BECHTEL PARSONS BLUE GRASS
A Joint Venture of Bechtel National, Inc. and Parsons Government Services Inc.

Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP)

Environmental Document

Attachment F – Procedures to Prevent Hazards

This document has been reviewed for OPSEC and OPSEC-sensitive information has been removed.

This document has been reviewed for ITAR/EAR and no ITAR/EAR-sensitive information has been found.

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Approval: **Date:**

Bill Buchanan, Author — 3/25/2020

Ron Hink, Project Manager — 3/25/20

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Acronyms/Abbreviations

Acronym	Definition
°F	degrees Fahrenheit
ANS	agent neutralization system
ASME	American Society of Mechanical Engineers
BGAD	Blue Grass Army Depot
BGCA	Blue Grass Chemical Activity
BGCAPP	Blue Grass Chemical Agent-Destruction Pilot Plant
CAM	cavity access machine
CCR	central control room
CCTV	closed-circuit television
CFR	Code of Federal Regulations
CHB	container handling building
CLA	chemical limited area
DoD	Department of Defense
DOT	Department of Transportation
EBH	energetics batch hydrolyzer
ECF	entry control facility
ECR	explosive containment room
ECV	explosive containment vestibule
EOC	emergency operations center
EONC	enhanced on-site container
FCS	facility control system
GB	nerve agent sarin, isopropyl methylphosphonofluoridate
gpm	gallons per minute
H	blister agent mustard made by the Levinstein process, bis(2 chloroethyl) sulfide or 2,2' dichlorodiethyl sulfide (also called mustard agent)
HSA	hydrolysate storage area
HVAC	heating, ventilating, and air-conditioning
KAR	Kentucky Administrative Regulation
MDB	munitions demilitarization building
MPT	metal parts treater
NFPA	National Fire Protection Association
pH	degree of acidity or alkalinity
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
RD&D	research, development, and demonstration
RO	reverse osmosis system
RSM	rocket shear machine

SCO	scene control officer
SCWO	supercritical water oxidation
SDB	standby diesel generator
SDS	spent decontamination solution
SPB	SCWO processing building
STA	SCWO tank area
TOC	total organic carbon
TSDF	treatment, storage, and disposal facility
UPA	unpack area
UPS	uninterruptible power supply
VSL	vapor screening level
VX	nerve agent, O-ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate

1.0 REQUEST OF REQUIREMENTS WAIVER

[redacted]

2.0 SECURITY PROCEDURES AND EQUIPMENT

401 KAR 39:090, Section 1; and 40 CFR 264.14 (b)

[redacted]

2.1 24–Hour Surveillance System

401 KAR 39:090, Section 1; and 40 CFR 264.14(b)(1)

[redacted]

2.2 Barrier and Means to Control Entry

401 KAR 39:090, Section 1; and 40 CFR 264.14(b)(2)

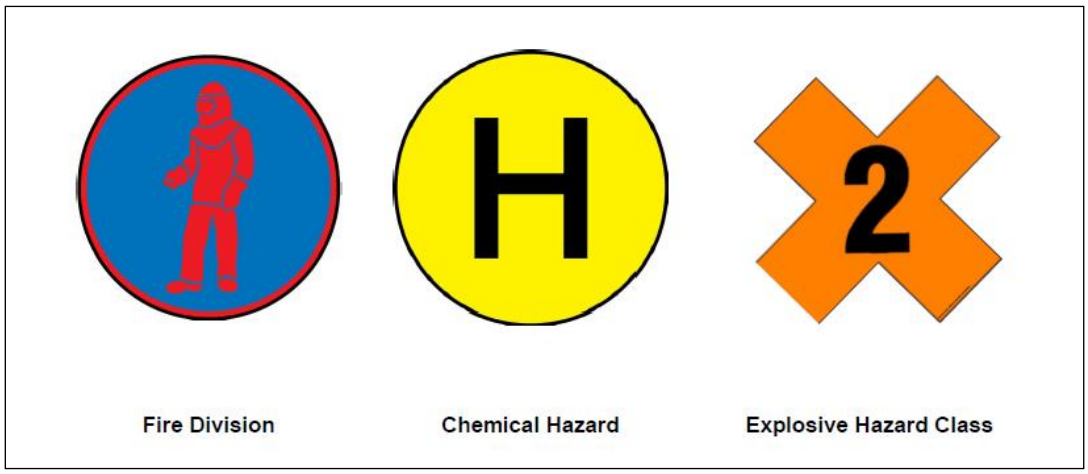
[redacted]

2.5 Warning Signs

401 KAR 39:090, Section 1; and 40 CFR 264.14(c)

Signs warning, in English, "Danger – Unauthorized Personnel Keep Out" are posted to identify the area as restricted and dangerous and that unauthorized entry is illegal, are posted along the perimeter fence surrounding BGAD at intervals of 500 feet or less and near all access gates. These signs are easily visible at a distance of 25 feet. Large signs (i.e., approximately 4 feet by 6 feet in size) describing the "Conditions of Entry" are posted at each gate and warn of the possible consequences of unauthorized entry.

Warning signs at the BGCAPP chemical agent handling area are approximately 5 feet by 4 feet in size and posted at 50-foot intervals around the BGCAPP perimeter. The legends "Warning," "Danger," "Restricted Area," and "Use of Force Authorized to Prevent Unauthorized Entry" are clearly legible at distances of 25 feet or more. The signs also indicate that entrance to the BGCAPP chemical agent handling area is unlawful without permission of the BGAD Commander.



3.0 INSPECTION SCHEDULE

401 KAR 39:090, Section 1; and 40 CFR 264.15

General Inspection Requirements [401 KAR 39:090, Section 1, and 39:060, Section 5; and 40 CFR 264.15(a) & (b), and 270.14(b)(5)]

The scheduled inspections of the BGCAPP waste storage and treatment tanks, Subpart X systems, and the container storage areas include containers/tanks/Subpart X systems, containment, safety, emergency, and operating equipment needed to prevent, detect, or respond to environmental or human health hazards. The BGCAPP Project Document Control Center (PDCC) maintains the completed inspections and other related documents.

3.1 Types of Problems

401 KAR 39:090, Section 1; and 40 CFR 264.15(b)(3)

Attachment 1, Attachment 2, and Attachment 3 identify the criteria used during container storage, tank system and Subpart X storage, and liquid loading and unloading station inspections, respectively.

3.2 Frequency of Inspection

401 KAR 39:090, Section 1; and 40 CFR 264.15(b)(4)

The "Inspection Frequency" columns in Attachment 1, Attachment 2, and Attachment 3 provide the frequency of inspection for containers, tank systems, Subpart X units, and liquid loading stations. Basis for selection of these frequencies was the rate of possible deterioration of equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or operator error goes undetected between inspections. BGCAPP performs daily inspections of areas subject to spills, such as loading and unloading areas, when in use.

3.3 Specific Process Inspection Requirements and Lightning Protection

401 KAR 39:090, Section 1; and 40 CFR 264.15(b)(4)

Specific process inspection requirements are addressed in additional detail in a separate document; Procedures to Prevent Hazards, Inspection Schedule.

The grounding/lightning protection system optimizes the protection of exposed buildings, structures and associated electrical and electronic circuits from lightning hazards. The grounding/lightning protection system is designed in accordance with the U.S. Army Corps of Engineers design manual, CEHND 1110-1-1, *Engineering Guidance Design Manual for Architect-Engineers, October 1994*. Site specific requirements are listed in the BGCAPP Engineering Specification for Lightning Protection. The building lightning protection also meets the requirements of NFPA 780 and buildings with ammunition and explosives also meet the requirements of DA-PAM 385-64.

Buildings and structures are protected against lightning strikes by a system of interconnected roof-mounted air terminals, down-conductors and dedicated ground rods. All conductors and air terminals are made of copper. Conductor in-line splices and exposed taps are made with compression fittings. All underground electrical connections and connections to structural steel members are made with exothermic welds. Exterior metal ductwork and piping are protected from lightning before entering the building, as required. The lightning protection system is connected to the electric power grounding grid. The minimum burial depth for the lightning protection grounding system is 3.0 ft. Grounding conductors are insulated from the equipment grounding system.

NFPA 780 is the requirement for the design and installation of lightning protection systems. Air terminals are solid copper, ½-in. diameter and 24 in. long (minimum). All lightning protection conductors are 32 strands of 14 AWG copper conductor, unless otherwise noted on the drawings. The lightning protection system ground terminals are bonded to the facility grounding grid system. Lightning protection system down conductors and stub-ups are protected by a 1-in. PVC conduit. All exposed lightning protection system connections are made by mechanical bolted connections. All lightning protection system down-conductor connections to the underground ground grid are made by an exothermic welding process. Lightning protection system down-conductors, air terminals and other components will not be removed or disturbed at facilities or buildings remaining for use after project closure.

The grounding/lightning protection system is designed and installed to provide a high degree of personnel protection against electrical shock under all adverse conditions. Only qualified components and materials are used to ensure continued system reliability over the life of the facility.

The grounding grid is designed to minimize the voltage rise that occurs on all grounded system components during a ground fault at the 138 kV substation, or during a lightning strike. The system is designed to provide safe step-and-touch voltage levels at all locations within the facility and at the perimeter fence.

The lightning protection system is designed to provide a solid, low-resistance path to earth to dissipate high voltages imposed by lightning strikes. The system is designed to limit voltage rise on the system and adjoining structures to acceptable low levels during dissipation of the lightning energy.

3.4 Container Inspections

401 KAR 39:090, Section 1; and 40 CFR 264.174

BGCAPP conducts weekly inspections of containers in storage areas for deterioration, corrosion, spills, and evidence of leakage. In addition, containers are inspected initially and annually thereafter for tightness of closure devices in compliance with 40 CFR 264 Subpart CC. These weekly inspections include a visual inspection for obstructions and proper maintenance of aisle space between the rows of palletized containers. Attachment 1 shows a sample inspection checklist for container inspection activities. Container storage areas that are located in Category A, A/B, and B areas in the munitions demilitarization building (MDB) will have infrequent entries due to the toxic nature of these areas. Inspections will be accomplished primarily via closed-circuit television (CCTV) and documented accordingly.

3.4.1 Tank System Inspections

401 KAR 39:090, Section 1; and 40 CFR 264.195

BGCAPP conducts daily inspections of waste tank and Subpart X systems. The inspections address overfill and spill control equipment, aboveground portions of the tank and Subpart X systems, data gathered from monitoring and leak detection equipment, construction materials, and the area immediately surrounding the externally accessible portion of the tank and Subpart X systems as well as the secondary containment system, which are monitored by level transducers in the primary sumps. Secondary sumps are inspected daily through use of CCTV or by facility personnel, based on their location in the facility. Additional criteria evaluated during the daily inspections include the evaluation of the presence of corrosion or spills/releases of hazardous waste as well as the condition of ancillary equipment. Attachment 2 shows a sample inspection checklist for the tank system and Subpart X inspection activities.

Attachment 3 provides a sample inspection checklist for liquid loading/unloading areas, when in use.

3.4.2 Waste Pile Inspections

401 KAR 39:090, Section 1; and 40 CFR 264.254

Not applicable. BGCAPP does not have any waste piles.

3.4.3 Surface Impoundment Inspections

401 KAR 39:090, Section 1; and 40 CFR 264.226

Not applicable. BGCAPP does not have any surface impoundments.

3.4.4 Incinerator Inspections

401 KAR 39:090, Section 1; and 40 CFR 264.347

Not applicable. BGCAPP does not have any incinerators.

3.4.5 Landfill Inspections

401 KAR 39:090, Section 1; and 40 CFR 264.303

Not applicable. BGCAPP does not have any landfills

3.4.6 Land Treatment Inspections

401 KAR 39:090 Section 1; and 40 CFR 264.278

Not applicable. BGCAPP does not have any land treatment units.

3.4.7 Remedial Action

401 KAR 39:090, Section 1; and 40 CFR 264.15(b)(5)(c)

The BGCAPP facility/area currently has no solid waste management units (SWMUs) or corrective actions identified. Section 6 in the BGCAPP Resource Conservation and Recovery Act (RCRA) Research, Development, and Demonstration (RD&D) Permit Application describes BGCAPP emergency response plans and section 7 in the BGCAPP RCRA RD&D Permit Application describes the closure of BGCAPP.

3.4.8 Inspection Log

401 KAR 39:090, Section 1; and 40 CFR 264.15(d)

Inspection logs will be in the form of checklists maintained by PDCC.

4.0 WAIVER OF PREPAREDNESS & PREVENTION REQUIREMENTS

401 KAR 39:060, Section 5; and 40 CFR 270.14 (b)(6)

Not applicable. A waiver of preparedness and prevention requirements is not requested or sought.

5.0 EQUIPMENT REQUIREMENTS

401 KAR 39:090, Section 1; and 40 CFR 264.32

The BGCAPP Facility will have the following equipment as required by 40 CFR 264.32.

5.1 Internal Communications

401 KAR 39:090, Section 1; and 40 CFR 264.32(a)

BGCAPP maintains an internal communications system consisting of hard-wired telephones, two-way hand held radios, cellular phones, a public address system, and audible signals. This system provides a combination of voice and signal information throughout the facility to employees and BGAD Security.

5.2 External Communications

401 KAR 39:090, Section 1; and 40 CFR 264.32(b)

[redacted]

5.3 Emergency Equipment

401 KAR 39:090, Section 1; and 40 CFR 264.32(c)

[redacted]

5.4 Water for Fire Control

401 KAR 39:090, Section 1; and 40 CFR 264.32(d)

[redacted]

6.0 AISLE SPACE REQUIREMENTS

401 KAR 39:090, Section 1; and 40 CFR 264.35

Not applicable. No waiver of the adequate aisle space requirement is required or being requested.

7.0 PREVENTIVE PROCEDURES, STRUCTURES, AND EQUIPMENT

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)

The following paragraphs provide information on the procedures, structures, and equipment used to prevent hazards in the BGCAAP Facility.

7.1 Loading and Unloading Operations

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)(i)

BGCA transports munitions from the storage igloos to the BGCAPP container handling building (CHB) in enhanced on-site containers (EONCs). The EONCs are airtight vessels specifically designed to contain chemical munitions during transport. BGCAPP monitors EONCs prior to opening or if stored in the CHB greater than 7 days to ensure no chemical agent hazard is present due to leaking munitions. A forklift transfers non-leaking munitions to a conveyor system to begin processing. If an agent hazard is identified in the EONC (indicating a leaking munition), the EONC is moved to an area under a higher level of engineering control, where it is opened and personnel wearing appropriate personal protective equipment (PPE) manually process the munitions during the "leaker" campaign.

A forklift also moves the contaminated wood pallets for treatment in the metal parts treater (MPT) or containerization for shipment off site to an approved treatment or disposal facility.

Forklift operators are specifically trained to operate the forklift and use guides to pick up loads, move through congested areas, and place loads. Ramps are equipped with rails/curbs. The forklifts are of a size that provides the capacity to handle and transport anticipated loads. The conveyor moves decontaminated or uncontaminated dunnage to an area for containerization to minimize risk to workers. To minimize risk and contact to workers, the residue handling system receives, via conveyor, decontaminated burster tubes and solid munitions bodies for containerization and recycling or disposal in a permitted landfill.

Piping transfers agent and energetics hydrolysate from the MDB to the hydrolysate storage area (HSA) and from the HSA to the supercritical water oxidation (SCWO) processing building (SPB). Hazardous waste piping in these areas is located outside of secondary containment for each respective tank system. Because these piping runs are located outside of secondary containment, daily visual inspections must and will be performed according to the requirements of 40 CFR 264.193(f)(1). Due to these piping runs being located outside and exposed to potentially freezing conditions, piping insulation is required. Although this protects the lines/waste from freezing, it also poses difficulties in completing the required visual inspections. To accomplish these required daily inspections, BPBG has installed Trace-Tek leak detection system. This system has the capability to detect a leak from the piping systems and report back to a control panel. Submittal of the inspection schedule compliance schedule item (CSI #17) will include specific details of the Trace-Tek system and its capabilities.

The SCWO system processes agent and energetics hydrolysates, which includes spent decontamination solution (i.e., solution captured in the Category A, B, and C sumps and from spent decontamination holding tanks). After further treatment in the reverse osmosis system (RO), the liquid stream is separated into two separate streams: RO permeate, which is recycled back into the facility, and RO reject, which is transferred from the RO reject storage tanks to tanker trucks for off-site treatment and/or disposal at an appropriately permitted, commercial TSDF.

In the SCWO processing building (SPB), the dissolved aluminum compounds in the energetics hydrolysate are precipitated from the hydrolysate in the APS and physically separated from the hydrolysate in the aluminum filtration system as filter cake. The aluminum filter cake accumulates in bins for off-site transport to an appropriately permitted, commercial TSDF for disposal.

The tanks located in the SCWO tank area (STA) include the SCWO effluent tanks (3), RO permeate tanks (2), and RO reject tanks (2) as well as a process water tank. The SCWO effluent that is produced in the low pressure gas/liquid separator at approximately 140 degrees Fahrenheit (°F) is sent to the SCWO effluent tanks. A recent design change has added an air-cooled heat exchanger built in two sections, in series, each having a cooling fan to circulate ambient air past the tubes containing the SCWO effluent, which reduces the temperature of the effluent to approximately 100°F. This ensures the feed temperature to the RO units is not exceeded, which is the basis for adding this heat exchanger. Once the temperature is lowered, the SCWO effluent is fed to the RO modules for purification with two resulting liquid streams: the RO permeate, which will be reused in the facility, and the RO reject, which will be sent off-site for disposal to an appropriately permitted, commercial TSDF.

Monitoring ensures rocket motors, dunnage, and secondary wastes are not agent contaminated. Boxes (wooden, metal or other suitable materials of construction) will be used to store rocket motors and SFTs during monitoring and shipment of these wastes. Rocket motors will be monitored and shipped in this type of container. SFTs will be loaded and monitored in the motor packing room / discharge airlock and then either shipped in a box similar to the ones used for rocket motors without the dividers or shipped in a roll-off container. If the latter option is chosen, the SFTs will be monitored in the reusable container prior to transfer to a roll-off box for offsite shipment and disposal.

Conveyors move MPT ash and residue from the MPT and directly discharge the ash and residue into collection containers. Personnel in appropriate PPE remove the spent carbon from the ventilation systems and other carbon filter systems and place it into lined containers. The spent carbon and MPT residue is shipped off site for treatment and/or disposal.

Dedicated specialized vehicles handle the 20- and 40-cubic-foot roll-off bins for positioning and transport for off-site disposal. Industry standard forklift "grabber jaws" handle drum-type containers to prevent slippage/spillage of container contents.

7.2 Procedures to Prevent Hazards – Runoff Prevention

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)(ii)

BGCAPP design features prevent runoff from hazardous waste handling areas to other areas of BGCAPP or the environment. Waste-handling activities in the CHB, MDB, and SPB take place in enclosed buildings. BGCAPP eliminates the risk of precipitation/runoff reaching these areas. The waste-handling areas of the CHB, MDB, and SPB have secondary containment, and the MDB and SPB have sumps, to collect spilled hazardous waste. The floor sumps for all hazardous waste management areas in the MDB have provisions for transferring sump contents to spent decontamination holding tanks. There are non-contaminated drainage (NCD) sumps located in the MDB, and other secondary sumps in the SPB where personnel use manually operated pumps to remove accumulated liquids.

[redacted]

7.3 Procedures to Prevent Contamination of Water Supplies

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)(iii)

[redacted]

7.4 Equipment and Power Failures

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)(iv)

7.4.1 Control During Failure of Munitions Processing Equipment

[redacted]

The FCS includes process controllers with functional keyboards for operator interface and control of the system, a monitor for displays, a printer to print out alarms and messages, and an event recorder or data logger. An operator is able to remove a unit or piece of equipment from automatic control and control it manually through the console keyboard. The FCS has a failsafe design. Local controllers communicate with the CCR on a real-time basis. Should this communication link become inactive (due to a failure in the FCS), the local controls automatically shut down to a safe mode. The communication system is a redundant system to reduce the likelihood of a failure in the communication link.

The FCS provides continuous automatic control of the demilitarization process. System interaction by the operator is limited to initiation of process systems and reaction to abnormal conditions. In monitoring critical functions, the FCS gives advanced warning of alarms when possible, indicating that a critical or hazardous condition is developing and warning operators to take action. Interlocks provide responses for various conditions. Shutdown can be immediate or staged.

The operator and FCS continuously monitor shutdown requests and interlocks. The FCS uses applicable pre-alarms or indicators, when possible, to warn that a shutdown condition is imminent. This gives the operator time to prevent a shutdown or to prepare for it. BGCAPP developed interlocks to respond to various conditions in a manner applicable to the condition and equipment. The system logs all abnormal conditions, such as starting and stopping of equipment. BGCAPP maintenance and management analyze these logs and records for malfunctions, maintenance issues, needed procedural changes, etc.

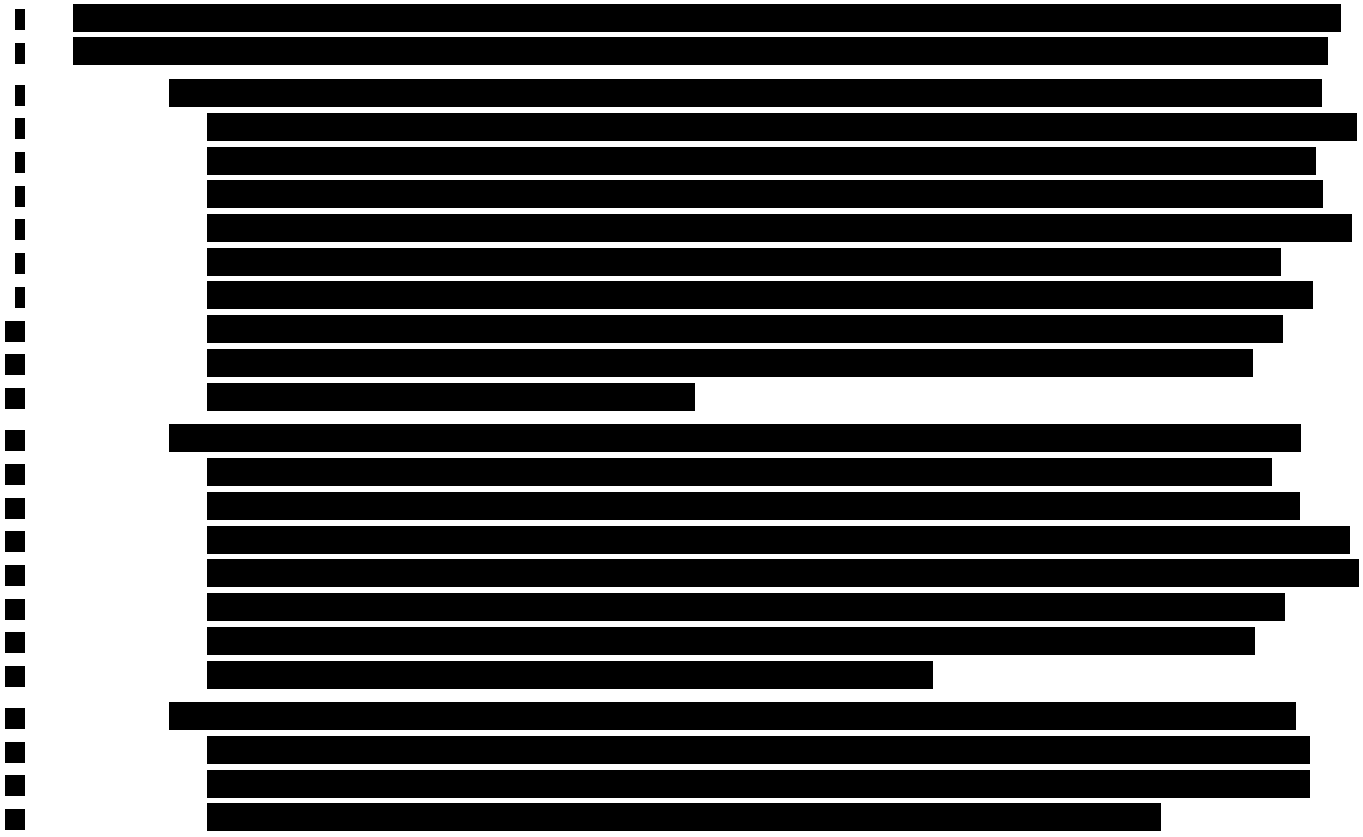
7.4.2 Supercritical Water Oxidation (SCWO) Upset Control

A second, separate FCS is provided for the SCWO. The SCWO liquid effluent is monitored, online, for total organic carbon (TOC), conductivity, and pH. Startup and shutdown phases use a clean-burning fuel, good mixing in the reactor, and highly oxidizing conditions to minimize the potential for carbonization production. Transient upset conditions (i.e., those conditions causing higher TOC levels) that could result in minor amounts of incompletely oxidized material and potentially higher TOC levels cause the liquid effluent to be automatically diverted to an off-spec (effluent) tank. This tank provides storage until the effluent can be reprocessed through the SCWO reactor to achieve complete oxidation; only clean effluent (i.e., meeting TOC, conductivity, and pH criteria) is routed to the evaporator.

During equipment failures or other upset conditions, the SCWO effluent diverts from the SCWO effluent tanks in the STA to the off-spec effluent tank. The off-spec effluent tank is located in the SPB and is controlled by the SPB heating, ventilating, and air-conditioning (HVAC) system.

7.4.3 Emergency Power

[redacted]



7.4.4 Personnel Protection Equipment (PPE)

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)(v)

The protection of BGCAPP personnel involves engineering controls through design of BGCAPP, administrative procedures, and PPE.

7.4.4.1 Engineering Design

The ventilation design provides high velocities to minimize the presence of chemical agent in the breathing zone of workers. The cascade ventilation design of the BGCAPP facility also provides ventilation control of chemical agent by ensuring areas expected to have the lowest or no chemical agent present exhaust to areas with an increasing potential for the presence of chemical agent. The design of BGCAPP also provides continuous air monitoring of chemical agent in the munitions processing area, and CCR operators can monitor the chemical agent concentrations in the process and surrounding areas. This design feature allows operators to monitor not only the potential exposures of workers but also the potential for migration of chemical agent from the munitions processing area into areas where workers have lower levels of PPE. CCTV monitored by CCR operators allows not only observation of workers and work activities, but equipment processing and any liquid releases (also detected by automatic liquid level alarms in sumps/containments) in the munitions processing area.

The combination of extensive, negative-pressure ventilation (i.e., with airflow from least to most potentially contaminated areas), continuous air monitoring, and CCR observation of processing and workers provides a design with extensive built in worker protection features.

7.4.4.2 Administrative Controls

BGCAPP personnel conduct processing, maintenance, and other work activities under various plans and procedures. These procedures provide stepwise requirements that control how workers perform specific work activities. For example, BGCAPP provides worker protection procedures for lockout/tagout, and other procedures, to include:

- Entry into and egress from chemical munitions areas
- Monitoring of chemical agent work areas
- Emergency response to chemical spills
- Decontamination of personnel leaving chemical agent work areas
- Heat stress monitoring of workers in encapsulating suits
- Response to chemical agent detections in areas surrounding chemical agent work areas
- Additional administrative procedures designed to protect BGCAPP personnel, including the following:
    - Systemization barricade safety
    - Systemization compressed gas safety
    - Systemization confined space
    - Systemization electrical safety
    - Systemization elevated work platforms
    - Systemization evaluation and certification of fume hoods
    - Systemization fall protection

- Systemization fire protection and prevention
- Systemization hand and portable power tool safety
- Systemization hot work safety
- Systemization job safety analysis and field hazard analysis
- Systemization laser safety
- Systemization lockout/tagout
- Systemization open process safety
- Systemization portable ladder safety
- Systemization powered industrial trucks
- Systemization safety shower/eyewash safety
- Systemization scaffold safety

Information contained in BGCAPP procedures is available for KDEP personnel to review at any time. BPBG does not plan to include procedures in this document or anywhere else in the permit application. Procedures change frequently and would not be appropriate to include in permitting documentation due to the frequency of potential permit modifications which would limit the ability of operations personnel to perform necessary, time critical changes as needed.

7.4.4.3 Use and Selection of PPE

Hazard identification; routes of exposure (inhalation, skin absorption, ingestion, or injection); and performance of the PPE material as a barrier to potential hazards determines the selection of PPE to be worn during agent operations. Other factors in the selection process include matching the PPE to work requirements and task-specific conditions, task duration, and potential for heat stress. Health hazard assessments and job task analyses for any hazardous operation consider these factors. Selecting the appropriate level of dress also includes the requirements provided in Department of Army Pamphlet (DA PAM) 385 61, Toxic Chemical Agent Safety Standards, and those required for handling explosive munitions or components.

The following subparagraphs list the PPE levels for normal munitions operations and support activities. Normal munitions operations and support activities include routine maintenance, calibration, adjustments, and processing in BGCAPP demilitarization systems, as well as leaker processing. BGCAPP upgrades PPE levels, as operating or emergency conditions require. The health and safety professionals involved with PPE selection recognize that PPE must be compatible with the agent that may be present, compatible with electro explosive devices, and resistant to other industrial chemicals, that may be present.

A. OSHA Level A is demilitarization protective ensemble (DPE) or comparable commercially available encapsulating suits worn during normal munitions and support operations in HVAC Category A, A/B, and B areas. Fully encapsulating, Level A protection is worn in Category B rooms unless the hazard of dermal exposure to agent is known not to exist.

B. OSHA Level B protection provides the same level of respiratory protection as Level A but does not incorporate an encapsulating suit and instead uses chemical resistant suits (not fully encapsulating) and other items of PPE such as aprons, hoods, and gloves. Level B protection is worn only if the dermal exposure hazard does not require full dermal protection.

C. OSHA Level C provides very limited dermal protection and is used only in areas with a very limited potential for release of airborne hazardous materials and only with continuous air monitoring present. This level of protection (e.g., air purifying respirator) is precautionary and allows for safe evacuation. It is not normally used where an agent hazard is known to exist. This level of PPE protects against industrial hazards (i.e., acid gases) with proper selection of cartridges and PPE fabrics.

D. OSHA Level D provides no protection for respiratory exposure to agent or an industrial chemical, so BGCAPP personnel use Level D only if a respiratory exposure cannot exist. Examples of OSHA Level D protection include maintenance coveralls and street clothes.

When responding to a chemical agent release, the required level of protection is determined for each emergency response activity and situation. However, for known or suspected agent liquid or vapor releases, OSHA Level A or B protection is required.

When responding to an industrial chemical release, the scene control officer (SCO), with assistance/approval of the Safety representative, selects the correct level of PPE. The safety data sheets (SDSs) for the chemical involved, National Institute for Occupational Safety and Health (NIOSH) guidance, the Department of Transportation (DOT) Emergency Response Guidebook, and BGCAPP emergency response procedures are references used in making this selection. The PPE selection made by the SCO also considers the work requirements of the entry, to ensure the durability of the PPE is appropriate for that work.

7.4.4.4 General Safety Criteria for Bulk Hazardous Chemicals

Emergency eyewash stations and showers are located near hazardous liquid handling areas except for work areas in which only PPE are used.

7.4.5 Atmosphere

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(8)(vi)

BGCAPP uses a cascade HVAC system to control and prevent agent and industrial chemical releases into the atmosphere.

7.4.5.1 Chemical Agent Hazard Categories and Cascade Ventilation System

Each room in the MDB is designated with one of the six ventilation categories established by BGCAPP (A, A/B, B, C, D, or E, based on the potential for agent contamination during normal munitions and support operations); descriptions of these categories are as follows:

A. Category A: Areas with a high probability of liquid agent contamination (maintained under negative pressure)

B. Category A/B: Areas with a high probability of vapor contamination and which, under certain process conditions, may be contaminated with liquid agent (maintained under negative pressure)

C. Category B: Areas with a high probability of agent vapor contamination resulting from routine operations (maintained under negative pressure)

D. Category C: Areas with a low probability of agent vapor contamination (maintained under negative pressure)

E. Category D: Areas expected to never have agent contamination (atmospheric pressure)

F. Category E: Areas that must remain occupied during agent releases (e.g., control rooms and medical facilities) and in which personnel require additional protection (maintained under positive pressure)

The MDB has a cascade ventilation and filtration system. Areas in the facility with the highest potential for contamination are maintained at the most negative pressure. Airflow cascades progressively from the areas of least probable contamination (e.g., Category C areas) to the areas of highest probable contamination (Category A areas). Sealing of walls, floors, ceilings, and all penetrations of Category A, A/B, B, and C areas prevents migration of liquid or vapor agent to other areas. Airlocks or ancillary spaces separate Category A and A/B areas from the outside environment. Category upgrading of an area provides temporary control of an increased hazard potential in an area (e.g., the potential presence of liquid agent in a Category B area may result in the area being temporarily upgraded to a Category A area).

HVAC filtration units clean the air exhausted from this ventilation system prior to release to the environment. These filtration units contain both high-efficiency particulate air (HEPA) filters that can remove at least 99.97 percent of airborne particulates 0.3 micrometers in diameter, and carbon to remove organics from the airstream. The filtration units contain carbon trays arranged in six beds or banks within each filter unit, with agent monitoring conducted between the beds to detect agent breakthrough. Chemical agent demilitarization facilities (i.e., seven existing or closed facilities) used these filtration units extensively and have more than a 30 year history of preventing agent releases to the environment.

The ECVs and ECRs, and the energetics batch hydrolyzer (EBH) room, are equipped with blast doors and gates. Blast gates allow process material to pass into and out of the containment rooms. Blast doors provide access to the blast rooms for personnel and equipment. To protect the MDB ventilation and filtration system transfer and exhaust ducts and associated components that penetrate the walls and ceilings of these rooms, BGCAPP installed blast valves in the penetrations. The blast valves consist of ganged arrays of various sizes for the required airflows. Standoff metal plates in front of the penetration openings shield the valves from flying fragments. The design of the duct also sufficiently attenuates the shock pressure leakage in the ventilation ducts to prevent damage to filter media.

SDGs provide standby power to operate the MDB HVAC system and filtration units during utility power outages and prevent releases to the atmosphere.

7.4.5.2 Industrial Hazards and the Cascade Ventilation System

The extensive ventilation control measures instituted to prevent the migration of, and eliminate the atmospheric hazards associated with, chemical agents are more than adequate to control the more common industrial chemical hazards that exist within BGCAPP processes.

7.5 Prevention of Reaction of Ignitable, Reactive, or Incompatible Wastes

401 KAR 39:060, Section 5; and 40 CFR 270.14(b)(9)

7.5.1 Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

401 KAR 39:090, Section 1; and 40 CFR 264.17 and 264.17(c)

7.5.1.1 Open Flames, Smoking, Welding or Cutting, Heat/Hot Surfaces and Sparks

Because BGCAPP is located in the BGAD ammunition restricted area, BGCAPP prohibits smoking and open flames without a permit. Smoking areas exist at specific locations on the facility, posted with signs indicating smoking authorized only in these designated areas. No smoking, cutting, welding, or any other spark producing operations occur without a permit in any hazardous waste storage area with the waste present. Any cutting or welding operations require a "hot work permit." To prevent contact, storage areas are located away from equipment that might produce radiant heat, sparks, frictional heat, or hot surfaces.

Design of the demilitarization process and operations in the MDB prevents accidental ignition or reaction of chemical agent, explosives, and propellants. BGCAPP prohibits "hot" cutting (e.g., with oxyacetylene torch) and welding within the process areas of the MDB while wastes are present in those areas. Equipment grounding during munition processing prevents the transfer of electrostatic charges to the munitions. Special floor coatings are provided in areas used for munitions handling (e.g., ECRs). The design of these floor coatings prevents the generation of static charges and sparking by personnel or equipment movement across the floors.

7.5.1.2 Response to Fires

BGCAPP considers a fire in any part of BGCAPP as a serious event requiring immediate attention and corrective action. Because any fire exposes energetics in the munitions to an explosion and may result in rapid spreading of the fire, BGCAPP personnel do not make any distinction between size and type of fires. BGCAPP immediately reports all fires inside the MDB, and immediately institutes corrective action.

7.5.1.3 Fire Protection Systems

Fire protection systems designed to meet the special needs of BGCAPP areas protect BGCAPP from fires and explosions caused by functioning munitions, electrical shorts, fuel leaks, overheated equipment, or miscellaneous equipment and other causes. In particular, the fire protection system provides immediate response to any situation involving fire inside the MDB. The fire protection system prevents the spread of a fire and allows time for operators to evacuate the area. The fire protection system also provides cooling and a degree of protection for munitions in the unpack areas (UPAs), ECVs, and ECRs (i.e., if a fire starts away from these areas).

The fire protection system for the MDB includes:

- Automatic fire detectors throughout the building (smoke, thermal, and photoelectric types)
- Manual fire alarm pull stations at exit points from the various hazard areas of the building
- Fire protection water
- An automatic sprinkler system for the UPAs that is activated by smoke detectors
- An automatic fire extinguishing medium system to protect the CCR

- A dry chemical fire protection system in the toxic maintenance area (TMA)
- Portable fire extinguishers located throughout the building and at entry/exit points for the building
- A water deluge system in the ECVs/ECRs

7.5.1.4 Chemical Reactions or Detonations

Production of the explosives, propellants, and fuse components originally occurred in a water solution. Therefore, these items are compatible with water, and dissolution in water reduces the reactivity hazard of these components, so no special precautions are necessary to prevent contact with water. The chemical agents H and VX are heavier than water (specific gravity greater than 1.0), practically insoluble, and would be covered or blanketed by water, reducing the volatilization rate from any pool of chemical agent. GB is miscible in water; however, dissolution of a small amount of this chemical agent in water also has the effect of reducing the partial pressure of the chemical agent above the solution, and thus the amount of agent in the air. For these reasons, no special precautions are necessary to prevent contact with water from the automatic sprinkler systems. In fact, the reverse is true; flooding a small spill of chemical agent with a large amount of water is a possible mitigation technique in an emergency.

Safe handling of explosives and munitions materials is a continuing concern at BGCAPP. For that reason, BGCAPP drew upon U.S. Army experience in safely handling, transporting, and storing chemical munitions and explosives. Safe handling procedures cover the transportation and BGCAPP operations and apprise personnel of the hazards in handling these munitions. BGCAPP uses conveyors to transport munitions and their components within the MDB and the CHB. The conveyor incorporates stops, interlocks, and guard rails that prevent the munitions and components from falling.

The rocket cutting machines (RCMs) and rocket shear machines (RSMs) in the ECRs remove the explosive components of munitions. Similarly, processing of the projectiles in the ECRs removes the bursters. The fire suppression system is designed to mitigate the risk of a significant fire resulting from rocket cutting or burster removal. The ECRs have reinforced concrete enclosures to contain the effects of an accidental explosion. These areas are unmanned during normal operations.

The RSM and munition washout system (MWS) remove the chemical agent from the munitions. Protective clothing is required in these areas, which are normally unmanned during processing operations. The probability of chemical agent reaction is low due to the contained design of the drain stations at the RSMs and the compatibility of the materials in BGCAPP. If a chemical agent reaction occurs, the system is designed to prevent release of emissions.

The possibility of a detonation is further minimized by shearing rocket motors and bursters into relatively small pieces, open at both ends, so that combustion initiates at both ends of a cylindrically shaped propellant or burster and there is no net force to cause acceleration of a work piece in any axial direction. The burster detector will be used at BGCAPP as a secondary check before inserting the GB and VX projectiles into the CAMs. The burster detector is a laser detector mounted over the weigh station scale. The robot holds the projectile under the detector after the nose closure is removed to confirm the burster well is empty before inserting the projectile into the CAMs. Please note the GB projectiles do not contain bursters and pose no detonation potential. If the burster detection probe detects a burster in the munition, the projectile will be taken to a reject table in the MWS room until a determination of follow up activities is determined. These activities may include the initiation of the Explosive Ordinance Disposal (EOD) activities by appropriate personnel.

7.5.2 General Precautions for Handling Ignitable or Reactive Waste and Mixing of Incompatible Waste

40 CFR 264.17(a) and (b)

7.5.2.1 General Safety Criteria for Bulk Hazardous Chemicals

In hazardous liquid handling areas, except for work areas in which only PPE suits are used, an emergency eyewash and shower are located within 25 feet.

Hazardous waste storage/treatment tanks and vessels have spill level control and overfill prevention controls that are linked to the FCS. Tanks and pumps on the bulk hazardous chemical storage and distribution system have sufficient secondary containment to contain any release of hazardous chemicals and allow efficient cleanup of these materials. Category A, A/B, B, and C areas with pumps and piping that convey spent decontamination solutions, rinse water, and airlock shower water to spent decontamination solution (SDS) storage tanks have collection sumps. Sump pumps send the spills and wash-down liquids to the appropriate process system tanks or to portable wastewater containers, depending on the contents of the wash-down water. Floors are sloped to trenches that feed these sumps.

Vents from tanks discharge to safe areas outside the areas in which the specific tank is located. These areas exhaust to the HVAC system and nitrogen sweeps the tanks to avoid buildup of vapor mixtures.

7.5.2.2 Acids, Bleach, and Caustic Piping Systems

Piping for all acids, bleach, and caustic services (i.e., hydrochloric [HCl], and sulfuric acid [H_2SO_4]; and caustic [NaOH] solutions ranging from 1 percent to 50 percent) are in accordance with American Society of Mechanical Engineers (ASME) B31.3, Process Piping Guide, Normal Fluid Service requirements. The central decontamination system supplies decontaminant to hose and shower stations in toxic areas and other areas as required by operations.

Precautions applicable to these systems include the use of appropriate piping materials for the intended service, welded piping construction, use of safety shields on flanged connections outside Category A areas including valve bonnets, and use of safety showers and eyewash stations at appropriate locations.

7.5.2.3 Hydrolysates

Piping for agent and energetics hydrolysates complies with ASME B31.3, Process Piping, Normal Fluid Service requirements. Additionally, design of piping systems includes a corrosion allowance of 0.25 inch that further increases the safety factor.

7.5.3 Management of Ignitable or Reactive Wastes in Containers

401 KAR 39:090, Section 1; and 40 CFR 264.177

Containers holding ignitable wastes are located more than 15 meters (50 feet) from the BGAD facility property line. BGCAPP does not expect to generate liquid reactive wastes for storage in containers. However, should this occur, the containers of reactive waste would be placed on a containment pallet separated from other wastes by a distance of at least 4 feet, and located more than 50 feet from the BGAD facility property line. Storage is within the boundaries set forth in 40 CFR 270.15(c) and 264.176 and details of the management of these wastes are provided in section 3.4.3.14.3, Container Management (401 KAR 34:180 and 38:150 & 40 CFR 264.170–179 and 270.15) of the BGCAPP RCRA RD&D Permit Application. The containment pallets have a secondary containment capacity of at least 55 gallons. That is more than 10 percent of the maximum storage capacity of the containers on the containment pallet and equal to or greater than a single 55-gallon drum.

7.5.4 Management of Incompatible Wastes in Containers

40 CFR 264.177(a) and (b), 264.17(b) and (c)

BGCAPP does not expect incompatible hazardous waste generation in facility processes. Incompatible wastes, if generated, are not stored together in the same container. BGCAPP personnel wash empty containers before reusing if the containers may have previously contained wastes incompatible with new wastes being placed into the container. There are currently no plans to reuse old waste containers. If questions arise about whether wastes are compatible, BGCAPP conducts laboratory incompatibility determinations prior to storing containers near each other or storing potentially incompatible wastes within the same container. Incompatible wastes in separate containers are either stored in separate containments or stored (if liquid) on separate containment pallets.

7.5.5 Management of Ignitable or Reactive Wastes in Tanks

401 KAR 39:090, Section 1; and 40 CFR 264.198

The agent hydrolysate from the agent neutralization system (ANS) is stored in the HSA after laboratory analysis confirms agent destruction (i.e., 99.9999 percent destruction efficiency [DE]) in the agent neutralization reactors. A nitrogen blanket on the hydrolysate tanks eliminates any potential for a hazard, and the tank headspace vents directly to the MDB HVAC filter to avoid ignitable vapor buildup. Other BGCAPP tanks in which hydrolysate is stored or processed have similar headspace venting.

The spent decontamination holding and other BGCAPP tanks are in full compliance with the NFPA requirements. An independent PE certified the tank assessment reports (TARs) that BGAD submitted to the Kentucky Department for Environmental Protection (KDEP). These reports concluded that the BGCAPP hazardous waste tank systems complied with all appropriate standards and requirements. The agent holding tank, agent surge tank, and spent decontamination holding tanks are located in areas provided with trenches and sumps with containment in excess of the largest tank capacity. The spacing between tanks is in excess of 3 feet.

BGCAPP designed all tanks for a single purpose, with the exception of the spent decontamination holding tank system, so mixing of reactive or incompatible waste streams is not possible. The storage of waste that may be ignitable or reactive is in accordance with NFPA Code 30.

7.5.6 Incompatible Wastes in Tanks

401 KAR 39:090, Section 1; and 40 CFR 264.199

The design of BGCAPP maintains separation of dissimilar waste streams throughout the demilitarization process.

Agent contaminated hazardous wastes such as SDS and liquid agent collected from the RSMs stored in the agent collection/toxic storage are managed in separate systems until processed in the ANS.

Energetics wastewater from the EBH is processed through a separate system until blended with agent hydrolysate from the ANS for processing in the SCWO.

This separation of waste streams minimizes the opportunity for the combining of incompatible wastes. In addition, different chemical agents are not processed together and, when changing from one chemical agent to another, the waste tanks that have contained agent-derived wastes are washed to eliminate the possibility of incompatible wastes.

7.5.7 Ignitable/Reactive Wastes for Waste Piles

401 KAR 39:090, Section 1; and 40 CFR 264.256 and 264.17(b)

Not applicable. BGCAPP does not use waste piles.

7.5.8 Incompatible Wastes in Waste Piles

401 KAR 39:090, Section 1; and 40 CFR 264.257 and 264.17(b)

Not applicable. BGCAPP does not use waste piles.

7.5.9 Ignitable/Reactive Wastes in Surface Impoundments

401 KAR 39:090, Section 1; and 40 CFR 264.229 and 264.17(b)

Not applicable. BGCAPP does not use surface impoundments.

7.5.10 Ignitable/Reactive Wastes in Landfills

401 KAR 39:090, Section 1; and 40 CFR 264.304 and 264.17

Not applicable. BGCAPP does not use landfills.

7.5.11 Incompatible Wastes in Landfills

401 KAR 39:090, Section 1; and 40 CFR 264.312

Not applicable. BGCAPP does not use landfills.

7.5.12 Liquid Wastes in Landfills

401 KAR 39:090, Section 1; and 40 CFR 264.313(a-e)

Not applicable. BGCAPP does not use landfills.

7.5.13 Incompatible Wastes in Surface Impoundments

401 KAR 39:090 Section 1; and 40 CFR 264.230 and 264.17(b)

Not applicable. BGCAPP does not use surface impoundments.

7.5.14 Special Requirements for Containers Disposed in Landfills

401 KAR 39:090, Section 1; and 40 CFR 264.314 and 264.315

BGCAPP does not operate a landfill but, as a generator, plans to use approved commercial landfills for disposal in a limited number of instances, to include disposal of:

A. Empty containers (i.e., crushed or volume reduced).

B. A limited number of agent-derived wastes composed of solid wastes and having a headspace reading of less than 1 vapor screening level (VSL).

   Agent-derived wastes are screened using headspace monitoring prior to shipment off site for disposal. Results of this monitoring are less than 1 VSL or the waste is not disposed of in a landfill. Section 3.5.1, Headspace Air Monitoring and Army Decontamination Levels, in the BGCAPP RCRA RD&D Permit Application includes a description of the monitoring methods used.

C. Wastes disposed of in landfills (i.e., wastes with the possibility of "free liquids") packed with sorbents to eliminate the possibility of free liquids.

D. Closure debris and wastes (e.g., demolition waste from which any residual chemical agent or industrial hazards have been mitigated in accordance with the Closure Plan (section 7 in the BGCAPP RCRA RD&D Permit Application).

BGCAPP does not dispose of lab packs in landfills and uses alternative forms of treatment/disposal (e.g., incineration).

7.5.15 Ignitable or Reactive Wastes in Land Treatment Units

401 KAR 39:090, Section 1; and 40 CFR 264.281 and 264.17(b)

Not applicable. BGCAPP does not operate land treatment units. All hazardous waste is shipped to an appropriately permitted, commercial TSDF for final disposal.

7.5.16 Incompatible Wastes in Land Treatment Units

401 KAR 39:090, Section 1; and 40 CFR 264.282]

Not applicable. BGCAPP does not operate land treatment units. All hazardous waste is shipped to an appropriately permitted, commercial TSDF for final disposal.

8.0 RECORDS

This document shall be retained in accordance with 24915-000-2KP-A03-00012, Records Retention and Turnover.

9.0 REFERENCES

- 24915-000-2KP-A03-00012, Records Retention and Turnover
- Code of Federal Regulations, Title 40, Protection of Environment
- DA PAM 385-61, Toxic Chemical Agent Safety Standards
- Kentucky Administrative Regulation, Title 401, Energy and Environment Cabinet Department for Environmental Protection

Attachment 1 – Sample Weekly Inspection – Containers

BGCAPP Area(s):				Date:	Time:	Inspector(s):
Hazardous Waste Container Storage						
Inspected (√)	Item	Regulatory Citation	Inspection Criteria	Inspection Frequency	Corrective Action Required (Yes/No) (if Yes, describe)	Deficiency (describe)
	Inventory	262.34	Check container fill date (90 day or 365 day limit not exceeded).	Weekly		
	Container Label	262.31	Label legible, each container labeled, and marked with words "Hazardous Waste".	Weekly		
	Container Condition	264.171	Evidence or signs of corrosion, leaks, or other deterioration. A leaking container must be repaired or the contents transferred to a container in good condition.	Weekly		
	Container Closed	264.173(a)	Bungs, plugs, caps, seals, or other closure devices are tightly closed.	Weekly		
	Aisle Space	264.35	Sufficient space (min 30") to inspect containers and for access with emergency equipment.	Weekly		
	Incompatible Wastes	264.171 264.176	Placed on a containment pallet and separated from other wastes by at least 4 feet.	Weekly		
	Secondary Containment	264.175	Evidence or signs of cracks, gaps, mars, scuffs, or other deterioration.	Weekly		
	Loading, unloading, and transfer areas (inspect daily when in use)	264.15(b)(4)	Evidence or signs of leaks, spills, and integrity of the area.	Weekly		
Security						
Inspected (√)	Item	Regulatory Citation	Inspection Criteria		Corrective Action Required (Yes/No) (if Yes, describe)	Deficiency (describe)
	Fences, Gates, and Locks	264.14	Evidence of gaps, holes, or damage to fence. Downed or damaged fence or gate posts. Erosion gaps and/or holes under the fence/gate. Vandalism, open or missing locks.	Weekly		
	Perimeter Warning Signs	264.14	Presence of warning signs on fences and gates. Visible and legible.	Weekly		
	Security of Process Areas	264.14	Doors locked to prevent unauthorized entry when buildings or processes are not in use.	Weekly		
Additional Comments:						

Form BG 00-TKD-GGPT-20001A03.01, Revised 29 OCT 2013 (TEMPLATE-00642)

Attachment 2 – Sample Daily Inspection Greater Than 90-Day Tanks and Subpart X (Miscellaneous) Systems

BGCAPP Area(s):				Date:	Time:	Inspector(s):	
Hazardous Waste Tanks and Subpart X Systems							
Inspected (√)	Item	Regulatory Citation	Inspection Criteria	Inspection Frequency	Corrective Action Required (Yes/No) (if Yes, describe)	Deficiency (describe) Corrective Action Completed	
	Overfill, Spill Prevention, and Waste Feed Cutoff Systems	262.194	Operating in accordance with design specifications and operating procedures.	Daily			
	Aboveground Portions of Tank System	264.193(f)(1) 264.194(c)(1)	Evidence of corrosion, leaks, or spills. Any leaks or spills must be reported immediately to the CCR.	Daily			
	Data from Monitoring Equipment (e.g., temperature, pressure, level gauges)	264.195(b)	Operating in accordance with design specifications and operating procedures.	Daily			
	Data from Leak Detection Equipment or Level Indicating Devices	264.195[1]	Operating in accordance with design specifications and operating procedures, and calibration is current.	Daily			
	Ancillary Equipment (in area immediately surrounding the system, including secondary containment)	264.193(f) 264.194(c)(2)	Evidence or signs of corrosion, releases, leaks, or spills of hazardous waste. Any leaks or spills must be reported immediately to the CCR.	Daily			
	Ancillary Equipment Not in Secondary Containment	264.195	Evidence or signs of corrosion, releases, leaks, or spills of hazardous waste. Any leaks or spills must be reported immediately to the CCR.	Daily			
	Piping, Pumps, Flanges, and Connectors	Contingency Plan	Check for potential leaks.[i]	Daily			
	Loading, Unloading, Transfer, and Sample Connection Systems	Contingency Plan	Capped, plugged, or blind-flanged when not in use.	Daily			
	Incompatible Ignitable/ Reactive	264.17 264.198 264.199	Incompatible waste separated from ignition sources. No ignitable or reactive waste stored in tank. No ignitable or incompatible wastes stored in the same tank system.	Daily			
	Air Emission Air Pollutant Emissions (tanks)	264.200 264.1084	Tank is not heated to a temperature greater than design temperature. Tank is open only for routine inspection, maintenance, or other normal operations.	Daily			

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Loading/Unloading/Transfer Area						
Inspected (√)	Item	Regulatory Citation	Inspection Criteria	Inspection Frequency	Corrective Action Required (Yes/No) (if Yes, describe)	Deficiency (describe)
				Daily		
				Daily		
				Daily		
				Daily		
				Daily		

Additional Comments:

[i] Record equipment name, tag number, and date of discovery for leaking sources. Confirmatory monitoring is required within 5 calendar days. Use "Monthly Subpart BB Equipment Monitoring and Follow-up" checklist to document leak and repair confirmation monitoring. Place a weatherproof tab on the leaking equipment that is marked with equipment identification or tag number and the date evidence of leak was discovered.

Form BG 00-TKD-GGPT-20001A03.02, Revised 29 OCT 2013 (TEMPLATE-00643)

Attachment 3 – Sample Daily Inspection Liquid Loading Stations

BGCAPP Area(s):				Date:	Time:	Inspector(s):
Hazardous Waste Tanks and Subpart X Systems						
Inspected (√)	Item	Regulatory Citation	Inspection Criteria	Inspection Frequency	Corrective Action Required (Yes/No) (if Yes, describe)	Deficiency (describe) Corrective Action Completed
	Loading, Unloading, and Transfer Connections	Contingency Plan	Capped, plugged, or blind-flanged when not in use.	Daily		
	Associated Piping, Valves, Pumps, Flanges, and Connections	264.195(b)(1)	Operating in accordance with design specifications and operating procedures. Immediately report any leaks to CCR and tag the leaking equipment.[1]	Daily		
	Aboveground Portions of Liquid Waste Loading Dock System	264.195(b)(1)	Evidence or signs of releases, leaks, or spills. Immediately report any leaks, spills, or releases to the CCR and tag the leaking equipment.[1]	Daily		
	Containment	264.193	Evidence of corrosion, leaks, or spills. Any leaks or spills must be immediately reported to the CCR.	Daily		
	Secondary Containment	264.193	Evidence or signs of cracks, gaps, mars, scuffs, or other deterioration. Stormwater accumulation must be removed as soon as it is possible, but in any case within 24 hours.	Daily		
	Spill Cleanup and Decontamination Equipment and Supplies	Contingency Plan	Check for adequate inventory and condition of required decontamination/spill cleanup equipment and supplies.	Daily		
Security						
Inspected (√)	Item	Regulatory Citation	Inspection Criteria	Inspection Frequency	Corrective Action Required (Yes/No) (if Yes, describe)	Deficiency (describe)
	Fences, Gates, and Locks	264.14	Evidence of gaps, holes, or damage to fence. Downed or damaged fence or gate posts. Erosion gaps and/or holes under the fence/gate. Vandalism, open or missing locks.	Daily		
	Perimeter Warning Signs	264.14	Presence of warning signs on fences and gates. Visible and legible.	Daily		
	Security of Process Areas	264.14	Doors locked to prevent unauthorized entry when buildings or processes are not in use	Daily		
Additional Comments:						

Form BG 00-TKD-GGPT-20001A03.03, Revised 29 OCT 2013 (TEMPLATE-00644)