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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*

News On Three Reviews

The Hazardous Waste Branch (HWB) has received three permit applications recently from the Blue Grass Army Depot (BGAD) and the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP), located near Richmond, Ky. This means that the Permitting Section is going to be very busy for quite some time! Why is that? When a permit application is submitted, there are many pages included, full of information about how the applicant plans to handle the hazardous waste that they will generate and/or dispose. This information will include personnel training, hazardous waste codes, container types, disposal/recycling methods, security measures, and everything in between. The Permitting Section has to ensure that this information meets the regulations of the Kentucky Department for Environmental Protection (KDEP) and US Environmental Protection Agency (EPA) before the facility operates.

What applications were submitted? The three submitted are listed here and will be explained below:

BGAD 10 Year Renewal Application
BGAD Class 3 Permit Modification – Addition of the Explosive Destruction Technology unit
BGCAPP RD&D Revision 5

BGAD 10 Year Renewal Application (referred to as: Renewal)

TSCA Permit Required to Process SFTs

The Toxic Substance Control Act (TSCA) is a United States law, passed by Congress in 1976, which regulates the introduction of new or already existing chemicals used nationwide, totaling in excess of 84,000 chemicals. Acting under TSCA, the US Environmental Protection Agency (EPA) regulates Polychlorinated Biphenyl (PCB) disposal and

sets limits for PCB contamination of the environment. PCBs are synthetic organic chemical compounds of chlorine attached to biphenyl, which is a molecule composed of two benzene rings. There are over 200 different chemical configurations for this class of chemicals which vary by the number of chlorine atoms. PCBs were

popular for many years in industry and as a result were widely distributed in many previously manufactured products.

The M55 rockets that will be disposed of at BGCAPP consist of a fin nozzle assembly, a rocket motor, a chemical agent-filled warhead and fuse. Each individual rocket is stored in a (Continued on page 4)



A fine stack of material for KDEP's summer reading program.

BGAD provides conventional ammunition services, chemical defense equipment management and manufacturing capabilities for the Department of Defense. The Blue Grass Chemical Activity (BGCA), a tenant of the 15,000-acre depot, is responsible for safekeeping the chemical weapons stockpile stored at the depot. BGAD and BGCA have submitted an application to the KDEP, Division of Waste Management (DWM), for renewal of the Resource Conservation and Recovery Act (RCRA) hazardous waste storage permit. The RCRA permit, set to expire in September 2014, covers conventional munitions operations, disposal and waste storage in (continued on page 4)

BGCAPP Construction Photos



Chemical agent destruction will be verified in the laboratory building



The energetic neutralization reactors (ENR) treat the energetic hydrolysate from the energetic batch hydrolyzer (EBH)



Consoles in the control and support building allow operators the ability to remotely control and monitor the chemical demilitarization equipment



Massive runs of piping in the utility building (UB) distribute various process chemicals, water, and steam throughout the BGCAPP



The munitions washout system (MWS) will rinse agent out of the agent cavity of nerve agent projectiles



The Super Critical Water Oxidation (SCWO) tank farm pads are set, coated and tanks are currently being erected in this area

Secretary Peters Walks the BGCAPP Site

Kentucky Energy and Environment Cabinet Secretary, Len Peters visited the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) on Jan. 16, 2014 to personally see the progress that has occurred at the site. At the time construction was over 75 percent complete with the early stages of systemization occurring making it an ideal opportunity to actually see several years of planning taking shape into what will be the safe destruction of the Blue Grass Army Depot's chemical weapons stockpile.

Highlights of the visit included a review of the current project schedule, construction and sys-

temization accomplishments, discussion of the proposed Explosive Destruction Technology (EDT), a viewing of the BGCAPP process video, as well as a walk-through of the construction site.

Secretary Peters' attention to the site was a welcome development in a time when Kentucky Department for Environmental Protection staff from both the field office and permitting section have enjoyed increased engagement through meetings and site visits as the facility rapidly approaches operation.



Energy and Environment Cabinet Secretary
Len Peters

Nerve Agent Rocket Separation Complete

Workers at Blue Grass Chemical Activity (BGCA) have successfully and safely removed the motors from 42 nerve agent rockets as of March 26. The warhead segments of the rockets were over-packed into a single round container and placed back into storage in the earthen igloos that store the stockpile present at the Blue Grass Army Depot (BGAD).

Twenty-three of the motor segments were shipped to U.S. Army Research, Development and Engineering Center at Picatinny Arsenal, NJ for compositional analysis and testing while the remaining 19 were placed in storage at the depot for future testing to support the chemical demilitarization effort at the Blue Grass Chemical-Agent Pilot Plant (BGCAPP) currently under construction.



M55 rocket (right) and shipping
and firing tube (left).

KDEP Views Anniston SDC

Kentucky Department for Environmental Protection (KDEP) employees received an opportunity in May to return to Anniston, Alabama and see the Static Detonation Chamber (SDC) responsible for destroying the problematic mustard munitions that were present at Anniston Army Depot (ANAD). The unit is the same basic design as the one proposed for construction at the Blue Grass Army Depot. Kentucky is currently in the process of reviewing the modification to the Part B Blue Grass Army Depot (BGAD) concerning the inclusion of the SDC into the permit as a Subpart X miscellaneous unit.

Kentucky used the opportunity to discuss the SDC

unit with operators in Alabama, get a close-up view of the equipment as it processed conventional munitions, and meet with representatives of the Alabama Department of Environmental Management (ADEM) to discuss lessons learned during their time on the Anniston Chemical Agent Disposal Facility (ANCDF) mission.

Following the trip to Anniston the BGAD Section Permitting team travelled to Atlanta to meet and have a follow-up discussion on the progress of the TSCA permit with Environmental Protection Agency (EPA) Region 4 as well as delve into the archives there for documents to supplement those in the state's database.



Munitions scrap metals similar to this
resulting from SDC treatment, will be
released for recycling at an appropriate
facility.

News On Three Reviews (Continued)

two munitions bunkers (igloos), as well as chemical munitions waste stored in 47 igloos. This renewal permit would allow them to continue these RCRA activities and give them the required conditions that they have to follow along the way.

BGAD Class 3 Permit Modification – Addition of the Explosive Destruction Technology unit (referred to as: EDT)

BGCAPP has selected an explosive destruction technology (EDT) system to safely destroy the mustard stockpile deemed unsuitable for processing through the main pilot plant. Because solidification of the mustard agent was found in a significant number of mustard projectiles, rendering them unsuitable for the automated neutralization process, the EDT system will be employed to destroy the entire Blue Grass mustard stockpile and two Department of Transportation 3A bottles containing mustard to augment the main pilot plant destruction process.

As such, the EDT is the subject

of this request for Class 3 Modification to the BGAD RCRA Hazardous Waste Permit. BGAD, in collaboration with BGCAPP systems contractor Bechtel Parsons Blue Grass as the permit operator, has formally submitted this permit modification request to KDEP.

BGCAPP RD&D Revision 5 (referred to as: Rev 5)

The previously approved research, development, and demonstration (RD&D) permit application for the BGCAPP facility allows for the time to design and build a waste disposal plant according to regulations for the destruction of the GB munitions that are currently stored at the BGCA tenant igloos at BGAD. This revision (Rev 5) to the RD&D permit application provides additional, updated information that has become available since approval of the previous version of this application. In addition, the format for this version of the permit application was updated to reflect and align with the eight topics that the U.S. EPA identifies for consideration when preparing a RD&D permit

application. Most of the updated information describes how the BGCAPP facility will be operated and includes a revised list of engineering drawings necessary to describe the BGCAPP operations. Once the RD&D permit is completed and the GB munitions are disposed of, the BGCAPP facility will then have to apply for a Part B RCRA Permit in order to use the facility to dispose of the VX munitions that are currently stored at the BGCA tenant igloos at BGAD. If you have any further questions on the activities at the BGAD or the BGCAPP facility, please visit these websites or contact the public affairs individual listed.

BGCAPP: <http://www.peocwa.army.mil/bgcapp/>
Stephanie Parrett: 859-624-6326

BGAD: <http://www.bluegrass.army.mil/Default.aspx>
Mark Henry: 859-779-6221

BGCA:
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Example of a hazardous waste label required by RCRA

The Permitting Section has to ensure that this information meets the regulations of the Kentucky Department for Environmental Protection (KDEP) and US Environmental Protection Agency (EPA) before the facility operates.

TSCA Permit Required to Process SFTs (Continued)

fiberglass resin composite shipping and firing tube (SFT). The tube served a dual role as both a storage and shipping container and as a firing or launching tube. PCBs were routinely used as a plasticizer, lubricating oil, hydraulic fluid, and flame retardant so their presence in the SFTs showed up in the resin and coatings.

The United States Army Environmental Hygiene Agency (USAEHA) conducted an assessment of the distribution of the PCB levels in the tubes and developed an estimation of the average concentration in their inventory of tubes. Each SFT weighs approximately 13.7 pounds with an average of 0.017 pounds of PCB present. This amount is incidental to the chemical agent treatment and destruction for Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) highlighting the care and diligence exercised to ensure the public and the environment are protected from

the presence of any chemicals associated with the chemical demilitarization operations.

EPA, Blue Grass Army Depot (BGAD), Assembled Chemical Weapons Alternatives (ACWA) and Bechtel Parsons Blue Grass (BPG) representatives are working closely to ensure the proper treatment and disposal of PCBs handled by BGCAPP. A working group meeting with representation from KDEP – Division of Waste Management was held at the EPA Region 4 Headquarters in Atlanta, Georgia on January 28, 2014 to review the “PCB Materials Processing, Storage, and Sampling Permit Application.” The environmental engineer from the EPA in charge of the permit application was also hosted by BGAD/BGCAPP on March 6, 2014 for a site tour of BGAD and the BGCAPP. The latest draft of the permit application is presently under review by the EPA.



The Thermal Oxidizer (TOX) will treat gaseous byproducts of the chemical demilitarization process including PCBs

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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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Aerial photo of BGCAPP construction site taken in May

Photographs courtesy of ACWA, BGCAPP, CMA, and KDEP