



Chemical Demilitarization Citizens' Advisory Commission
Chemical Destruction Community Advisory Board
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Doug Hindman
Chair

Reagan Taylor
Craig Williams
Co-Chairs

**Kentucky Chemical Demilitarization Citizens' Advisory Commission (CAC) and
Chemical Destruction Community Advisory Board (CDCAB) Meeting
Summary of Action Items and Discussions
Dec. 12, 2018
Eastern Kentucky University (EKU)
Richmond, Kentucky**

Attendees

CAC: Doug Hindman, Harry Moberly, Sheila Pressley, George Ridings, April Webb (for Jon Maybriar) and Craig Williams

CDCAB: David Benge, Robert Blythe, Jeff Brubaker, Chuck Cash (for Randy Neeley), Tatum Dale (for U.S. Rep. Andy Barr's office), Joe Elliott (for Col. Joseph Kurz), Dustin Heiser, Jeanne Hibberd, Doug Hindman, Ron Hink, Sheila Johnson (for Lt. Col. Rodney McCutcheon), Leslie Kaylor, Tara Long, Bryan Makinen, Harry Moberly, Stephanie Nelson (for U.S. Sen. Mitch McConnell's office), Carl Palmer, Sheila Pressley, George Ridings, David Rowlette, Mica Sims (for U.S. Sen. Rand Paul), Reagan Taylor, April Webb (for Jon Maybriar) and Craig Williams

Media Attendees:

Richmond Register: Beth Myers
WEKU-FM: Stu Johnson

Meeting Synopsis

The meeting provided information on the following:

- Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) Update
- Process Working Group (PWG) Update
- Kentucky Department for Environmental Protection (KDEP) Permitting Updates
- Explosive Destruction Technology (EDT) History and Lessons Learned

Meeting Summary Structure

This meeting summary is not intended to be a verbatim record of conversations; instead, it will provide an overview of the discussions and action items of government representatives and various members of the CAC and CDCAB. Key action items identified in the meeting and a synopsis of the major questions and comments discussed during the various updates are noted below. Copies of slides and handouts presented during the meeting can be obtained from the Blue Grass Chemical Stockpile Outreach Office (ORO) at (859) 626-8944 or bgoutreach@iem.com.

Action Items

Action Item: Provide CAC/CDCAB with types and numbers of available positions.

Responsible Entity: Ron Hink, Bechtel Parsons Blue Grass (BPPG) Project Manager.

Timeline: By March 13, 2019.

Action Item: Check forecasted personnel and payroll numbers and provide update if changes are made.

Responsible Entity: Jeff Brubaker, BGCAPP Site Project Manager.

Timeline: By March 13, 2019.

Outline of Key Issues and Discussions

Welcome and Introductions – Sarah Marko, Manager, ORO

Marko welcomed the attendees, reviewed the meeting agenda and noted the following action items from the Sept. 12, 2018, CAC/CDCAB meeting:

Action Item	Steps Taken	Date/Status
Subject matter expert to present about the Static Detonation Chamber and improvements learned from Anniston.	Information provided at the Dec. 12, 2018, CAC/CDCAB meeting (below).	Complete.
Confirm 2019 meeting dates in packet.	Information provided at the Dec. 12, 2018, CAC/CDCAB meeting.	Complete.

Opening Remarks – Doug Hindman, Chair, CAC, and Craig Williams and Reagan Taylor, Co-Chairs, CDCAB

Hindman welcomed attendees and Williams noted Darcy Maupin would not be able to attend.

Taylor recognized Dustin Heiser as the new Madison County Emergency Management Agency director and CDCAB member Robert Blythe as the incoming mayor of Richmond.

Key Updates

BGCAPP Project Update – Jeff Brubaker, Site Project Manager (SPM), BGCAPP, and Ron Hink, Project Manager, BPBG

Slides of this presentation may be obtained by contacting the ORO at (859) 626-8944 or bgoutreach@iem.com.

Brubaker and Hink opened by showing the *Kentucky Chemical Weapons Destruction: 2018 Year in Review* video (www.youtube.com/watch?v=KLSoyV67IXw). Brubaker then provided a recap of the year's activities by saying in the winter, Explosive Destruction Technology (EDT) project construction resumed after about approximately a year of layup due to funding challenges, main equipment was demonstrated in the plant, a System Demonstration Procedure was done for the Rocket Handling System and the Munitions Washout System was first tested with test munitions. In the spring, construction of EDT facilities was completed and the project shifted to full systemization activities, the GB sampling operation was successfully executed (Brubaker thanked the involved organizations for their support) and the extracted agent hydrolysate now being used for hydrolysate demonstration testing in the Laboratory, the project received Class 1 permit mods for EDT and the main plant, and the project continued discussions with the Process Working Group. Hink said the summer included transport exercises for EDT, held discussions on resequencing main plant munitions disposal for worker safety and completed the Munitions Demilitarization Building air balancing. He said the fall brought Laboratory upgrades, Government Shift Representatives went to a 24/7 schedule, blood draws started for baseline information and mask fitting, M60 rockets were introduced to the plant for training purposes and the EDT facility was readied for operations. Brubaker added the summer and fall focused on constructing final security measures including fencing and a parking lot expansion of about 160 spaces. He said everything on the roadmap is proceeding as depicted. Brubaker then noted an Organisation for the Prohibition of Chemical Weapons team visit in mid-October for an initial review of the Static Detonation Chamber (SDC), with a return visit scheduled for April for a final engineering review (approximately 60 days prior to SDC start-up, which is currently planned for as early as June 2019). He said main plant operations may begin in the September time frame. Hink covered safety and said there were no lost-time injuries and one recordable was a worker who lost consciousness during pulmonary testing, as

certain people are predisposed to that despite preparation. He noted project recordables are very low. Brubaker provided economic forecast information, saying staffing numbers continue to grow through 2019 and into 2020 and will remain fairly steady into mid- to late-2023 when operations are expected to be completed. He assumes an approximately three-year closure process, with a staffing and payroll decline during that time. Hink provided project employment diversity information and noted the project is currently looking for certified electricians, Instrumentation and Controls technicians, journeymen mechanics with 6-10 years of experience and Control Room operators. Craig Williams asked him to provide information about the open positions to the group. Brubaker provided a look ahead and said the plant will continue to demonstrate the remainder of the critical systems, of which the Metal Parts Treater is a main part, with both lines being demonstrated in the January time frame and a surrogate demonstration toward the end of January/beginning of February. He said supercritical water oxidation (SCWO) systemization will be a strong focus and the Lab has started working with VX hydrolysate and are developing methods ahead of the baseline schedule. Brubaker mentioned the decision to replace the piping between the Energetics Batch Hydrolyzers (EBH) and the Energetics Neutralization Reactors (ENR) with Hastelloy piping, that all materials have been ordered and most have been received, with the last expected in early February. He said the U.S. Army Materiel Systems Analysis Activity (AMSAA) prepared and submitted a memorandum to Michael Abaie, program executive officer (PEO), Assembled Chemical Weapons Alternatives (ACWA) regarding system safety concerns with energetics hydrolysate destruction. ACWA prepared an initial response to have further discussions with AMSAA on the topic. Brubaker then provided a Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) update and said PCAPP resumed agent destruction with 155mm mustard projectiles in mid-June, after an approximately 10-month pause to address a number of technical challenges. Since restart, operations have gone very well, and they are ahead of their destruction plan for calendar 2018. He noted their biotreatment process is running and they had shipped 250,000 gallons of hydrolysate to Port Arthur, Texas, for destruction. Brubaker said they began Integrated Field Demonstrations in November, which will be used to mark the transfer from their Research, Development and Demonstration permit to their full operating permit, which should be complete sometime next year.

Williams asked about PCAPP throughput. Brubaker said it was about 350 munitions per day. Harry Moberly asked if anyone at ACWA or the Department of Defense had specifically requested possibilities for accelerating the roadmap. Brubaker asked to defer the question to the following presentation and said he has been asked to identify potential schedule risk opportunities. Doug Hindman asked what AMSAA's concerns with the energetics hydrolysate were. Brubaker explained most of their concerns focused on the plant's ability to generate a representative sample to verify agent destruction. He said the ENR system was impacted by the design change that eliminated the water flush of the munitions, which likely results in some agent being transferred into the EBHs and ENRs. That equipment is not designed or configured like the Agent Neutralization Reactors, so this is the basis for a number of operational concerns AMSAA has raised. He said BGAPP has been in discussion with AMSAA on this topic for more than a year, feels they have a reasonable response and are prepared to offer it to AMSAA. Brubaker noted

a senior AMSAA executive felt this serious enough that in October he put it on record with a letter to Mr. Abaie.

PWG Update – Jeff Brubaker, SPM, BGCAPP, and Craig Williams, Co-Chair, CDCAB

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Williams said the PWG has been meeting often and dealing with a number of different subjects, including the EBH issue, which is currently being worked through PWG. He provided information on the plant's sequencing of GB projectiles to place them before GB rockets and said the basis for that proposal and the PWG's endorsement of that proposal, is that the projectiles don't contain explosive materials. Williams said the group felt it advantageous for the workforce to work with GB initially without risk of explosions, to get familiar with working with the agent. The decision to change was based on worker safety concerns as well as training and that proposal was endorsed by the PWG. Williams then said the next issue discussed was the potential for testing destruction of GB agent in the SDC for overpacks or rejects from main plant. He said there was a lot of discussion on the matter, very little if any information on the efficacy of treating nerve agent in SDC, but the regulators, ACWA, BPBG and PWG agree that it should be tested, basically for the same reasons as changing the sequencing of the munitions. Williams feels if the SDC can achieve the required destruction and removal efficiencies, it makes a lot of sense to use it for that purpose. He said regulators are involved in that testing process and he looks forward to the results. He explained that, in the thermal destruction comparisons between GB and mustard, GB is a lot easier to destroy than mustard. Williams said there is a memorandum in the attendee packets of information about the SDC being used for GB agents. He said it has been discussed at length with experts and the PWG and subject matter experts agreed that the information is accurate. Brubaker provided information on overpacked munitions in the Blue Grass stockpile and said there are also some lots known to contain gelled GB agent and some munitions that will be in-process rejects, and from a worker-safety perspective, it would be safer to treat them in the SDC. He noted this was the underlying basis for discussions with the PWG starting in June, which included KDEP personnel. Brubaker said when questions were raised about the background and basis to support nerve agent processing in the SDC, documents were provided from the U.S. Environmental Protection Agency (EPA), including the Dayton Stability Index. He explained the index and testing performed in the Anniston, Alabama, SDC and planned for the BGCAPP SDC and said he has very high confidence that the SDC will provide complete destruction of GB and VX. Brubaker then gave a hydrolysate update, said systemization is in full process and the Aluminum Precipitation System is complete and safety assessments are upcoming with a hazards assessment planned for early 2019 and an independent SCWO safety study to come. He said the engineering work for the hydrolysate bypass piping has been completed, with a late September 2019 completion of work planned. Brubaker shifted gears to discuss the official recognition of Mr. Abaie as the new PEO and said a new deputy PEO, Nick Stamatakis, has been added,

along with a financial director, director of program planning and analysis, contracts lead, chief scientist and deputy director of field operations, with no changes to field office personnel so far. He mentioned he will be reporting to the director of field operations, Tim Garrett. Brubaker then spoke to Moberly's earlier question and said Mr. Abaie's objective is reinforcing the current public law requirement (safe destruction by 2023) and championing a deep dive (identifying schedule risks, mitigation measures and alternate courses of action). He said Mr. Abaie is focusing on earlier completion as a target so a buffer will be available to achieve 2023 destruction. Brubaker said risk-based decisions are likely and will be briefed to the Deputy Assistant Secretary of Defense for Threat Reduction and Arms Control (DASD (TRAC)), and at that level those items necessary to execute a path forward will be provided in a milestone decision document from the Under Secretary of Defense for Acquisition and Sustainment. Williams said emphasis on schedule is important to the PWG, but they are concerned that the stressing of schedule is making members uneasy, especially members without significant historical and institutional knowledge of the program. He said the group wants to make sure safety, environmental protection and workforce protection override any other consideration and has communicated this to ACWA leadership, who has been very receptive. Williams said the PWG thought it best to make this focus known to the congressional delegation, so sent a letter to U.S. Sen. Mitch McConnell, U.S. Sen. Rand Paul and U.S. Rep. Andy Barr's chiefs of staff, who are working on following through and sending a letter to emphasize safety. Williams said he received a draft letter, the essence of it is it is in line with the group's request and with a little modification to the language, the letter will be sent to the Pentagon. He thanked the representatives from the three congressional offices. Williams clarified the group doesn't believe DASD (TRAC) and the PEO have any plans to do anything other than execute a safe program, but just wants to make sure. He noted there was a lot of pressure several years ago to meet the treaty deadline; that it was pretty extreme and people were worried about loss of safety and maximum protection, and said the group felt it was wise to have elected officials weigh in on this.

Jeanne Hibberd asked if the issue of questioning the SCWO process was related to schedule. Williams said every part of the facility impacts schedule and this is one reason there is a contingency plan for the shipment of hydrolysate should SCWO not keep pace with the facility. Hibberd asked if Williams felt the exploration of processing nerve agent in the SDC meant there was a backing off of using SCWO. Williams said not currently, but it depends on the performance of SCWO. He said most people agree a contingency plan is needed. He said he would not feel comfortable hitting a snag processing GB rockets, for example, and having a ten-month shut-down period like PCAPP.

Moberly said the only goal under the initiatives is early completion and safety is not mentioned. He asked if anything is being done specifically on this subject. Brubaker said the number one priority is safety and the safe elimination of the chemical weapons and this will not change. He said he and Hink are now, more than previously, focusing on what the real risk areas are that could result in extended downtime.

Moberly asked what Brubaker meant by the risk of delay. Brubaker said schedule risk and explained he felt the PCAPP project had overconfidence in testing done years earlier,

unexpected challenges happened with their mustard-agent destruction and they did not have risk mitigations identified ahead of time, which resulted in a near-year-long delay of operations. He said BGCAPP is trying, and Mr. Abaie is challenging the program to do a deep dive and look for where the technical risks are that could result in schedule extension and come up with risk mitigation and/or alternate courses of action to expand BGCAPP's ability to complete agent destruction operations by 2023. Moberly asked where the earlier completion goal came in and if the project is doing something to mitigate delay or to move the schedule earlier. Brubaker said to some extent, yes, moving GB projectiles in front of the GB rockets allows the project to gain confidence with agent destruction and additional time to address any issues coming out of the AMSAA evaluation. He said it is an opportunity to eventually pull the schedule forward/to the left. Brubaker said no one is talking about a radical change in schedule, just to better the project's confidence in meeting the 2023 schedule. Moberly speculated that the entire destruction could be done in the SDC and not even use SCWO. Brubaker said he and Hink will work toward developing mitigations and alternate forms of action, and they remain committed to the congressional law of destruction by 2023. He said he doesn't want to go back and ask for more time, which means more money. Moberly further speculated that this could lead to a radical change at some point, noted the previous information about another safety study on SCWO and that there have been previous studies on SCWO and asked if ACWA still has confidence in SCWO. Brubaker said the new studies will focus heavily on maintenance activity performed in the SCWO environment and noted the current concept of operations is to maintain processing in two SCWO units if maintenance on one of the three is required. He said it might be found that all three reactors may need to be shut down if maintenance is required. This will affect SCWO run time and ability to dispose of hydrolysate. Moberly then asked if Brubaker had been asked directly by the ACWA chain of command if the entire stockpile could be destroyed in SDC. Brubaker said he had not been asked.

KDEP Permitting Update – Dale Burton, Blue Grass Army Depot (BGAD) Section, KDEP

Burton said since the last CAC/CDCAB meeting, KDEP has approved EDT Emergency Coordinator information, construction of piping at the SCWO Processing Building to allow truck loading of hydrolysate (noting actual use of this piping would still require a permit modification), construction of a Munitions Demilitarization Building truck loading area for use during the leaker campaign and final Facility Construction Certification for EDT. He said KDEP sent comments to the facility on several different documents, including the Resource Conservation and Recovery Act Plan and the Pilot Test Demonstration Plan. Burton noted KDEP is currently reviewing the revised Waste Analysis Plan for main plant, the destruction of VX munitions in the main plant (current permit is for GB campaign only and an application for a Controlled Destruction Chamber (Donovan Chamber)). He said, as always, KDEP continues to work through Class 1 modifications to the EDT and the main plant permits on an ongoing basis, noting many of these are minor changes to engineering drawings, but still require time to review. Burton mentioned KDEP representatives traveled to Colorado Sept. 17-21, 2018, to visit PCAPP and discuss their

facility and their experiences, with a focus on what challenges might be encountered at BGCAPP, and discussed KDEP's experience with permitting the SDC at BGCAPP, as PCAPP is planning to bring three SDCs to their facility. He thanked ACWA for setting up the visit. Burton then said the EPA issued the federal organic air requirements permit on Nov.13, Kentucky is close to being authorized for those permits and KDEP will incorporate the same requirements into the state permit in the near future. He provided some personnel changes: two new engineers, Harold Sparks and Aaron Newton, in the BGAD Section, effective Oct. 1, and hired Brandon May, who replaces Heather Alexander. He also mentioned the Richmond field office is in the process of hiring three new personnel. Lastly, Burton said in unrelated information, KDEP issued the BGAD open burn/open detonation permit in November and said it was the end of a 30-year interim status. Williams noted a Dec. 6 National Academies for Sciences, Engineering and Medicine report on the open-burn topic and thinks it will lead to improvements in the disposal of conventional weapons.

EDT History and Lessons Learned – Terry Staggs, Plant Support Specialist, BGCAPP

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Staggs provided information on these topics requested by CAC/CDCAB members at the September meeting. He began with the need for EDT and its history, and said the need began about 20 years ago with the challenge the Tooele Chemical Agent Disposal Facility experienced with draining and processing their solidified mustard munitions. Staggs said the Anniston Chemical Agent Disposal Facility (ANCDF) and BGCAPP both explored EDT for the same reasons and BGCAPP requested an X-ray study in 2011 to assess the extent of solidification issues. After the findings, a feasibility study was completed in 2012. Now, environmental permits are in place and the SDC is scheduled to begin operations in summer 2019. Moberly asked where else the SDC is being used. Staggs said Anniston, Alabama, is using one and PCAPP will receive three similar to BGCAPP's. Staggs continued with differences and lessons learned from the Anniston SDC and explained the components are the same from an operations perspective but the BGCAPP SDC is in an enclosure building and has an IONEX 16000 air filtration system vs. Alabama's igloos. He noted more than 130 lessons learned from Alabama are incorporated into the BGCAPP design and standard operating procedures. He noted BGCAPP building design features and equipment Alabama does not have, such as IONEX air filters on the Blue Grass Service Magazine, where Anniston had three earth-covered igloos without filtration. Staggs said the BGCAPP unit is fixed where Alabama's is mobile, the BGCAPP Control Room is two times the size of the Alabama one, the BGCAPP SDC has more heaters and the most significant difference is the BGCAPP off-gas treatment system is 75 percent larger than Alabama's, which was a limiting factor for their throughput. He noted the BGCAPP project is sharing information and lessons learned with the PCAPP project every two weeks, to improve their SDCs. Staggs said BGCAPP's success leads directly to PCAPP's success, which is one of their primary focal points. Bryan Makinen asked when

the PCAPP units will be active. Staggs said he is not sure, as they are still being manufactured. Moberly asked if the technology was developed specifically for chemical demilitarization. Staggs said Dynasafe came about as a need for airport security and the police to dispose of explosives, then expanded with the need from middle-eastern countries. Moberly asked if SDCs were being used for chemical demilitarization in other parts of the world. Staggs said yes, they have a long history. Moberly asked if the Anniston unit was the first in the U.S. and if ANCDF continued using their incinerator after receiving the SDC. Staggs said yes, it was the first, and it ran in parallel with the main plant, destroying mostly problematic and fuzed munitions and overpacks. Moberly asked if non-problematic munitions were destroyed in the Anniston SDC. Staggs said there was a plan to process additional munitions through the unit, but problematic munitions remained its focus, and it finished them four days before the main plant finished destroying the Alabama stockpile. Moberly asked if PCAPP's SDC will only process problematic munitions. Staggs said he was not sure, but the problematic munitions will be processed first.

Closing Remarks – Craig Williams, Co-Chair, CDCAB

Williams thanked the congressional staff for attending the meeting and said he appreciates their continued interest and support. He welcomed Heiser and new CDCAB member Chuck Cash to their new positions and thanked everyone for attending.

Next CAC and CDCAB Meeting

The next meeting is scheduled for Wednesday, March 13, 2019, at 1:30 p.m. at the ECU Carl D. Perkins Building, Rooms A and B.

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