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Demil Dispatch

Recent Progress on the Blue Grass Army Depot Demilitarization Effort.

*Kentucky Department for Environmental Protection
Division of Waste Management
Hazardous Waste Branch
Blue Grass Army Depot Section*

Inspecting an Evolving Site

When the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) is operational there will be many permitted buildings, containers and tanks treating and accumulating hazardous waste that will be subject to Resource Conservation and Recovery Act (RCRA) regulations. In the construction phase there are currently two primary areas of interest for Kentucky Department for Environmental Protection (KDEP) inspectors, the Hazmart and the less than 90 day storage area. Inspections will become increasingly complex as site activities evolve into facility systemization and ultimately the demilitarization of chemical munitions.

The Hazmart is an area where construction workers can go to sign out any chemicals required to perform their job such as solvents for cleaning, paint for marking work areas, and lubricants for tools. The contents of your home garage or workshop may share many of the same items but we do not have to worry about proper disposal due to the household hazardous waste exemption. Everything issued from the Hazmart must be returned to the Hazmart so a RCRA trained employee can make a waste determination (is it a hazardous or non-hazardous waste). Once that



Two BGCAPP Employees check the contents of one of the large metal cabinets in the less than 90 day storage area.

determination is made, the material is either placed in a drum and managed as a hazardous waste, managed as a non-regulated non-hazardous waste, recycled or re-used on site if able.

Once a waste has been determined hazardous and placed in drums or containers, they are managed in accordance with 401 KAR 32:030. The containers must be in good condition, must be labeled as hazardous waste, must be closed except when adding more waste, must be at the point of generation and must be under the control of the operator at all times. The buckets and drums are kept in metal cabinets that are flame proof and capable of containing any potential spills. There is a cabinet for aerosol disposals, a cabinet for aerosol recycling, a cabinet for universal waste such as fluorescent lamps and batteries, a cabinet for non-hazardous waste, and a cabinet for reuse. When the bucket or drum is full a date is placed on the label and according to regulations the facility has three days to move it from this satellite accumulation area to a less than 90 day storage area. The 90-day clock starts when the date is marked on the full drum.

(Continued on page 2)



A BGCAPP employee checks a drum in the less than 90 day storage area.

Construction Progress



The utility building supplies operating necessities such as steam, air, water, and nitrogen to the facility.



The nitrogen generation plant of the utility building ensures a combustion free atmosphere in the munitions demilitarization building.



The laboratory is where chemical agent destruction is determined before Super Critical Water Oxidation (SCWO) processing.



The laboratory is currently undergoing systemization



The hydrolysate holding tanks in the hydrolysate storage area (HSA) hold neutralized agent pending lab approval for release to SCWO processing.



An interior view of the BGCAPP's robust ventilation system.

Inspecting an Evolving Site (Continued)

The less than 90 day storage area is where waste is held prior to shipment offsite to a treatment, storage, or disposal facility. The provisions allowing facilities to store hazardous waste on site for up to 90 days provides manufacturers with a means to accumulate a sufficient quantity of waste for disposal without burdensome permit requirements. The facility must comply with 401 KAR 32:030 in this area. This area holds the full drums from the satellite accumulation areas in metal cabinets similar to the satellite accumulation area but larger. There is also a large shed here that contains supplies for spill control, cleanup, and extra empty drums and containers for the future storage of waste.

The inspection of the BGCAPP site includes checking the Hazmart and less than 90 day storage cabinets to ensure they are complying with all applicable regulations. Records

of waste management transactions are made available to the KDEP inspectors as well. The records review portion of the inspection includes manifests of waste shipped off site, training records of employees responsible for handling wastes, and results of internal weekly inspections from the time period between the previous inspection to the current one. Inspections are conducted weekly at BGCAPP by their environmental office to ensure consistency and identify any potential issues that need to be fixed or improved.

Other elements of an inspection may include investigating any unmarked drums that are sitting around to see whether or not they are empty and looking into trash cans around the site for any aerosol cans or caulk tubes that workers may have improperly disposed of instead of returning them to the Hazmart. Following the inspection the

KDEP inspectors will discuss their findings with the facility and any new waste streams are discussed and BGCAPP provides the inspectors with the new waste determinations.

The inspectors then generate an inspection report to submit to their supervisor who will read and approve the report then send a paper copy to the Commander and electronic copies to the BGCAPP and BGAD environmental offices. The purpose of the inspection isn't to "bust" the facility or catch them doing anything wrong. It is more about seeing what they are doing right and encouraging compliance with the RCRA regulations. If there are any issues it is a welcome opportunity for both parties to discuss how procedures and work culture can be improved to make the job site safer for human health and the environment.

Access Box Removal in the BGCA

Blue Grass Chemical Activity (BGCA) has recently performed the operation of removing access boxes exterior to the chemical munitions storage igloos. The access boxes were originally utilized to contain water that infiltrated the igloos then drained out via the parallel troughs on each side of the igloo. Maintenance issues such as freezing lines and valves led to these concrete boxes being abandoned. The exit points for the troughs were then capped and the igloos inspected for infiltrate water periodically.

The removal of the old access boxes and related piping is part of a Class I modification approved

by the Kentucky Department for Environmental Protection (KDEP). Per the modification BGCA provides notification to KDEP of removal activities so that KDEP inspectors can be present to observe removal operations, they document the locations of the boxes removed as well as any irregularities in the surrounding soil, ship the piping and access boxes off for disposal, and backfill the excavation site. The removal of these boxes will allow for the expansion of the concrete apron in front of the igloos to support demilitarization operations.



Access box before removal



Access box space after removal

Rocket Propellant Stability Study

Blue Grass Chemical Activity (BGCA) has recently expressed interest in sampling munitions from the chemical weapon stockpile to determine the stability of the propellant in the motor section of the M55 chemical rocket assemblies. The sampling will involve the selection of 44 munitions from various igloos. The rockets will be monitored, overpacked and transported to an empty igloo in the Chemical Limited Area (CLA) to be separated.

The separation involves removing an individual rocket from its overpack then placing it on Ammunition Peculiar Equipment (APE) 2097 which will hold the shipping and firing tube (SFT) while the rocket is removed. Following removal from the SFT, the rocket will be placed on a rocket restraining device that will hold the rocket securely so the chemical-agent-containing warhead may be removed from the motor segment.

For safety the rocket will be pointed into the igloo and the motor segment will be vented through a hole in the igloo wall in the unlikely event of motor ignition. The de-mating of the warhead from the motor will be halted if the maximum torque applied is insufficient to separate the two assem-

blies and the rocket will be returned to storage so another can be selected. Chemical agent monitoring will be involved at various points of the operation as well to ensure a safe working environment for the workers performing the operations.

Following separation the warhead will be overpacked and moved to its respective chemical munitions overpack igloo. The rocket motor will be placed back in the SFT with a spacer to account for the removed warhead. Twenty-five of the motors will be shipped off for propellant stability testing and the remaining 19 will be retained at BGCA for future testing to support the Blue Grass Chemical Agent Pilot Plant operations.

This type of operation has been previously performed at Pine Bluff Chemical Activity and Umatilla Chemical Depot without incident. The equipment being used to perform the operations was actually procured from these locations. The analysis of the rocket motor segments will help BGCA perform its duty of keeping the munitions storage conditions safe for the community, workers, and the environment.



Representatives from BGCA and KDEP eagerly await comments and questions at the public meeting for the recent permit modification.

The analysis of the rocket motor segments will help BGCA perform its duty of keeping the munitions storage conditions safe for the community, workers, and the environment.



Ammunition Peculiar Equipment (APE) 2097 is used to restrain the shipping and firing tube while the rocket is removed.

*Kentucky Department for
Environmental Protection*

Blue Grass Army Depot Section
200 Fair Oaks Lane
Frankfort KY 40601

Phone: 502-564-6716 ext. 4507

Web: waste.ky.gov

E-mail: daniel.walker@ky.gov

The mission of the Kentucky Division of Waste Management is to protect human health and the environment by minimizing adverse impacts on all citizens of the Commonwealth through the development of fair, equitable, and effective waste management programs.



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Photographs courtesy of ACWA, BGCAPP, CMA, and KDEP