of NO_X emissions per rolling 12-month period shall be recorded. In addition, these records shall demonstrate compliance with the NO_X emission limitations listed herein for the synthetic minor limitations. These records shall be maintained on site for a period of five years from the date the data was collected and shall be provided to the Division upon request.

7. As required by 401 KAR 63:020, § 3, no owner or operator shall allow any affected facility to emit potentially hazardous matter or toxic substances in such quantities or duration as to be harmful to the health and welfare of humans, animals and plants. Evaluation of such facilities as to adequacy of controls and/or procedures and emission potential will be made on an individual basis by the Cabinet.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Compliance Demonstration Method:

(A) For VOC:

VOC emitted (lbs/month) = $\sum$ [VOC emissions from paint and cleaning solvents]

$E_{VOC} = \sum [Q*C_{VOC}]$

Where:

E_{VOC} = Total VOC emissions (lb/month)

Q = Usage rate of material (gal/month)

C_{VOC} = VOC content of material (lb/gal)

VOC content of material (C_{VOC}) is obtained from the manufacturer's technical specification sheet.

VOC emitted from natural gas combustion (boilers):

(1) VOC emitted (lbs/month) = (5.5 lb/MMSCF) x (MMSCF natural gas burned/month)

VOC emitted from natural gas combustion (heaters):

(2) VOC emitted (lbs/month) = (5.3 lb/MMSCF) x (MMSCF natural gas burned/month)

VOC emitted from natural gas combustion (stationary internal combustion engines):*

(3) VOC emitted (lbs/month) = Usage (MMSCF/HR) x (HRs/month) x (116 lb/MMSCF)

* Emissions from non-road engines do not count toward a stationary source's total emissions when determining Title V and PSD applicability. Therefore, only stationary internal combustion engine emissions are included here.

VOC emitted from Diesel fuel combustion (stationary internal combustion engines):

(4) VOC emitted (lbs/month) = (49.3 lb/10^3) x (10^3 gallons of Diesel burned/month)

VOC emitted from gasoline fuel combustion (stationary internal combustion engines):

(5) VOC emitted (lbs/month) = (382 lb/10^3) x (10^3 gallons of gasoline burned/month); or
VOC emitted (lbs/month) = (1.46 lb/hr) x (hours of operation/month)

VOC emitted from the General Refuse Incinerator:

(6) VOC emitted (lbs/month) = (3 lb/ton of refuse) x (tons of refuse burned/month)

VOC emitted from the Flashing Furnace System:

(7) VOC emitted (lbs/month) = (0.42 lb/ton) x (tons munitions bodies flashed/month)

VOC emitted from the Detonation Chamber:

(8) VOC emitted (lbs/month) = ($1.28x10^{-4}$ lb/lb Net Explosive Weight (NEW)) x (~~tons~~ lb NEW burned/month)

Source-wide VOC emissions = $\sum$ [VOC emissions from paint and cleaning solvents] + $\sum$ [VOC emissions from natural gas combustion] + $\sum$ [VOC emissions from Diesel fuel combustion] + $\sum$ [VOC emissions gasoline fuel combustion] + $\sum$ [VOC

Comment [TS78]: As discussed in Section 4.3, emissions from non-road engines do not count toward a stationary source's total emissions when determining both Title V and PSD applicability. Therefore, the compliance demonstration conditions listed here to demonstrate compliance with the facility's VOC limit of 90 tpy (to be a conditional major source for Title V) and NO_x and CO limits of 225 tpy (to be a synthetic minor source for PSD) should not include emissions from non-road engines. Therefore, the Compliance Demonstration Method conditions for VOC, NOX, and CO emissions have been updated to refer to "stationary internal combustion engines" instead of "internal combustion engines" to clarify that emissions from non-road engines, which are not stationary engines, are not required to be included in these calculations.

Comment [TS79]: On October 8, 2008 BGAD submitted a letter to KDAQ requesting that compliance formula (8) for the calculation of VOC, NO_x, and CO emissions in Section D of the permit be updated to correct a typo. The formula currently requires that an emission factor in units of pounds of pollutant per pound of net explosive weight be multiplied by the **tons** of net explosive weight processed in the Detonation Chamber (EU16). The emission factor should instead be multiplied by the **pounds** of net explosive weight for this formula to be correct.

emissions from the General Refuse Incinerator] + $\sum$ [VOC emissions from the Flashing Furnace System] + $\sum$ [VOC emissions from the Detonation Chamber].

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Compliance Demonstration Method (Continued)**:**

Note: For the purposes of compliance with the source wide VOC emissions limit, it may be assumed that actual emissions = potential emissions for Insignificant Activities listed in Section C. Potential emissions from Insignificant Activities 24 – 84 and 113 – 119, shall be calculated assuming a maximum of 500 hours per year of operation. Potential emissions from all other Insignificant Activities shall be calculated assuming a maximum of 8,760 hours per year of operation. In equations 3, 4, and 5 the VOC emission factors for internal combustion engines have been assumed to equal the Total Organic Compounds (TOC) emission factors. Emission factors in equations 1 – 5 are referenced from EPA's Factor Information Retrieval (FIRE) Data System, Source Classification Codes (SCCs), 1-03-006-03, 1-05-001-06, 2-03-002-01, 2-03-001-01 and 2-03-003-01. Emission Factors in equations 6 – 8 are referenced from test data.

(B) For volatile HAP

HAP emitted (lbs/month) = $\sum$ [HAP emissions from paint and cleaning solvents]

$$E_{HAPi} = Q * d * \frac{wt\%_{HAPi}}{100}$$

Where:

E_{HAPi} = Emissions of HAP "i" (lb/month)

Q = Material usage rate (gal/month)

d = Density of the material used (lb/gal)

$wt\%_{HAPi}$ = Weight percent of HAP "i" in material (%)

The density (d) and the weight percent of HAP "i" ($wt\%_{HAPi}$) is obtained from the manufacturer's technical specification sheet. The weight percent of HAP "i" should consider any solvent or other material added to the coating.

(C) For nonvolatile HAP

HAP emitted (lbs/month) = $\sum$ [HAP emissions from painting operations]

$$E_{HAP} = \sum [Q*C_{HAP}*(1 - T.E./100)*(1 - C.E./100)]$$

Where:

E_{HAP} = HAP emissions (lb/month)

Q = Usage rate of material (gal/month)

C_{HAP} = HAP content of material (lb/gal)

T.E. = Transfer efficiency of the application equipment (%)

C.E. = Control efficiency of the PM/PM_{10} abatement equipment (%)

Where:

The HAP content of the material (C_{HAP}) shall be determined from the manufacturer's technical specification sheet. The transfer efficiency for a particular product and application technique can be obtained from the application equipment manufacturer or from technical references such as *AP-42* (EPA, 1995a).

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Compliance Demonstration Method:

(D) For CO:

CO emitted from natural gas combustion (boilers):
(1) CO emitted (lbs/month) = (84.0 lb/MMSCF) x (MMSCF natural gas burned/month)

CO emitted from natural gas combustion (heaters):
(2) CO emitted (lbs/month) = (20.0 lb/MMSCF) x (MMSCF natural gas burned/month)

CO emitted from natural gas combustion (stationary internal combustion engines):
(3) CO emitted (lbs/month) = Usage (MMSCF/HR) x (HRs/month) x (399.0 lb/MMSCF)
* Emissions from non-road engines do not count toward a stationary source's total emissions when determining Title V and PSD applicability. Therefore, only stationary internal combustion engine emissions are included here.

CO emitted from Diesel fuel combustion (stationary internal combustion engines):
(4) CO emitted (lbs/month) = (130.0 lb/10^3) x (10^3 gallons of Diesel burned/month)

CO emitted from gasoline fuel combustion (stationary internal combustion engines):
(5) CO emitted (lbs/month) = (7900.0 lb/10^3) x (10^3 gallons of gasoline burned/month);
or CO emitted (lbs/month) = (29.63 lb/hour) x (hours of operation/month)

CO emitted from the General Refuse Incinerator:
(6) CO emitted (lbs/month) = (10 lb/ton of refuse) x (tons of refuse burned/month)

CO emitted from the Flashing Furnace System:
(7) CO emitted (lbs/month) = (0.56 lb/ton) x (tons munitions bodies flashed/month)

CO emitted from the Detonation Chamber:
(8) CO emitted (lbs/month) = (6.58×10^{-2} lb/lb Net Explosive Weight (NEW)) x (~~tons~~ lb NEW burned/month)

Source-wide CO emissions = $\sum$ [CO emissions from natural gas combustion] + $\sum$ [CO emissions from Diesel fuel combustion] + $\sum$ [CO emissions gasoline fuel combustion] + $\sum$ [CO emissions from the General Refuse Incinerator] + $\sum$ [CO emissions from the Flashing Furnace System] + $\sum$ [CO emissions from the Detonation Chamber].

Note: For the purposes of compliance with the source wide CO emissions limit, it may be assumed that actual emissions = potential emissions for Insignificant Activities listed in Section C. Potential emissions from Insignificant Activities 24 – 84 and 113 – 119, shall be calculated assuming a maximum of 500 hours per year of operation. Potential emissions from all other Insignificant Activities shall be calculated assuming a maximum of 8,760 hours per year of operation. Emission factors in equations 1 – 5 are referenced

Comment [TS80]: As discussed in Section 4.3, emissions from non-road engines do not count toward a stationary source's total emissions when determining both Title V and PSD applicability. Therefore, the compliance demonstration conditions listed here to demonstrate compliance with the facility's VOC limit of 90 tpy (to be a conditional major source for Title V) and NO_X and CO limits of 225 tpy (to be a synthetic minor source for PSD) should not include emissions from non-road engines. Therefore, the Compliance Demonstration Method conditions for VOC, NOX, and CO emissions have been updated to refer to "stationary internal combustion engines" instead of "internal combustion engines" to clarify that emissions from non-road engines, which are not stationary engines, are not required to be included in these calculations.

Comment [TS81]: On October 8, 2008 BGAD submitted a letter to KDAQ requesting that compliance formula (8) for the calculation of VOC, NO_X, and CO emissions in Section D of the permit be updated to correct a typo. The formula currently requires that an emission factor in units of pounds of pollutant per pound of net explosive weight be multiplied by the **tons** of net explosive weight processed in the Detonation Chamber (EU16). The emission factor should instead be multiplied by the **pounds** of net explosive weight for this formula to be correct.

from EPA's Factor Information Retrieval (FIRE) Data System, Source Classification Codes (SCCs), 1-03-006-03, 1-05-001-06, 2-03-002-01, 2-03-001-01 and 2-03-003-01. Emission Factors in equations 6 – 8 are referenced from test data.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Compliance Demonstration Method:

(E) For NO_X:

NO_X emitted from natural gas combustion (boilers):
(1) NO_X emitted (lbs/month) = (100.0 lb/MMSCF) x (MMSCF natural gas burned/month)

NO_X emitted from natural gas combustion (heaters):
(2) NO_X emitted (lbs/month) = (10.0 lb/MMSCF) x (MMSCF natural gas burned/month)

NO_X emitted from natural gas combustion (stationary internal combustion engines):
(3) NO_X emitted (lbs/month) = Usage (MMSCF/HR) x (HRs/month) x (2840.0 lb/MMSCF)

* Emissions from non-road engines do not count toward a stationary source's total emissions when determining Title V and PSD applicability. Therefore, only stationary internal combustion engine emissions are included here.

NO_X emitted from Diesel fuel combustion (stationary internal combustion engines):
(4) NO_X emitted (lbs/month) = (604.0 lb/10^3) x (10^3 gallons of Diesel burned/month)

NO_X emitted from gasoline fuel combustion (stationary internal combustion engines):
(5) NO_X emitted (lbs/month) = (205.0 lb/10^3) x (10^3 gallons of gasoline burned/month); or NO_X emitted (lbs/hour) = (0.74 lb/hr) x (hours of operation/month)

NO_X emitted from the General Refuse Incinerator:
(6) NO_X emitted (lbs/month) = (3 lb/ton of refuse) x (tons of refuse burned/month)

NO_X emitted from the Flashing Furnace System:
(7) NO_X emitted (lbs/month) = (0.18 lb/ton) x (tons munitions bodies flashed/month)

NO_X emitted from the Detonation Chamber:
(8) NO_X emitted (lbs/month) = (1.36×10^{-2} lb/lb Net Explosive Weight (NEW)) x (~~tons~~ lb NEW burned/month)

Source-wide NO_X emissions = $\sum$ [NO_X emissions from natural gas combustion] + $\sum$ [NO_X emissions from Diesel fuel combustion] + $\sum$ [NO_X emissions gasoline fuel combustion] + $\sum$ [NO_X emissions from the General Refuse Incinerator] + $\sum$ [NO_X emissions from the Flashing Furnace System] + $\sum$ [NO_X emissions from the Detonation Chamber].

Comment [TS82]: As discussed in Section 4.3, emissions from non-road engines do not count toward a stationary source's total emissions when determining both Title V and PSD applicability. Therefore, the compliance demonstration conditions listed here to demonstrate compliance with the facility's VOC limit of 90 tpy (to be a conditional major source for Title V) and NO_X and CO limits of 225 tpy (to be a synthetic minor source for PSD) should not include emissions from non-road engines. Therefore, the Compliance Demonstration Method conditions for VOC, NOX, and CO emissions have been updated to refer to "stationary internal combustion engines" instead of "internal combustion engines" to clarify that emissions from non-road engines, which are not stationary engines, are not required to be included in these calculations.

Comment [TS83]: On October 8, 2008 BGAD submitted a letter to KDAQ requesting that compliance formula (8) for the calculation of VOC, NO_X, and CO emissions in Section D of the permit be updated to correct a typo. The formula currently requires that an emission factor in units of pounds of pollutant per pound of net explosive weight be multiplied by the **tons** of net explosive weight processed in the Detonation Chamber (EU16). The emission factor should instead be multiplied by the **pounds** of net explosive weight for this formula to be correct.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

Compliance Demonstration Method (Continued)**:**

Note: For the purposes of compliance with the source wide NO_X emissions limit, it may be assumed that actual emissions = potential emissions for Insignificant Activities listed in Section C. Potential emissions from Insignificant Activities 24 – 84 and 113 – 119, shall be calculated assuming a maximum of 500 hours per year of operation. Potential emissions from all other Insignificant Activities shall be calculated assuming a maximum of 8,760 hours per year of operation. Emission factors in equations 1 – 5 are referenced from EPA's Factor Information Retrieval (FIRE) Data System, Source Classification Codes (SCCs), 1-03-006-03, 1-05-001-06, 2-03-002-01, 2-03-001-01 and 2-03-003-01. Emission Factors in equations 6 – 8 are referenced from test data.

(F) Potentially hazardous matter or toxic substances

~~An air dispersion model protocol for potentially hazardous matter and toxic substance emissions (air toxics) for sources listed in Section B and Section C of this permit shall be submitted within 60 days of the issuance of this permit V-05-020. Upon approval of the protocol, the source shall model the air toxics emissions as indicated in the protocol. (*Note: The Division received Revision 2 of the Air Dispersion Modeling Protocol on January 20, 2006. A final air dispersion modeling report has not been submitted as of the date of this permit.*) The source shall submit the results of the air modeling to the Division, whereupon the emissions of toxics shall be evaluated to determine the compliance status with 401 KAR 63:020.~~

Comment [TS84]: Please revise this section as appropriate based on review of the air toxics dispersion modeling analysis previously submitted by BGAD.

~~The compliance determination is based on the potential to emit emission rates of toxics (e.g., chromium) given in the application submitted by the source. If additional HAPs are identified that were not present in the application, the potential to emit emission rates of those HAPs shall also be included in the air dispersion model.~~

Compliance with 401 KAR 63:020 has been demonstrated through a dispersion modeling analysis for air toxics emissions from the facility. This modeling analysis was submitted to KDAQ on October 29, 2008.

If the source alters process rates, material formulations, or any other factor that will result in an increase of emissions or the addition of toxic emissions not previously evaluated by the Division, the source shall submit the appropriate application forms pursuant to 401 KAR 52:020, along with modeling to show that the facility will remain in compliance with 401 KAR 63:020.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

1. Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

2. Pursuant to 401 KAR 50:055, § 3(1) Any affected facility commencing operations after a shutdown for six (6) months shall demonstrate compliance with the applicable standard(s) within sixty (60) days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after commencing operations. For emission units where specific testing requirements and/or test methods (other than EPA Reference Method 9) are identified under Testing Requirements, a performance test shall be required to demonstrate compliance with the applicable standard(s) unless a waiver is granted by the Division. Where no specific testing requirement and or test method (other than EPA Reference Method 9) is identified for an emission unit, then compliance with the applicable standard(s) may be demonstrated by retaining ~~presenting~~ the required periodic monitoring records and presenting these records to a Division representative upon request.

Comment [TS85]: The added text clarifies that if no stack testing, for which a test protocol would need to be submitted, is required , notification to Division of startup of a unit under this condition is only required upon request from the Division. BGAD will retain records of periodic monitoring conducted to satisfy the conditions in Section B of the permit to demonstrate compliance. For paint booths, this will involve retaining records of daily visual inspections of the fabric filter, as is suggested as a monitoring requirement in Section B of this suggested draft permit.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
    a. Date, place as defined in this permit, and time of sampling or measurements;
    b. Analyses performance dates;
    c. Company or entity that performed analyses;
    d. Analytical techniques or methods used;
    e. Analyses results; and
    f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data, logs, and ~~support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all~~ reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

Comment [TS86]: Please update this condition to be more specific about the types of records that are required to be retained by BGAD.

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
    a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
    b. To access and copy any records required by the permit:
    c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

    Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. If continuous emission and opacity monitors are required by regulation or this permit, data shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
    a. When emissions during any planned shutdowns and ensuing startups will exceed the standards, notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
    b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall be submitted in writing upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within *30 days*. Other deviations from permit requirements shall *be included in the semiannual report required by Section F.6* [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
    a. Identification of the term or condition;
    b. Compliance status of each term or condition of the permit;
    c. Whether compliance was continuous or intermittent;
    d. The method used for determining the compliance status for the source, currently and over the reporting period.
    e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Frankfort Regional Office
643 Teton Trail, STE B
Frankfort, KY 40601-1785

U.S. EPA Region 4
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11. Results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five (45) days or sooner if required by an applicable standard, after the completion of the fieldwork.

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including but not limited to termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional applicable requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit;

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the Division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon request of the Cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or to determine compliance with the conditions of this permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Environmental and Public Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

SECTION G - GENERAL PROVISIONS (CONTINUED)

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
    a. Applicable requirements that are included and specifically identified in the permit and
    b. Non-applicable requirements expressly identified in this permit.

17. Pursuant to 401 KAR 50:045, Section 2, a source required to conduct a performance test shall submit a completed Compliance Test Protocol form, DEP form 6028, or a test protocol a source has developed for submission to other regulatory agencies, in a format approved by the cabinet, to the Division's Frankfort Central Office a minimum of sixty (60) days prior to the scheduled test date. Pursuant to 401 KAR 50:045, Section 7, the Division shall be notified of the actual test date at least Thirty (30) days prior to the test.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the Division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the Division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the Division after the completeness determination has been made on any application, by whatever deadline the Division sets [401 KAR 52:020 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements
EU24 – i-SCWO System

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, emission unit EU24 in accordance with the terms and conditions of this permit.

1. Construction of any process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

2. Within thirty (30) days following commencement of construction and within fifteen (15) days following start-up and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Regional Office listed on the front of this permit in writing, with a copy to the Division's Frankfort Central Office, notification of the following:
   a. The date when construction commenced.
   b. The date of start-up of the affected facilities listed in this permit.
   c. The date when the maximum production rate specified in the permit application was achieved.

3. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.

4. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct a performance demonstration ***(test)*** on the affected facilities in accordance with 401 KAR 50:055, General compliance requirements. ***These performance tests must also be conducted in accordance with General Provisions G(d)5 of this permit and the permittee must furnish to the Division for Air Quality's Frankfort Central Office a written report of the results of such performance test in accordance with Section F, F.11.***

SECTION G - GENERAL PROVISIONS (CONTINUED)

5. Pursuant to 401 KAR 50:045 Section 5 in order to demonstrate that a source is capable of complying with a standard at all times, a performance test shall be conducted under normal conditions that are representative of the source's operations and create the highest rate of emissions. If [When] the maximum production rate represents a source's highest emissions rate and a performance test is conducted at less than the maximum production rate, a source shall be limited to a production rate of no greater than 110 percent of the average production rate during the performance tests. If and when the facility is capable of operation at the rate specified in the application, the source may retest to demonstrate compliance at the new production rate. The Division for Air Quality may waive these requirements on a case-by-case basis if the source demonstrates to the Division's satisfaction that the source is in compliance with all applicable requirements.

(e) ~~Acid Rain Program Requirements~~

~~If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.~~

Comment [TS87]: Acid Rain Program Requirements do not apply to BGAD. Therefore, we request that this condition be removed from the permit.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:
   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source of other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

   RMP Reporting Center
   P.O. Box 1515
   Lanham-Seabrook, MD 20703-1515.

2. If requested, submit additional relevant information to the Division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, *Servicing of Motor Vehicle Air Conditioners*.

SECTION H - ALTERNATE OPERATING SCENARIOS

EU10 ~~(I02)~~ **Flashing Furnace System**

Description: Car Bottom Furnace, single chamber incinerator or equivalent
Capacity: 11,800 lb of munitions bodies/hr
Charge Rate: Approximately 86 grams of explosive/hr
Types of waste burned: Explosive residue on scrap metal
Control Equipment: Afterburner, cyclone and bag-house or equivalent
Construction Date: 1981
Location: Building 275

APPLICABLE REGULATIONS:

401 KAR 59:010, New process operations applicable to each emission unit which commenced construction on or after July 2, 1975.

401 KAR 59:020, New incinerators, applicable to each incinerator commenced on or after June 6, 1979.

401 KAR 63:020, Potentially hazardous matter and toxic substance emissions, applies to the potentially hazardous matter and toxic substance emissions from affected facilities.

1. **Operating Limitations:**
   A. The treatment of hazardous waste in the car bottom furnace is prohibited.
   B. Operation of this unit is allowed when it is burning the types of waste specified in the description above.
   C. The maximum quantity of items flashed shall not exceed 12,300 tons per year.

2. **Emission Limitations:**
   A. Opacity and mass limits at the bag-house stack:
      (i) Visible emissions shall not equal or exceed 20 percent opacity.
      401 KAR 59:020, § 3(1).
      (ii) Particulate emissions shall not equal or exceed 2.34 lb/hour.
      401 KAR 59:010, § 3(2).
      Compliance Demonstration Method:
      Refer to Specific Monitoring Requirements for compliance with Emission Limit A (i).
      Refer to Specific Control Equipment Operating Conditions for compliance with Emission Limit A (ii).
   ~~B. Source-wide VOC emissions shall be less than or equal to 90 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (A).~~
   ~~C. Source-wide CO emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (D).~~
   ~~D. Source-wide NO_x emissions shall be less than or equal to 225 tons during any twelve (12) consecutive month period.~~
      ~~Refer to Section D, Compliance Demonstration Method (E).~~
   ~~E. 401 KAR 63:020: Refer to Section D, Compliance Demonstration Method (F), for emission limitations and compliance requirements.~~

Comment [TS88]: It is not necessary to list these source-wide emission limits in every Section B of the permit, because they are also listed in Section D. It would be administratively simpler to list these limits one time in Section D.

SECTION H - ALTERNATE OPERATING SCENARIOS (CONTINUED)

3. **Testing Requirements:**
   Testing shall be conducted at such times as may be required by the Cabinet in accordance with 401 KAR 59:005, § 2(2) and 50:045, § 4.
   ~~A. Opacity of emissions shall be determined from the stack by EPA Reference Method 9 annually, or more frequently if requested by the Division.~~
   B. If this unit operates for more than 60 consecutive days or a total of more than 120 days in any calendar year, particulate matter emissions from the bag house exhaust stack shall be determined by EPA Reference Method 5, no later than 180 days after the unit commenced operation.

4. **Specific Monitoring Requirements:**
   A. A qualitative visual observation of the opacity of emissions shall be performed from the stack on an annual ~~daily~~ basis and a log of the observations maintained when the unit is operating. If visible emissions from the stack are seen (not including condensed water in the plume), then an inspection of control equipment shall be initiated and corrective action taken. If visible emissions are present after the corrective action, the process shall be shut down and shall not operate again until repairs have been made that result in no visible emissions from the process during operation. In lieu of shutting the process down, the permittee may determine the opacity using Reference Method 9. If the opacity limit is not exceeded, the process may continue to operate.
   B. The weight of munitions bodies processed and hours of operation shall be monitored monthly.
   C. The types of waste burned shall be monitored monthly.

5. **Specific Record Keeping Requirements:**
   A. A record of operation of the Car Bottom Furnace shall be maintained indicating the intervals in days the unit operated.
   B. Monthly records of the weight of munitions bodies processed and the hours of operation shall be maintained. Refer to Section D, D.3, D.5 and D.6.
   C. Records documenting the results of each opacity reading by ~~EPA Reference Method 9~~ visual opacity observations shall be maintained.
   D. Corrective actions taken as a result of seeing visible emissions shall be recorded, including the date and time of the corrective action.
   E. Monthly records documenting the types of waste burned shall be maintained.

6. **Specific Reporting Requirements:**
   None ~~Refer to Section F, F.6.~~

7. **Specific Control Equipment Operating Conditions:**
   A. The cyclone and bag-house shall be operated as necessary to maintain compliance with permitted emission limitations, in accordance with manufacturer's specifications and/or standard operating practices.
   B. Records regarding the maintenance and operation of the control equipment shall be maintained.

Comment [TS89]: Annual Method 9 observations conducted over the past several years for the FFS have shown minimal opacity from this operation. Additionally, daily visual observations required in Condition 4.A have shown no visual emissions. Therefore, a formal Method 9 test is unnecessary to demonstrate compliance with opacity limitations. Instead the annual visual observation suggested below would be sufficient.

Comment [TS90]: Daily visual observations for the past several years have all shown no visible emissions. Additionally, this unit operates very infrequently with some occurrences outside of daylight hours. Therefore , daily visual observations are both unnecessary for this unit and are sometimes not possible (at night). An annual visual observation would be sufficient to ensure compliance with opacity limitations given the design and operating characteristics and past record of observations (which consistently shows no opacity).

Comment [TS91]: Section F.6 contains facility-wide reporting requirements, but no specific requirements for EU10. Therefore, this reference is not necessary and can be removed.

SECTION I - COMPLIANCE SCHEDULE

N/A

APPENDIX F

CAM PLANS

1. AIRCRAFT SURFACE COATING – SHOT BLAST – PM CAM PLAN

This section contains the CAM plan being proposed for the Aircraft Surface Coating – Building 232 Shot Blast, which utilizes a fabric filter system to control PM emissions from shot blasting occurring in the paint booth.

1.1 CAM BACKGROUND

1.1.1 EMISSION UNIT AND PM CONTROLS

Facility:	Blue Grass Army Depot Richmond, Kentucky Source ID# 21-151-00013
Emission Unit Identification:	KyEIS Source ID# EU11; Process ID# 3 – Tenant, L-3 Comm. Operation **Aircraft Surface Coating – Building 232 Shot Blast**
Description:	EU11 is a large paint booth for aircraft surface coating located in Building 232. Some aircraft parts that are to be painted are first prepared using the shot blasting machine that is located inside the paint booth. Particulate matter emissions generated from the shot blasting operation are controlled using a fabric filter system that lines the lower walls of the paint booth. The current shot blast unit and fabric filter system was installed in 1992. The maximum abrasive consumption rate in the shot blast unit is 3.2 tons/hr.
PM Controls:	During shot blasting and paint operations in the Building 232 paint booth, air from inside the paint booth is drawn through the fabric filter system at a rate of 24,000 cfm. The exhaust from the paint booth is then vented to the atmosphere through two 4 ft diameter vents located atop Building 232 at a release height of approximately 36 ft. Sections of the fabric filter system are replaced as necessary when periodic visual inspections or readings of pressure drop across fabric filter indicate that the filters are saturated.

1.1.2 APPLICABLE REGULATIONS AND CURRENT MONITORING FOR PM

Pollutant:	**PM**
Regulation:	401 KAR 59:010 (New Process Operations)
Emission Limit:	PM is limited to less than $3.59 \times P^{0.62}$ lb/hr where P is tons of shot media processed per hour. Visible emissions are limited to less than 20% opacity on a six-minute average basis. (This assumes the process rate is less than 30 ton/hr.) At the maximum rated capacity, the equivalent mass emission limit is **7.38 lb/hr**.
Current Monitoring Requirements:	59:010 prescribes no specific testing or monitoring requirements that must be followed. The existing Title V permit requires that BGAD conduct weekly visible emissions observations and to maintain a log of those observations. If any visible emissions are seen, the permit requires that a Method 9 opacity test be conducted and that the control device be inspected to determine the need for repairs. The permit also requires that filter pressure drop be monitored daily on days when the unit is operating.

1.1.3 CURRENT ESTIMATED PRE-CONTROLLED AND CONTROLLED PM EMISSIONS

Pre-Controlled Emissions:	**25.6 lb/hr; 112 tpy** No PM emission testing has been performed for Aircraft Surface Coating during operation of the in-booth Shot Blast Machine. In the original 2004 Title V application, an emission factor of 8.0 lb/ton was used to estimate uncontrolled emissions. This factor was based on an engineering estimate of uncontrolled emissions from all shot blast operations at BGAD. The uncontrolled PM emission rate at the design abrasive consumption rate (3.2 ton/hr) is 25.6 lb/hr. The previously represented uncontrolled emissions value is being retained for consistency; however, based on the design configuration of the system, this value likely significantly overestimates uncontrolled emission rates.
Controlled Emissions:	**0.03 lb/hr; 0.11 tpy** Controlled emissions rates are based on an estimated 99.9% filter efficiency. Potential emissions are less than 0.4% of the allowable rate.
CAM Designation:	Small PSEU

1.2 CAM APPLICABILITY

Pursuant to §64.2(a), because the fabric filter system is used to achieve compliance with an emission standard (401 KAR 59:010) and potential uncontrolled PM emissions exceed 100 tpy, CAM applies to Aircraft Surface Coating – Building 232 Shot Blast for PM. Because post-controlled emissions are less than 100 tpy, it is designated as a small PSEU under the CAM regulations, and as such a CAM plan is required to be submitted with the Title V renewal application. This CAM plan addresses the proposed monitoring that will ensure compliance with the PM emission limit.

1.3 MONITORING APPROACH FOR PM

To provide on-going assurance of compliance with the applicable PM emission limit, BGAD proposes to follow the CAM monitoring approach summarized in Table F-1 for Aircraft Surface Coating – Building 232 Shot Blast. The specific details regarding each monitoring method and the monitoring performance criteria for each indicator are then provided in the subsequent sections.

TABLE F-1. AIRCRAFT SURFACE COATING – BUILDING 232 SHOT BLAST – MONITORING APPROACH SUMMARY

Method	Indicator Parameter	Range	Frequency
Pressure Drop Monitoring	Pressure Drop	0.01 to 0.06 inches H_2O	Daily during operation

1.3.1 INDICATOR – PRESSURE DROP

GENERAL CRITERIA	
Indicator	**Pressure Drop**
Measurement Approach	Personnel will observe the filter pressure drop at least once daily on days when the unit is operating.
Indicator Range	An excursion will be defined if the pressure drop falls outside the indicator range of 0.01 to 0.06 inches H_2O.
Corrective Actions	In response to excursions, BGAD will replace any saturated fabric filter sections based on visible inspection. If this action does not return the pressure drop to the appropriate range, an inspection will be conducted to determine the cause of the excursion and to correct any revealed performance issues in the most expedient manner possible.
PERFORMANCE CRITERIA	
Data Representativeness	Pressure drop across the fabric filter is measured continuously using a manometer.
Verification of Operational Status	Personnel ensure that manometer is reading zero prior to beginning operation of the paint booth. After the paint booth is in operation, personnel also ensure that the manometer is showing a non-zero pressure drop.
QA/QC Practices and Criteria	Each day before beginning operation, the manometer reading is observed. If necessary, the manometer is recalibrated to zero prior to commencement of air flow through the filter.
Monitoring Frequency	Observations of fabric filter pressure drop will be recorded at least once daily.
Data Collection Procedure	An operator visually observes the pressure drop recorded by the manometer and records the observed value in a log.
Averaging Period	N/A
Recordkeeping	• Log of daily pressure drop readings. • Log of maintenance performed on the filter system. • The causes and corrective actions taken associated with any excursions will be noted in the maintenance log.
Reporting	An overall summary of recordkeeping and a tally of excursions, if any, will be documented in the Title V semiannual monitoring reports. A copy of the daily logs will be maintained in a dedicated binder as well as in the Title V compliance electronic database and will be made available upon request.

1.4 MONITORING APPROACH JUSTIFICATION

1.4.1 RATIONALE FOR SELECTING PERFORMANCE INDICATOR

Because estimated actual PM emissions from the aircraft surface coating shot blast unit are less than 0.4% of the allowable (at capacity), there is very little likelihood that the PM or opacity standards will be exceeded except in the case of a complete filter system failure. The indicator selected will help prevent fabric filter performance problems from occurring, and will ensure that any fabric filter performance problems that do occur are corrected before they could lead to the type of malfunction that would cause an exceedance.

The pressure drop across the fabric filter is measured continuously and is reviewed by personnel at least one per day of operation. An increase in pressure drop can indicate that the fabric filter is saturated and that certain filter sections must be replaced. Decreases in pressure drop may indicate holes and tears or missing fabric filter sections.

1.4.2 RATIONALE FOR SELECTING INDICATOR RANGE

The pressure drop indicator range of 0.01 to 0.06 inches H_2O was selected based on operating experience. Pressure drops below 0.01 inches H_2O during system operation indicate that the manometer may not be operating properly or that fabric filter sections may be torn or missing. A pressure drop of greater than 0.06 inches H_2O indicates that the fabric filter may be saturated and need replacing. Operators currently use these two thresholds to determine if follow up inspections and/or maintenance on the fabric filter system are needed.

This section contains the CAM plan being proposed for the Detonation Chamber, which utilizes a cartridge filter unit to control PM emissions from the contained detonation of military munitions.

2.1 CAM BACKGROUND

2.1.1 EMISSION UNIT AND PM CONTROLS

Facility:	Blue Grass Army Depot Richmond, Kentucky Source ID# 21-151-00013
Emission Unit Identification:	KyEIS Source ID# EU16; Process ID# 1 **Detonation Chamber**
Description:	EU16 is a waste military munitions (WMM) treatment unit that destroys military munitions by contained detonation. The detonation chamber is located in Building 280. Particulate matter emissions generated from operation of the detonation chamber are controlled using a cartridge filter unit. The detonation chamber and cartridge filter unit were installed in 1999. The maximum net explosive weight (NEW) detonation rate in the detonation chamber is 300 lb/hr.
PM Controls:	Emissions from the detonation chamber are first routed through an expansion chamber where the cooling of the exhaust gas occurs through expansion. Particulate matter emissions are then controlled using a cartridge filter unit that processes the exhaust gas at a maximum rate of 18,347 cfm. The exhaust from the cartridge filter unit is then vented to the atmosphere through a 2 ft diameter stack located atop the cartridge filter unit at a release height of approximately 30 ft.

2.1.2 APPLICABLE REGULATIONS AND CURRENT MONITORING FOR PM

Pollutant:	**PM**
Regulation:	401 KAR 59:010 (New Process Operations)
Emission Limit:	PM is limited to less than $3.59 \times P^{0.62}$ lb/hr where *P* is tons of net explosive weight processed per hour. Visible emissions are limited to less than 20% opacity on a six-minute average basis. The minimum PM limit in 401 KAR 59:010 is 2.34 lb/hr for process rates less than 1,000 lb/hr, such as the detonation chamber. At the maximum rated capacity (300 lb/hr), the mass emission limit is the minimum of **2.34 lb/hr**.
Current Monitoring Requirements:	59:010 prescribes no specific testing or monitoring requirements that must be followed. The existing Title V permit requires that BGAD conduct weekly visible emissions observations and to maintain a log of those observations. If any visible emissions are seen, the permit requires that a Method 9 opacity test be conducted and that the control device be inspected to determine the need for repairs. The permit also requires that cartridge filter pressure drop be monitored daily on days when the unit is operating.

2.1.3 CURRENT ESTIMATED PRE-CONTROLLED AND CONTROLLED PM EMISSIONS

Pre-Controlled Emissions:	**192.6 lb/hr; 844 tpy** PM emission testing was conducted for the detonation chamber in August 2001. The results of this testing resulted in a measured controlled PM emission rate of 6.42×10^{-4} lb PM/lb NEW. In BGAD's current KyEIS report, 99.9% PM control is used to estimate uncontrolled emissions of 6.42×10^{-1} lb PM/lb NEW. The uncontrolled PM emission rate at the design NEW detonation rate (300 lb/hr) is 192.6 lb/hr. The previously represented uncontrolled emissions value is being retained for consistency; however, based on the design configuration of the system, this value likely significantly overestimates uncontrolled emission rates.
Controlled Emissions:	**0.19 lb/hr; 0.84 tpy** Controlled emissions rates are based on an estimated 99.9% filter efficiency. Potential emissions are less than 8% of the allowable rate.
CAM Designation:	Small PSEU

2.2 CAM APPLICABILITY

Pursuant to §64.2(a), because the cartridge filter unit is used to achieve compliance with an emission standard (401 KAR 59:010) and potential uncontrolled PM emissions exceed 100 tpy, CAM applies to the Detonation Chamber for PM. Because post-controlled emissions are less than 100 tpy, it is designated as a small PSEU under the CAM regulations, and as such a CAM plan is required to be submitted with the Title V renewal application. This CAM plan addresses the proposed monitoring that will ensure compliance with the PM emission limit.

2.3 MONITORING APPROACH FOR PM

To provide on-going assurance of compliance with the applicable PM emission limit, BGAD proposes to follow the CAM monitoring approach summarized in Table F-2 for the Detonation Chamber. The specific details regarding each monitoring method and the monitoring performance criteria for each indicator are then provided in the subsequent sections.

TABLE F-2. DETONATION CHAMBER – MONITORING APPROACH SUMMARY

Method	Indicator Parameter	Range	Frequency
Pressure Drop Monitoring	Pressure Drop	0.0 to 8.0 inches H_2O	Daily during operation

2.3.1 INDICATOR – PRESSURE DROP

GENERAL CRITERIA	
Indicator	**Pressure Drop**
Measurement Approach	Personnel will observe the filter pressure drop at least once daily on days when the unit is operating.
Indicator Range	An excursion will be defined if the pressure drop falls outside the indicator range of 0.0 to 8.0 inches H_2O.
Corrective Actions	In response to excursions, BGAD will replace the cartridge filter(s) based on visible inspection. If this action does not return the pressure drop to the appropriate range, an inspection will be conducted to determine the cause of the excursion and to correct any revealed performance issues in the most expedient manner possible.
PERFORMANCE CRITERIA	
Data Representativeness	Pressure drop across the fabric filter is measured continuously using a manometer.
Verification of Operational Status	Personnel ensure that manometer is reading zero prior to beginning operation of the detonation chamber. After the detonation chamber is in operation, personnel also ensure that the manometer is showing a non-zero pressure drop.
QA/QC Practices and Criteria	Each day before beginning operation, the manometer reading is observed. If necessary, the manometer is recalibrated to zero prior to commencement of air flow through the filter.
Monitoring Frequency	Observations of cartridge filter pressure drop will be recorded at least once daily.
Data Collection Procedure	An operator visually observes the pressure drop recorded by the manometer and records the observed value in a log.
Averaging Period	N/A
Recordkeeping	• Log of daily pressure drop readings. • Log of maintenance performed on the filter system. • The causes and corrective actions taken associated with any excursions will be noted in the maintenance log.
Reporting	An overall summary of recordkeeping and a tally of excursions, if any, will be documented in the Title V semiannual monitoring reports. A copy of the daily logs will be maintained in a dedicated binder as well as in the Title V compliance electronic database and will be made available upon request.

2.4 MONITORING APPROACH JUSTIFICATION

2.4.1 RATIONALE FOR SELECTING PERFORMANCE INDICATOR

Because estimated actual PM emissions from the Detonation Chamber are less than 8% of the allowable (at capacity), there is very little likelihood that the PM or opacity standards will be exceeded except in the case of a complete filter system failure. The indicator selected will help prevent cartridge filter performance problems from occurring, and will ensure that any cartridge filter performance problems that do occur are corrected before they could lead to the type of malfunction that would cause an exceedance.

The pressure drop across the cartridge filter is measured continuously and is reviewed by personnel at least one per day of operation. An increase in pressure drop can indicate that the cartridge filter is saturated and that certain filter sections must be replaced. Decreases in pressure drop may indicate holes and tears in the cartridge filter.

2.4.2 RATIONALE FOR SELECTING INDICATOR RANGE

The pressure drop indicator range of 0.0 to 8.0 inches H_2O was selected based on operating experience. Pressure drops at 0.0 inches H_2O during proper system operation have been observed; therefore, the lower end of the pressure drop range is set at 0.0 inches H_2O. Negative pressure drop readings would indicate that the manometer is not operating properly or requires calibration. A pressure drop of greater than 8.0 inches H_2O indicates that the cartridge filter may be blinded and need replacing. Operators currently use these two thresholds to determine if follow up inspections and/or maintenance on the fabric filter system are needed.

3. SHOT BLASTING OF MUNITIONS – BUILDING 1180 – PM CAM PLAN

This section contains the CAM plan being proposed for the Shot Blasting of Munitions – Building 1180, which utilizes a cartridge filter system to control PM emissions from shot blasting operations.

3.1 CAM BACKGROUND

3.1.1 EMISSION UNIT AND PM CONTROLS

Facility:	Blue Grass Army Depot Richmond, Kentucky Source ID# 21-151-00013
Emission Unit Identification:	KyEIS Source ID# EU17; Process ID# 1 **Shot Blasting of Munitions – Building 1180**
Description:	EU17 is a shot blasting unit used for surface preparation of munition items prior the surface coating operations at BGAD. Particulate matter emissions generated from the shot blasting operation are controlled using a cartridge filter unit. The current shot blast unit was installed in 1960 and the cartridge filter unit was installed in 2007. The maximum abrasive consumption rate in the shot blast unit is 60 tons/hr.
PM Controls:	During shot blasting in the Building 1180 munitions shot blast unit, air from inside the shot blast unit is drawn through the cartridge filter system at a rate of 9,500 cfm. The exhaust from the cartridge filter is then vented to the atmosphere through a 1.5 ft diameter stack located atop Building 1180 at a release height of approximately 25 ft. Cartridges are replaced as necessary when periodic visual inspections or readings of pressure drop across cartridge filter indicate that the filters require replacement.

3.1.2 APPLICABLE REGULATIONS AND CURRENT MONITORING FOR PM

Pollutant:	**PM**
Regulation:	401 KAR 61:020 (Existing Process Operations)
Emission Limit:	PM is limited to less than $[55 \times P^{0.11}] - 40$ lb/hr where *P* is tons of shot media processed per hour. Visible emissions are limited to less than 40% opacity on a six-minute average basis. (This assumes the process rate is greater than 60 ton/hr.) At the maximum rated capacity, the equivalent mass emission limit is **46.3 lb/hr**.
Current Monitoring Requirements:	61:020 prescribes no specific testing or monitoring requirements that must be followed. The existing Title V permit requires that BGAD conduct annual Method 9 visible emissions observations and to maintain a log of those observations. If any visible emissions are seen, the permit requires that the control device be inspected to determine the need for repairs. The permit also requires that filter pressure drop be monitored daily on days when the unit is operating.

3.1.3 CURRENT ESTIMATED PRE-CONTROLLED AND CONTROLLED PM EMISSIONS

Pre-Controlled Emissions:	**480 lb/hr; 2,102 tpy** No PM emission testing has been performed for Shot Blasting of Munitions operations in Building 1180. In the original 2004 Title V application, an emission factor of 8.0 lb/ton was used to estimate uncontrolled emissions. This factor was based on an engineering estimate of uncontrolled emissions from all shot blast operations at BGAD. The uncontrolled PM emission rate at the design abrasive consumption rate (60 ton/hr) is 480 lb/hr. The previously represented uncontrolled emissions value is being retained for consistency; however, based on the design configuration of the system, this value likely significantly overestimates uncontrolled emission rates.
Controlled Emissions:	**0.48 lb/hr; 2.10 tpy** Controlled emissions rates are based on an estimated 99.9% filter efficiency. Potential emissions are less than 1% of the allowable rate.
CAM Designation:	Small PSEU

3.2 CAM APPLICABILITY

Pursuant to §64.2(a), because the cartridge filter system is used to achieve compliance with an emission standard (401 KAR 61:020) and potential uncontrolled PM emissions exceed 100 tpy, CAM applies to Shot Blasting of Munitions – Building 1180 for PM. Because post-controlled emissions are less than 100 tpy, it is designated as a small PSEU under the CAM regulations, and as such a CAM plan is required to be submitted with the Title V renewal application. This CAM plan addresses the proposed monitoring that will ensure compliance with the PM emission limit.

3.3 MONITORING APPROACH FOR PM

To provide on-going assurance of compliance with the applicable PM emission limit, BGAD proposes to follow the CAM monitoring approach summarized in Table F-3 for Shot Blasting of Munitions – Building 1180. The specific details regarding each monitoring method and the monitoring performance criteria for each indicator are then provided in the subsequent sections.

TABLE F-3. SHOT BLASTING OF MUNITIONS – BUILDING 1180 – MONITORING APPROACH SUMMARY

Method	Indicator Parameter	Range	Frequency
Pressure Drop Monitoring	Pressure Drop	0.1 to 5.0 inches H_2O	Daily during operation

3.3.1 INDICATOR – PRESSURE DROP

GENERAL CRITERIA	
Indicator	**Pressure Drop**
Measurement Approach	Personnel will observe the cartridge filter pressure drop at least once daily on days when the unit is operating.
Indicator Range	An excursion will be defined if the pressure drop falls outside the indicator range of 0.1 to 5.0 inches H_2O.
Corrective Actions	In response to excursions, BGAD will replace the cartridge filter(s) based on visible inspection. If this action does not return the pressure drop to the appropriate range, an inspection will be conducted to determine the cause of the excursion and to correct any revealed performance issues in the most expedient manner possible.
PERFORMANCE CRITERIA	
Data Representativeness	Pressure drop across the cartridge filter is measured continuously using a manometer.
Verification of Operational Status	Personnel ensure that manometer is reading zero prior to beginning operation of the shot blast unit. After the shot blast unit is in operation, personnel also ensure that the manometer is showing a non-zero pressure drop.
QA/QC Practices and Criteria	Each day before beginning operation, the manometer reading is observed. If necessary, the manometer is recalibrated to zero prior to commencement of air flow through the filter.
Monitoring Frequency	Observations of cartridge filter pressure drop will be recorded at least once daily.
Data Collection Procedure	An operator visually observes the pressure drop recorded by the manometer and records the observed value in a log.
Averaging Period	N/A
Recordkeeping	• Log of daily pressure drop readings. • Log of maintenance performed on the filter system. • The causes and corrective actions taken associated with any excursions will be noted in the maintenance log.
Reporting	An overall summary of recordkeeping and a tally of excursions, if any, will be documented in the Title V semiannual monitoring reports. A copy of the daily logs will be maintained in a dedicated binder as well as in the Title V compliance electronic database and will be made available upon request.

3.4 MONITORING APPROACH JUSTIFICATION

3.4.1 RATIONALE FOR SELECTING PERFORMANCE INDICATOR

Because estimated actual PM emissions from Shot Blasting of Munitions – Building 1180 are less than 1% of the allowable (at capacity), there is very little likelihood that the PM or opacity standards will be exceeded except in the case of a complete filter system failure. The indicator selected will help prevent cartridge filter performance problems from occurring, and will ensure that any cartridge filter performance problems that do occur are corrected before they could lead to the type of malfunction that would cause an exceedance.

The pressure drop across the cartridge filter is measured continuously and is reviewed by personnel at least one per day of operation. An increase in pressure drop can indicate that the cartridge filter is clogged and that the cartridge(s) must be replaced. Decreases in pressure drop may indicate holes and tears in the cartridge filter(s).

3.4.2 RATIONALE FOR SELECTING INDICATOR RANGE

The pressure drop indicator range of 0.1 to 5.0 inches H_2O was selected based on operating experience. Pressure drops below 0.1 inches H_2O during system operation indicate that the manometer may not be operating properly or that cartridge filters may be torn or have holes. Per communication with the cartridge filter vendor, a pressure drop of greater than 5.0 inches H_2O indicates that the cartridge filter may be clogged and need replacing. Operators currently use these two thresholds to determine if follow up inspections and/or maintenance on the cartridge filter system are needed.

4. SHOT BLASTING OF MUNITIONS – BUILDING 562 – PM CAM PLAN

This section contains the CAM plan being proposed for the Shot Blasting of Munitions – Building 562, which utilizes a baghouse system to control PM emissions from shot blasting operations.

4.1 CAM BACKGROUND

4.1.1 EMISSION UNIT AND PM CONTROLS

Facility:	Blue Grass Army Depot Richmond, Kentucky Source ID# 21-151-00013
Emission Unit Identification:	KyEIS Source ID# EU18; Process ID# 1 **Shot Blasting of Munitions – Building 562**
Description:	EU18 is a shot blasting unit used for surface preparation of munition items prior the surface coating operations at BGAD. Particulate matter emissions generated from the shot blasting operation are controlled using a baghouse unit. The current shot blast unit and baghouse system was installed after July 1975. The maximum abrasive consumption rate in the shot blast unit is 13.05 tons/hr.
PM Controls:	During shot blasting in the Building 562 munitions shot blast unit, air from inside the shot blast unit is drawn through the cartridge filter system at a rate of 9,500 cfm. The exhaust from the cartridge filter is then vented to the atmosphere through a 1.0 ft diameter stack located atop Building 562 at a release height of approximately 20 ft. Bags are replaced as necessary when periodic visual inspections or readings of pressure drop across baghouse indicate that the bags require replacement.

4.1.2 APPLICABLE REGULATIONS AND CURRENT MONITORING FOR PM

Pollutant:	**PM**
Regulation:	401 KAR 59:010 (New Process Operations)
Emission Limit:	PM is limited to less than $3.59 \times P^{0.62}$ lb/hr where *P* is tons of shot media processed per hour. Visible emissions are limited to less than 20% opacity on a six-minute average basis. (This assumes the process rate is less than 30 ton/hr.) At the maximum rated capacity, the equivalent mass emission limit is **17.7 lb/hr**.
Current Monitoring Requirements:	59:010 prescribes no specific testing or monitoring requirements that must be followed. The existing Title V permit requires that BGAD conduct annual Method 9 visible emissions observations and to maintain a log of those observations. If any visible emissions are seen, the permit requires that the control device be inspected to determine the need for repairs. The permit also requires that baghouse be visually inspected daily on days when the unit is operating.

4.1.3 CURRENT ESTIMATED PRE-CONTROLLED AND CONTROLLED PM EMISSIONS

Pre-Controlled Emissions:	**104 lb/hr; 457 tpy** No PM emission testing has been performed for Shot Blasting of Munitions operations in Building 562. In the original 2004 Title V application, an emission factor of 8.0 lb/ton was used to estimate uncontrolled emissions. This factor was based on an engineering estimate of uncontrolled emissions from all shot blast operations at BGAD. The uncontrolled PM emission rate at the design abrasive consumption rate (13.05 ton/hr) is 104 lb/hr. The previously represented uncontrolled emissions value is being retained for consistency; however, based on the design configuration of the system, this value likely significantly overestimates uncontrolled emission rates.
Controlled Emissions:	**0.10 lb/hr; 0.46 tpy** Controlled emissions rates are based on an estimated 99.9% filter efficiency. Potential emissions are less than 0.6% of the allowable rate.
CAM Designation:	Small PSEU

4.2 CAM APPLICABILITY

Pursuant to §64.2(a), because the cartridge filter system is used to achieve compliance with an emission standard (401 KAR 59:010) and potential uncontrolled PM emissions exceed 100 tpy, CAM applies to Shot Blasting of Munitions – Building 562 for PM. Because post-controlled emissions are less than 100 tpy, it is designated as a small PSEU under the CAM regulations, and as such a CAM plan is required to be submitted with the Title V renewal application. This CAM plan addresses the proposed monitoring that will ensure compliance with the PM emission limit.

4.3 MONITORING APPROACH FOR PM

To provide on-going assurance of compliance with the applicable PM emission limit, BGAD proposes to follow the CAM monitoring approach summarized in Table F-4 for Shot Blasting of Munitions – Building 562. The specific details regarding each monitoring method and the monitoring performance criteria for each indicator are then provided in the subsequent sections.

TABLE F-4. SHOT BLASTING OF MUNITIONS – BUILDING 562 – MONITORING APPROACH SUMMARY

Method	Indicator Parameter	Range	Frequency
Pressure Drop Monitoring	Pressure Drop	0.1 to 5.0 inches H_2O	Daily during operation

4.3.1 INDICATOR – PRESSURE DROP

GENERAL CRITERIA	
Indicator	**Pressure Drop**
Measurement Approach	Personnel will observe the baghouse pressure drop at least once daily on days when the unit is operating.
Indicator Range	An excursion will be defined if the pressure drop falls outside the indicator range of 0.1 to 5.0 inches H_2O.
Corrective Actions	In response to excursions, BGAD will replace the bag(s) based on visible inspection. If this action does not return the pressure drop to the appropriate range, an inspection will be conducted to determine the cause of the excursion and to correct any revealed performance issues in the most expedient manner possible.
PERFORMANCE CRITERIA	
Data Representativeness	Pressure drop across the baghouse is measured continuously using a manometer.
Verification of Operational Status	Personnel ensure that manometer is reading zero prior to beginning operation of the shot blast unit. After the shot blast unit is in operation, personnel also ensure that the manometer is showing a non-zero pressure drop.
QA/QC Practices and Criteria	Each day before beginning operation, the manometer reading is observed. If necessary, the manometer is recalibrated to zero prior to commencement of air flow through the filter.
Monitoring Frequency	Observations of baghouse pressure drop will be recorded at least once daily.
Data Collection Procedure	An operator visually observes the pressure drop recorded by the manometer and records the observed value in a log.
Averaging Period	N/A
Recordkeeping	• Log of daily pressure drop readings. • Log of maintenance performed on the baghouse system. • The causes and corrective actions taken associated with any excursions will be noted in the maintenance log.
Reporting	An overall summary of recordkeeping and a tally of excursions, if any, will be documented in the Title V semiannual monitoring reports. A copy of the daily logs will be maintained in a dedicated binder as well as in the Title V compliance electronic database and will be made available upon request.

4.4 MONITORING APPROACH JUSTIFICATION

4.4.1 RATIONALE FOR SELECTING PERFORMANCE INDICATOR

Because estimated actual PM emissions from Shot Blasting of Munitions – Building 562 are less than 0.6% of the allowable (at capacity), there is very little likelihood that the PM or opacity standards will be exceeded except in the case of a complete filter system failure. The indicator selected will help prevent baghouse performance problems from occurring, and will ensure that any baghouse performance problems that do occur are corrected before they could lead to the type of malfunction that would cause an exceedance.

The pressure drop across the baghouse is measured continuously and is reviewed by personnel at least one per day of operation. An increase in pressure drop can indicate that the baghouse is clogged and that the bag(s) must be replaced. Decreases in pressure drop may indicate holes and tears in the bag(s).

4.4.2 RATIONALE FOR SELECTING INDICATOR RANGE

The pressure drop indicator range of 0.1 to 5.0 inches H_2O was selected based on operating experience. Pressure drops below 0.1 inches H_2O during system operation indicate that the manometer may not be operating properly or that bag(s) may be torn or have holes. A pressure drop of greater than 5.0 inches H_2O indicates that the bag(s) may be clogged and need replacing. Operators currently use these two thresholds to determine if follow up inspections and/or maintenance on the baghouse system are needed.

5. SHOT BLASTING OF MUNITIONS – BUILDING 550 – PM CAM PLAN

This section contains the CAM plan being proposed for the Shot Blasting of Munitions – Building 550, which utilizes a baghouse system to control PM emissions from shot blasting operations.

5.1 CAM BACKGROUND

5.1.1 EMISSION UNIT AND PM CONTROLS

Facility:	Blue Grass Army Depot Richmond, Kentucky Source ID# 21-151-00013
Emission Unit Identification:	KyEIS Source ID# EU19; Process ID# 1 **Shot Blasting of Munitions – Building 550**
Description:	EU19 is a shot blasting unit used for surface preparation of munition items prior the surface coating operations at BGAD. Particulate matter emissions generated from the shot blasting operation are controlled using a baghouse unit. The current shot blast unit and baghouse system was installed in 2004. The maximum abrasive consumption rate in the shot blast unit is 52.2 tons/hr.
PM Controls:	During shot blasting in the Building 550 munitions shot blast unit, air from inside the shot blast unit is drawn through the cartridge filter system at a rate of 9,500 cfm. The exhaust from the cartridge filter is then vented to the atmosphere through a 1.0 ft diameter stack located atop Building 550 at a release height of approximately 20 ft. Bags are replaced as necessary when periodic visual inspections or readings of pressure drop across baghouse indicate that the bags require replacement.

5.1.2 APPLICABLE REGULATIONS AND CURRENT MONITORING FOR PM

Pollutant:	**PM**
Regulation:	401 KAR 59:010 (New Process Operations)
Emission Limit:	PM is limited to less than $17.31 \times P^{0.16}$ lb/hr where *P* is tons of shot media processed per hour. Visible emissions are limited to less than 20% opacity on a six-minute average basis. (This assumes the process rate is greater than 30 ton/hr.) At the maximum rated capacity, the equivalent mass emission limit is **32.59 lb/hr**.
Current Monitoring Requirements:	59:010 prescribes no specific testing or monitoring requirements that must be followed. The existing Title V permit requires that BGAD conduct annual Method 9 visible emissions observations and to maintain a log of those observations. If any visible emissions are seen, the permit requires that the control device be inspected to determine the need for repairs. The permit also requires that baghouse pressure drop be monitored daily on days when the unit is operating.

5.1.3 CURRENT ESTIMATED PRE-CONTROLLED AND CONTROLLED PM EMISSIONS

Pre-Controlled Emissions:	**418 lb/hr; 1,829 tpy** No PM emission testing has been performed for Shot Blasting of Munitions operations in Building 550. In the original 2004 Title V application, an emission factor of 8.0 lb/ton was used to estimate uncontrolled emissions. This factor was based on an engineering estimate of uncontrolled emissions from all shot blast operations at BGAD. The uncontrolled PM emission rate at the design abrasive consumption rate (52.2 ton/hr) is 418 lb/hr. The previously represented uncontrolled emissions value is being retained for consistency; however, based on the design configuration of the system, this value likely significantly overestimates uncontrolled emission rates.
Controlled Emissions:	**0.42 lb/hr; 1.83 tpy** Controlled emissions rates are based on an estimated 99.9% filter efficiency. Potential emissions are less than 1.3% of the allowable rate.
CAM Designation:	Small PSEU

5.2 CAM APPLICABILITY

Pursuant to §64.2(a), because the cartridge filter system is used to achieve compliance with an emission standard (401 KAR 59:010) and potential uncontrolled PM emissions exceed 100 tpy, CAM applies to Shot Blasting of Munitions – Building 550 for PM. Because post-controlled emissions are less than 100 tpy, it is designated as a small PSEU under the CAM regulations, and as such a CAM plan is required to be submitted with the Title V renewal application. This CAM plan addresses the proposed monitoring that will ensure compliance with the PM emission limit.

5.3 MONITORING APPROACH FOR PM

To provide on-going assurance of compliance with the applicable PM emission limit, BGAD proposes to follow the CAM monitoring approach summarized in Table F-5 for Shot Blasting of Munitions – Building 550. The specific details regarding each monitoring method and the monitoring performance criteria for each indicator are then provided in the subsequent sections.

TABLE F-5. SHOT BLASTING OF MUNITIONS – BUILDING 550 – MONITORING APPROACH SUMMARY

Method	Indicator Parameter	Range	Frequency
Pressure Drop Monitoring	Pressure Drop	0.1 to 5.0 inches H_2O	Daily during operation

5.3.1 INDICATOR – PRESSURE DROP

GENERAL CRITERIA	
Indicator	**Pressure Drop**
Measurement Approach	Personnel will observe the baghouse pressure drop at least once daily on days when the unit is operating.
Indicator Range	An excursion will be defined if the pressure drop falls outside the indicator range of 0.1 to 5.0 inches H_2O.
Corrective Actions	In response to excursions, BGAD will replace the bag(s) based on visible inspection. If this action does not return the pressure drop to the appropriate range, an inspection will be conducted to determine the cause of the excursion and to correct any revealed performance issues in the most expedient manner possible.
PERFORMANCE CRITERIA	
Data Representativeness	Pressure drop across the baghouse is measured continuously using a manometer.
Verification of Operational Status	Personnel ensure that manometer is reading zero prior to beginning operation of the shot blast unit. After the shot blast unit is in operation, personnel also ensure that the manometer is showing a non-zero pressure drop.
QA/QC Practices and Criteria	Each day before beginning operation, the manometer reading is observed. If necessary, the manometer is recalibrated to zero prior to commencement of air flow through the filter.
Monitoring Frequency	Observations of baghouse pressure drop will be recorded at least once daily.
Data Collection Procedure	An operator visually observes the pressure drop recorded by the manometer and records the observed value in a log.
Averaging Period	N/A
Recordkeeping	• Log of daily pressure drop readings. • Log of maintenance performed on the baghouse system. • The causes and corrective actions taken associated with any excursions will be noted in the maintenance log.
Reporting	An overall summary of recordkeeping and a tally of excursions, if any, will be documented in the Title V semiannual monitoring reports. A copy of the daily logs will be maintained in a dedicated binder as well as in the Title V compliance electronic database and will be made available upon request.

5.4 MONITORING APPROACH JUSTIFICATION

5.4.1 RATIONALE FOR SELECTING PERFORMANCE INDICATOR

Because estimated actual PM emissions from Shot Blasting of Munitions – Building 550 are less than 1.3% of the allowable (at capacity), there is very little likelihood that the PM or opacity standards will be exceeded except in the case of a complete filter system failure. The indicator selected will help prevent baghouse performance problems from occurring, and will ensure that any baghouse performance problems that do occur are corrected before they could lead to the type of malfunction that would cause an exceedance.

The pressure drop across the baghouse is measured continuously and is reviewed by personnel at least one per day of operation. An increase in pressure drop can indicate that the baghouse is clogged and that the bag(s) must be replaced. Decreases in pressure drop may indicate holes and tears in the bag(s).

5.4.2 RATIONALE FOR SELECTING INDICATOR RANGE

The pressure drop indicator range of 0.1 to 5.0 inches H_2O was selected based on operating experience. Pressure drops below 0.1 inches H_2O during system operation indicate that the manometer may not be operating properly or that bag(s) may be torn or have holes. A pressure drop of greater than 5.0 inches H_2O indicates that the bag(s) may be clogged and need replacing. Operators currently use these two thresholds to determine if follow up inspections and/or maintenance on the baghouse system are needed.