

Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
31 January 2018

Approximately 52 individuals representing the Anniston Field Office (AFO), Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA); Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; and U.S. Army Pueblo Chemical Depot (PCD) attended this meeting held at the Olde Town Carriage House in Pueblo, Colorado. Five citizens were in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m.

She motioned for approval of the minutes from the Dec. 13 meeting. CAC members approved. Kornelly had no project announcements.

Lt. Col. Eric Sayer, chief of staff, PCD, provided a depot update. He said during the furlough, the munitions were safe and secure as security, fire and watch personnel reported to work. Lt. Col. Sayer said the Army's Readiness Focus Program, supported by the Secretary of the Army and the Army Materiel Command, is the ability to deploy, fight and win our wars. He said the money being spent to store and destroy the munitions is money that could be spent on preparing soldiers to perform their missions. The goal of the depot is for the chemical demilitarization program to run as quickly and efficiently as possible so the money can be diverted to soldiers. Lt. Col. Sayer said the depot continues to need security guards. He said Sgt. 1st Class Eric Evangelista has replaced Sgt. Cline as the depot's non-commissioned officer in charge.

Ken Griffith, member, CAC, asked how many applications the depot typically receives. Lt. Col. Sayer said during the last hiring cycle, the depot received approximately twenty applications, and it takes anywhere for three to six months to bring a new guard on board. Interested parties can apply at USAjobs.gov.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, reviewed permitting activities since the Dec. 13 CAC meeting. He said eight permit modifications are being evaluated, including leak detection alarm responses, changes to the waste analysis plan and the replacement of sump pumps with portable pumps, which are easier to maintain and repair. He said his team is reviewing 12 modifications related to secondary containment precipitation management and the removal of conductive mats in the Receiving and Transport Area and Munitions Monitoring Area of the Enhanced Reconfiguration Building. Mackey said his team is primarily focused on discussing regarding the Off-gas Treatment System (OTS) recirculation cooler. He said the root cause analysis determined a leak in the cooler was caused by a decrease in pH during startup. The decrease in pH took place when Demilitarization Protective Ensemble suits were treated in the secondary decontamination unit during a trial run that resulted in the depression of pH in the scrubber liquid, exposing the carbon steel and allowing for the beginning of the corrosion. The issue was further compounded by periodic dips in pH during operations.

Corrosion specialists performed ultrasonic testing, radiography and borescope analysis on the entire system and found areas that need to be replaced or changed to make the system more robust. Mackey and his team are reviewing changes in operating parameters to prevent a reoccurrence of the incident. Per regulations, the state health department wants recertification by a third party engineer to ensure the system can process waste without failure or rupture.

No questions were asked of Mackey.

Bret Griebenow, project manager, BPT, talked about the plant's current status. He said the year ended with no lost work days. He said a slight degradation in the conduct of operations performance was observed of staff and addressed by a safety stand down. He said the plant is up for Voluntary Protection Program recertification and is preparing for an on-site visit by Occupational Safety and Health Administration representatives in February.

Griebenow said with the OTS down, Demilitarization Protective Ensemble (DPE) entries cannot be made in the plant toxic areas because spent decontamination solution cannot be processed. Plant staff worked with CDPHE for short-term solutions. The long-term solution is to replace the OTS with a different metal alloy unit. On Jan. 21, entries for hydrolysate and hydraulic leak cleanup and deferred Resource Conservation and Recovery Act inspections were performed.

Griebenow said Baseline Reconfiguration of the 105mm projectiles is 90 percent complete and is slated to be completed by mid-February, and then will transition to 4.2-inch mortar round reconfiguration.

Griebenow said the plant needs to change the strategic approach for measuring success. He said the plant was pushed to the limit by striving to process 576 munitions per day. After a year of operations, it is now understood that 576 munitions cannot be processed on a repeatable and reliable basis. The focus is now on smooth, sustainable operations and minimizing unplanned days of zero munitions processed.

Griebenow said plant improvements for sustainable operations include adding supplemental processing for problematic rounds, eliminating steam from the Agent Neutralization Reactors, redesigning the Munitions Washout System (MWS) Cavity Access Machine (CAM)—rotation and high spray pressure is not needed—installing a crossover conveyor between the MWS and Munition Treatment Unit, addressing leaker and recovery, addressing solids management and determining what to do with problematic munitions.

Kornelly asked if changes to buildings and procedures need to be made for the transition to 4.2-inch mortar reconfiguration. Griebenow said the different design will require retraining; an Operational Readiness Review is being worked.

She asked if the issue being discussed is problematic lots or problematic rounds, and Griebenow said both. He said if a Static Detonation Chamber (SDC) is brought to Pueblo, he would send the entire 4.2-inch mortar round campaign through it. The SDC could also process 105mm leakers.

Kornelly also asked about the evaluation of solids mitigation. Griebenow said the solids were analyzed and determined to be two-thirds ferric and other compounds created during processing.

Ross Vincent, member, CAC, asked where the target of processing 576 a day came from. Griebenow said it was the design throughput rate. It was a production target that drove the design of the plant. Vincent then asked why the plant was not designed to accommodate it. Griebenow said the amount and size of solids was not anticipated. Vincent said he is troubled by the amount of problems that exist in the plant. Griebenow responded, the neutralization demilitarization sites handled bulk waste, not munitions.

Gary McCloskey, deputy project manager, PCAPP, said the first baseline facility at Johnston Atoll had 39 significant problems requiring correction while PCAPP has six or seven. He said a series of 39 retrofits were made at the Johnston Atoll Chemical Agent Disposal System (JACADS).

Terry Hart, vice chair, CAC, said the CAC always assumed that issues would come up. He said he is worried about meeting the treaty date and the ripple effect of meeting the date. He asked if meeting the deadline is driving the discussion of alternate technologies and also asked if there is an idea of how many munitions can be processed daily in the plant. Griebenow said there have not been enough reliable operations to determine a sustainable rate. He said the cost implications of running the plant longer is a factor, but the bigger factor is the safety implications of processing the problematic rounds. Hart said plant employees are exploring the utilization of x-ray for leakers and asked if x-ray could be used to determine the amount of solids a munition contains. McCloskey said yes.

John Norton, member, CAC, asked if plant failures were related to throughput rates. Griebenow said they were not. Kornelly asked why a water-based technology that cannot handle leaks was selected. McCloskey said the water-based technology is used in the Agent Processing Building, but the problems are being experienced in the Enhanced Reconfiguration Building.

McCloskey explained the differences between 4.2-inch mortar rounds and 105mm projectiles, saying the projectiles have a heavy cast steel body; whereas, a mortar round is a piece of tubing. The body of a mortar is lighter than a projectile. He said JACADS reported significant rust in the nose closure area, and there is a one-pound sheet metal vein inside the munition round in contact with the agent that is susceptible to rust. It is anticipated that the mortar rounds will contain double the rust than that of the projectiles, and the rust is expected to be significantly different. McCloskey said flushing operations of the Agent Neutralization Reactor are highly hazardous, and the CAMs for the mortar rounds are significantly different than the CAMs for projectiles. He said the hydraulic burster well compression technique used for projectiles cannot be used for mortar rounds. The CAM for mortar rounds uses a cutter to remove the base of the munition. The issue being anticipated is the need for hundreds of entries to be made for blade replacement, which is extremely difficult to conduct in DPE. Although the unit is robust, it is not easily serviceable. McCloskey said the munitions at PCD are similar to those processed at JACADS which had a high concentration of solids. X-rays of the munitions at JACADS show sludge formation on the side because they were stored horizontally. If the CAM cannot cut the munition, workers will have to complete the cut, which is a huge worker risk; hence, it is

believed that main plant processing may not be the best option for 4.2s. Also, pressurized rounds can champagne and blind the cameras.

No additional questions were asked of McCloskey.

Griebenow said there are three options for deploying an Explosive Destruction Technology at PCAPP. First, one SDC; second, one SDC with infrastructure for a potential second unit; and three, two SDCs. Norton asked for a cost estimate. Greg Mohrman, site project manager, PCAPP, said the systems contractor has delivered their first estimate but it has not been reviewed by ACWA. Griebenow said AECOM staff would operate the SDC.

Doug Knappe, hazardous waste program manager, CDPHE, asked about real-time monitoring improvements in the Explosion Containment Rooms, the technology planned for use and detection limits. McCloskey said it is made by Smith detection, a fast reacting unit. Griebenow said the unit will be used for process monitoring. Knappe also asked if engineering changes would be reevaluated. He said he is specifically interested in the strainers that were removed from the MWS. Griebenow said that is a part of the solids mitigation evaluation.

Vincent asked about estimates for the SDC options. Griebenow said the Rough Order of Magnitude Estimates are complete and were sent to Suzanne Milchling, program executive officer, ACWA, on Jan. 29. Vincent asked if the cost and schedule implications of supplementing the Environment Impact Statement (EIS) and the health risk assessment was considered for a supplemental technology. Griebenow said the cost for an EIS was not included.

Ken Griffin, member, CAC, asked about the timeline for a decision. Mohrman said there is no specific timeline.

Tim Garrett, site project manager, AFO, presented experiences with the use of an SDC at the Anniston Chemical Agent Disposal Facility. He said the SDC was selected due to problematic rounds and overpacks. He said the SDC is a heated, armored vessel which operates at 1,000 degrees Fahrenheit, and is capable of processing conventional and chemical munitions. Garrett said it is made of heat resistant stainless steel with excellent tinsel properties able to withstand a detonation. He said the SDC does not work like the Explosive Destruction System and can process more than one item at a time. It can process overpacks without having to open the containers, cutting down safety risks because there is no manual interaction. It is not first-of-a-kind equipment and has been highly tested. Garrett said emission testing consisted of processing 33.56 pounds (three 105mm projectiles per tray per feed evolution with 16-minute intervals) per hour up to 56.65 pounds (four 105mm projectiles or two 4.2-inch mortars) per hour, in order to maintain compliance with the permit. He said the Blue Grass Chemical Agent-Destruction Pilot Plant SDC can perform even better.

Garrett reviewed waste generation, saying there is little generation of hazardous material coming out of the equipment. He said about 90 gallons of liquid waste is generated quarterly.

Currently, Anniston is processing PCAPP's non-contaminated energetics.

Norton asked who owns the SDC. Garrett said the Anniston unit was procured by the Army and is now being used to support PCAPP. Griebenow said even if PCAPP brings in an SDC, energetics would continue to be shipped to Anniston.

Garrett said the scrap metal is recycled.

Hart asked who would construct the infrastructure for an SDC, noting that use of local contractors would be desirable. Griebenow said it would be built through sub-contract mechanisms. Hart said he'd like to see the work go to local labor.

Vincent said he does not consider combustion an acceptable method of waste management and has environmental concerns.

Kornelly said Mackey covered topics discussed at the Permitting Working Group held earlier in the day, and she said the next meeting will be held on Feb. 28 at 2 p.m. She said the next CAC meeting is also scheduled for the same day at 6 p.m. at the Olde Towne Carriage House in Pueblo.

Kornelly also mentioned there will be a CAC meeting and subcommittee meetings on March 21.

The meeting adjourned at 7:53 p.m.

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**Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
28 February 2018**

Approximately 44 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA); Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; and U.S. Army Pueblo Chemical Depot (PCD) attended this meeting held at the Olde Town Carriage House in Pueblo, Colorado. Seven citizens were in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m.

She motioned for approval of the minutes from the Jan. 31 meeting. CAC members approved.

Kornelly had no project announcements.

Lt. Col. Eric Sayer, chief of staff, PCD, provided a depot update. He said employment opportunities continue to exist at the depot. Lt. Col. Sayer stressed the benefits that come with the jobs. He said Col. Christopher Grice, commander, PCD, will be visiting high schools to talk about employment opportunities. Lt. Col. Sayer said the depot is working with Colorado State University-Pueblo regarding the development of a women in the workforce display, focusing on those who worked at the depot in the 1940s. Lt. Sayer also mentioned the depot's involvement at other local events.

John Norton, member, CAC, asked about the types of jobs available at the depot. Lt. Col. Sayer said they are recruiting for security officer and toxic material handler positions.

Ken Griffin, member, CAC, asked if the depot has engaged with the Pueblo Workforce Center. Sayer said he did not know the extent of the depot's involvement.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, reviewed permitting activities. He said CDPHE has issued a draft settlement agreement with PCAPP regarding the compliance order on consent, which will lead to a settlement conference regarding an enforcement action dealing with the shipment of carbon waste without appropriate waste codes and the operation of the Brine Reduction System without backup carbon filters in place, as required by the permit. The compliance advisory was issued in October, and the penalty calculation has been finalized. Mackey noted the state health department staff will work with PCAPP staff to finalize the action.

Mackey said eight additional permit modifications have been approved since the last meeting, including changes in contingency plans for operations, rerouting of vent lines to different locations and updating design changes. He also reported two class 2 modifications, pertaining to secondary containment precipitation management and the contingency plan update have been

finalized. The Hazardous Waste Permitting Unit is reviewing an additional 10 modifications. Mackey said CDPHE is waiting for Army responses on the request to remove conductive mats from the Receiving and Traveling Area and Munitions Monitoring Area of the Enhanced Reconfiguration Building. Another modification involves changes to the Off-gas Treatment System (OTS) recirculation cooler, including the replacement of carbon steel end caps and reviewing piping and ancillary equipment.

No questions were asked of Mackey.

Bret Griebenow, project manager, BPT, talked about the plant's current status. He said there have been no lost days due to accidents or injury. He said an on-site audit by the Occupational Safety and Health Administration Voluntary Protection Programs was completed and the project is recommended for recertification, which is a good indication of the PCAPP team's focus on safety.

Griebenow said the OTS chiller recovery is complete. The end caps have been replaced with new carbon steel. He said recirculation loop piping was evaluated, and it was found to be within corrosion allowances. Griebenow said the Readiness Assessment is complete. In regard to the Agent Neutralization Reactors (ANR), he said there was a catastrophic failure on Feb. 16, and a second failure occurred on Feb. 21. Both failures occurred with relatively new isolators and no steam. Griebenow said the isolators were expected to last for 20 batches but failed after two. Plant staff is working with CDPHE to determine a solution. While the isolators are down, agent operations are paused. He said operations are anticipated to resume in April or May.

Griffin asked about leakage of the isolator. Griebenow said hot water, not hydrolysate, sprayed out. Norton asked if the ANRs are a new technology or if something similar was used at other sites. Griebenow said the reactors used at Aberdeen were different—smaller and jacketed. The Aberdeen reactors did not have steam injectors.

Griffin also asked how many gallons are in a batch. Mike Strong, deputy site project manager, PCAPP, said 212 gallons of agent are in a batch. Griebenow said after water and other things are added, each batch is approximately 3,000 gallons. Griffin asked how many 155mm projectiles that represents. Gary McCloskey, deputy project manager, PCAPP, said 200 munitions.

Terry Hart, vice chair, CAC, asked about the magnitude of the vibration. Griebenow said the PCAPP team is performing a structural assessment. Hart asked if the Aberdeen project experienced vibration with its reactors. Griebenow said the Aberdeen project did not have steam injectors; and once steam is eliminated from the process, vibration will also be eliminated.

Griebenow said the baseline reconfiguration of 105mm projectiles was completed ahead of schedule. He said the baseline reconfiguration team is training for 4.2-inch mortar rounds. Norton asked if there are any records of issues experienced while removing strikers. Griebenow said no problems were experienced.

Greg Mohrman, site project manager, PCAPP, discussed the Explosive Destruction System (EDS), showing the current configuration of the EDS site. He said the P2R destroyed 560 items.

The unit will be returned to the U.S. Army Chemical Materials Activity, along with an unused environmental enclosure. In May, the P2A, which was built for PCAPP with a new design, will be placed on the pad that formerly held the P2R. The P2A will destroy the inventory of overpacked munitions, rejects and leakers. Those operations are expected to begin in September.

Mohrman said PEO ACWA approved planning for the acquisition of two Static Detonation Chambers (SDC). He said the primary purpose for the SDC is to enhance worker safety, to reduce risk and exposure while keeping the schedule in mind. Mohrman said the SDCs have been approved, but there is no money in the budget for them at this time. He said implementation is contingent upon funding and environmental permitting through the depot, Pueblo County and the state of Colorado. Mohrman said ACWA officials will pursue an environmental assessment. He said the entire 4.2-inch mortar round campaign would be processed by the SDC.

Jeff Chostner, member, CAC, asked if the P2R is currently operational. Mohrman said it is not operating.

Griffin asked about the schedule for the SDCs. Mohrman said it will take 17 months to manufacture the two units. With assembly, testing, assessment and permitting, Mohrman said it will be at least two years before the technology is operational.

Norton said there are more than 97,000 4.2-inch mortar rounds and 13,000 105mm projectiles expected to be problematic. He asked how long it would take to process those munitions through the EDS. Mohrman said the EDS is very labor intensive, processing four to six munitions per day. He also said the neutralant that comes out of the EDS cannot be processed through the PCAPP biotreatment system.

Norton asked what two SDCs will cost. Mohrman said two SDCs are estimated to be 60 million dollars. Norton asked what the cost is to run the plant. Mohrman said more than 300 million dollars.

Mohrman said PEO ACWA remains committed to the use of the main plant, which is designed for higher throughput than the SDC. He said the Anniston SDC will continue to process non-contaminated energetics from PCAPP.

Griebenow talked about the weather enclosure being erected around the 30-day Hydrolysate Storage Tanks. He said the enclosures will alleviate false alarms from storm water.

Mohrman said photographs from the processed 4.2-inch mortar casings were studied as a way to determine the amount of rust that may exist in the mortar rounds.

Hart said the CAC would like to see the business plan and cost-benefit analysis for the SDCs. Mohrman said it will be shared at the March 21 CAC meeting.

Kornelly said it will be two to three years, after the money is received, before the SDC will become operational. She discussed considering the long-term benefits of the course of action and how much time will be cut off the schedule.

Kornelly said in 1997 there were rumors of problematic rounds from Johnston Atoll Chemical Agent Disposal System (JACADS); the same type of rounds stored at Pueblo. She asked why PCAPP was not designed differently based on that information. She said the design was chosen based on cost and said she believes we have spent the same amount of money as the superior design would have cost. She said the community is frustrated.

Mohrman said some of the decisions made in the earlier parts of the program have become problems. He said the plant was designed around lessons learned, with the knowledge of solids and pressurized rounds. He said plant staff are solving one problem at a time. He said talented engineers are working to make the plant the mainstay.

Kornelly asked Lt. Col. Sayer if he would create a presentation regarding the concerns depot staff have with the proposal for two SDCs. He said he would approach Col. Grice with the idea.

Kornelly said a public meeting was held, in conjunction with the Permitting Working Group (PWG) meeting held earlier in the day, to discuss Permit Modification #196, concerning short-term solutions for the OTS recirculation cooler. She said Mackey covered topics discussed at the PWG meeting. Kornelly said the next meeting is tentatively scheduled for March 21 at 2 p.m.

Norton briefly shared items discussed at the Biotreatment Utilization Group meeting, saying, Dr. Jim Earley, chief scientist, PCAPP, expects there will be enough hydrolysate generated by December in order to resume processing in the Biotreatment Area.

Kornelly said the next CAC meeting is scheduled for March 21 at 6 p.m. at the Olde Towne Carriage House in Pueblo.

The meeting adjourned at 7:08 p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
21 March 2018

Approximately 41 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; *The Pueblo Chieftain*; U.S. Army Chemical Material Activity; U.S. Army Pueblo Chemical Depot (PCD); U.S. Sen. Cory Gardner's (R-Colo.) Pueblo office; U.S. Sen. Michael Bennet's (D-Colo.) Pueblo office and U.S. Rep. Scott Tipton's (R-Colo.) Pueblo office attended this meeting held at the Olde Town Carriage House in Pueblo, Colorado. Three citizens were also in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m. She motioned for one change to the night's agenda and also for approval of the minutes from the Feb. 28 meeting. CAC members approved both. Kornelly had no project announcements.

Col. Christopher Grice, commander, PCD, provided a depot update. He said there are good jobs available at the depot, including toxic material handlers, Real-time Analytical Platform operators, security guards, a new chemist position, as well as more senior positions, as a result of pending retirements. Col. Grice said the depot performed a tabletop exercise earlier in the day and it went well. Depot staff acted out a scenario, with a guided discussion, and had great participation by external stakeholders who served as moderators, including the Pueblo County Sheriff's Office, a regional representative from the Federal Bureau of Investigations and the Criminal Investigation Unit from Fort Carson. He said he is appreciative of the community support of the exercise.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, reviewed permitting activities. He said CDPHE has approved an additional eight permits since the last CAC meeting, including changes to the waste analysis plan and changes to storage container requirements. He said his team is looking at an additional 10 permit modifications, including information on conductive mats; changes to the laboratory sampling waste analysis plan for pilot test operations; and have authorized a temporary authorization for the Off-gas Treatment System (OTS) recirculation cooler, which is in the public comment period. The team is also evaluating operations plans compliance tables as they relate to the operation of hydrolysate lines and water recovery system; storage configuration for dunnage; and changes to waste codes. There have been many discussions on isolators, how they will be tested and final acceptance criteria.

Kornelly asked what permits are required when the plant changes campaigns. Mackey said because there will be alternations to the systems, and new equipment, permits will be required.

Greg Mohrman, site project manager, PCAPP, introduced the focus of the night's meeting, including the business case scenario for the Static Detonation Chamber (SDC) and plans for the Phase 2 Unit ACWA (P2A), the newest vessel to be used as part of the Explosive Destruction System (EDS). He said there is a slightly redacted version of what was presented to Program Executive Officer Suzanne Milchling, Assembled Chemical Weapons Alternatives, pertaining to

budget and schedule. Mohrman said no final decisions can be made until the National Environmental Policy Act process is complete. He said funding is not secured, so there will likely be a Plan B; perhaps, greater use of the EDS or only one SDC. Mohrman said the main plant remains the primary means by which the chemical weapons will be destroyed. No funding will be taken away from the main plant to fund the SDC. The target completion year is 2023, as is dictated by public law.

Mohrman reviewed the recently-updated ACWA mission, destroy chemical weapons stockpile; and vision, chemical weapons free by 2023.

Bret Griebenow, project manager, BPT, introduced the discussion on the SDC. He said three topics will be presented, including plant restart, plant improvements, and status of the SDC proposal. He said the plant is not currently processing munitions but is working toward permanent solutions for Agent Neutralization Reactor isolator failures. Data from the first year of operations showed the isolators could withstand twenty batches; however, recently new isolators failed after two. He said there is a three-pronged approach to addressing the isolators: 1) test new design options—a Teflon-lined corrugated short hose or a longer, smooth board Teflon-lined hose, which Griebenow said will be difficult for maintenance workers in Demilitarization Protective Ensemble to install; 2) It is believed something has changed in the toxic cubicle which is causing isolator failure; perhaps, it is pipe movement and a structural analysis for new pipe support design and implementation is underway; 3) The team is looking to see if titanium piping has been damaged and welds are being inspected.

Griebenow discussed plant improvements, including a simplified Munitions Washout System (MWS); including three major design changes. Kornelly asked if there will be a need for permit changes, to which Griebenow said a permit modification would not be required and confirmed his statement with Mackey. The mechanism, not the process, is being changed. Griebenow said the Enhanced Reconfiguration Building is not tolerant of leakers, so design changes are being implemented. MWS and Munitions Treatment Unit cross connect is at 30 percent design review. The solids mitigation change request form is being developed.

Griebenow said the Request for Proposals (RFP) for the SDC has been released to the vendor. Kornelly asked if the vendor is fully aware of the fact the RFP has not been funded; Griebenow confirmed.

John Norton, member, CAC, asked if the design changes, aside from the SDC, have been funded. Griebenow said the other changes are fully funded.

Terry Hart, co-chair, CAC, asked what is being done to mitigate solids. Griebenow said the request and solutions are still in development. Hart asked if there will be a greater amount of screening once the hydrolysate comes out of the MWS. Griebenow said that is being considered.

Hart asked Mr. Mohrman to confirm the funding stream for SDC is not being taken from the main plant; Mohrman confirmed. Hart then asked if the funding for SDC is coming from the EDS funding stream; Mohrman said the SDC will not take money away from EDS. Hart also mentioned the redacted portions of the business case for SDC regarding cost and schedule. He said stakeholders are being batted back and forth and, although connected, cost and schedule are

not the same thing. Mohrman said this business case analysis is conceptual and at some point the schedule will be brought in. He acknowledged the schedule will impact cost.

Norton asked when the restart for the main plant is scheduled. Griebenow said assuming everything goes according to plan, the forecast is early to mid-May.

Dan Cox, assistant project manager, BPT, said there are three main challenges currently facing the plant: safety of the workforce—maintenance, entries and risk; meeting the 2023 deadline; and the performance of the main plant.

Cox said when considering the SDC technology, the team looked at the history of the unit. The team traveled to Anniston to look at the unit and its safety record, environmental and regulatory history, and cost and schedule. The team wanted a technology that could be easily deployed, not first-of-a-kind equipment. Cox said the SDC has many benefits—human interface is minimal; it is non-intrusive; it eliminates any liquid draining or processing; there is significantly less maintenance; fewer personnel injuries; and the unpacking of munitions is not necessary.

Cox discussed the thermal treatment of the SDC. He said the chamber is an oxygen lean environment, with conductive heating and no flame. The time in the chamber varies and gases go to the OTS. He said the unit has been permitted in three states, Alabama, Kentucky and Texas, as a miscellaneous treatment unit.

Norton asked if the SDC in Alabama has been used for chemical weapons. Cox said approximately 2,700 chemical munitions have been processed and Pueblo energetics are currently being processed by the Anniston unit. Norton also asked if there are restrictions for use of the Kentucky SDC after their mission is complete. Cox said he did not know the level of detail in Kentucky's permit. Norton asked Mackey if there would be restrictions placed on the Pueblo SDC after its mission is complete. Mackey said the state could be open to future use, but would not necessarily be open to different waste streams as the unit would be specifically permitted for use at PCAPP.

Cox said there will be engineering and administrative controls on the PCAPP SDC. The system will be tested, including factory, site acceptance and emissions testing. The Multi-Pathway Health Risk Assessment and data from other facilities will be used. He said Dynasafe, the SDC manufacturer, has a worldwide history.

Cox said three options were considered in the business case: 1) Site development, installation and operations of a single SDC unit, which has the lowest cost but the highest risk to schedule; 2) Site development for two SDCs, but installation and operation of a single SDC unit, which has a 3 million dollar incremental cost and a high risk to the schedule; and 3) Site development, installation and operation of two SDC units, which is the highest initial investment but lowest risk to schedule and life cycle costs.

Norton asked if the options imply that anything less than three options would mean the project would not meet the 2023 deadline. Cox said it would depend upon main plant productivity. Ross Vincent, member, CAC, asked Cox to explain what he means by project risk. Cox said it means to complete the overall project on cost and on schedule is the goal. If the cost and

schedule is exceeded, that is risk. Cox said the plan is to process reconfigured rounds, as well as overpacks and leakers with the SDC.

Norton asked if there are enough people on staff to handle both baseline reconfiguration and main plant operations once main plant operations resume. Griebenow said the same crew that reconfigured the 105mm projectiles will reconfigure the 4.2-inch mortar rounds and existing staff is being cross trained.

Kornelly asked for clarification on how overpacks would be processed. Cox said the overpacks could be processed by the SDC and would not need to be removed from the packing material, but would take longer processing time.

Cox said the proposed location for the SDC is the PCAPP EDS site. The SDC would not be run concurrently with the EDS. He also said the SDC will require a great deal of support from PCD.

Norton asked if the substation will provide enough power for both the main plant and two SDCs. Cox said it will.

Cox said project personnel recognize permitting will not be straightforward. He said they anticipate the permitting process to be lengthy. Insufficient and delayed funding will impact the overall schedule. Low production throughput or extended outage for both the main plant and SDC will also impact the schedule. Kornelly asked if the Anniston SDC has experienced an extended outage. Cox said maintenance on the chamber took two weeks. He said another risk to the project, identified in the business case, is the inability to obtain and retain personnel who can meet the Chemical Personnel Reliability Program and/or security clearance.

Vincent asked why SDC pyrolysis is a low oxygen environment—is it artificially induced or is it because the detonation itself eats up the oxygen? Cox said the chamber seals itself off as the deflagration or detonation occurs; there is limited air supply. Vincent also asked about the off-gases being fed to a flame. Cox said there is a timeframe before the gases are feed to the OTS, which is based upon a material balance calculation, ensuring the detonation occurs within the detonation chamber.

Norton asked how many rounds per day the SDC can process. Cox said 100 percent of design rate is approximately 2,022 per week. He said the SDC would operate seven days per week, 20 hours a day.

Hart asked if the SDC would fit in place in the existing environmental enclosure. Cox said a new structure will have to be built as the SDC is a larger unit than the EDS. Hart said based upon throughput, he anticipates the SDC running for at least a couple of years. Cox agreed.

Mike Strong, deputy site project manager, PCAPP, who oversees the EDS, provided an update. The Phase 2 Unit Retrofitted (P2R) is still on site. The intent is to bring in the P2A, but the P2R will need to be closed out and shipped to Maryland on May 1. Site specific training for the P2A is scheduled for July, pre-operational review in August and operations are scheduled to begin in September. Currently, there are 90 items, consisting of rejects and leakers from the 155mm campaign and baseline reconfiguration, slated to be processed by the EDS.

Kornelly asked if Edgewood Chemical Biological Center (ECBC) would operate the P2A. Strong said ECBC will operate the new EDS unit. Strong said the P2A has a number of enhancements, including it being built on an ISO frame, which provides more working area and greater access for maintenance; the supply tanks were increased; the heaters within the tanks were improved; helium leak tests were improved and connections to waste containers were simplified. There were also improvements in liquid treatment sampling, the clamping mechanism, hinge system and latch.

Norton asked if the maximum throughput of the P2A is six rounds per day; Strong confirmed. Hart asked where the P2R will go. Strong said the unit will be sent back to Maryland. Hart suggested the EDS be used to its fullest capacity while the SDC is being acquired. He questioned why the P2R would be sent back to Maryland when it can be used to process problematic munitions in Colorado. Strong said the first priority is to process the overpacks, followed by leakers and rejects. He said the intent is to go through the back log before processing problematic rounds; albeit with one EDS unit. Hart again stressed the need to use two EDS units in order to process twelve units a day. Mohrman said the desire for two EDS units to be used in unison has been passed along to PEO Milchling.

Mohrman extended an invitation to the CAC to visit the SDC in Anniston. Kornelly said the advisory commission is looking at dates. Mohrman said the commitment to public participation remains.

Col. Grice discussed the potential for a continuing resolution, saying the security of the stockpile remains, and the depot will continue to meet permitting requirements. In order to achieve strategic readiness, he said the program needs predictable, steady funding.

Col. Grice discussed PCD's anticipated support of the SDC. He said he reviewed what would be needed to support the SDC, including 15 new guards and more toxic material handlers. He identified infrastructure upgrades needed, including power, water for fire prevention and response, sewer lines, natural gas, electricity and fiber for communications. He said the important thing is that the involved entities work together. Hart asked if PCD's needs would be reflected in the cost schedule analysis. Mohrman confirmed.

Kornelly said the next CAC meeting is scheduled for April 25 at 6 p.m. at McHarg Park Community Center in Avondale, Colorado.

Jeff Chostner, member, CAC, expressed his gratitude to the PCAPP team for explaining the SDC in layman terms.

The meeting adjourned at 7:54 p.m.

###

Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
McHarg Park Community Center
25 April 2018

Approximately 35 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency (FEMA); Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; U.S. Army Pueblo Chemical Depot (PCD); and U.S. Sen. Michael Bennet's (D-Colo.) Pueblo office attended this meeting held at McHarg Park Community Center in Avondale, Colorado. Three citizens were also in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m. She asked for approval of the minutes from the March 21 meeting. CAC members approved both. Kornelly had no project announcements.

Dan Hancock, deputy commander, PCD, provided a depot update. He thanked the county for their support of the on-site fire, which he said, minimized the damage. He said the depot will spend approximately \$1.7 million for remediation of the fire site. The depot will also make a \$2.5 million investment to rehabilitate water wells, replace pumps and repair a large water holding tank. The railroad crossing on the south access road will also be rehabilitated. Hancock said security guard and toxic material handler positions will be posted next week on usajobs.gov.

Ken Griffin, member, CAC, asked for the cause of the fire. Hancock said it was accidental.

Doug Knappe, member, CAC, and hazardous waste program manager, CDPHE, asked if there was asbestos in the warehouse which burned. Hancock said that is why the remediation is going to cost so much.

John Norton, member, CAC, asked what the procedure is for the transport of munitions during a fire. Hancock said no munitions were being transported during the Mile Marker 117 Fire, during which the depot was on pre-evacuation status.

Griffin asked why jobs aren't advertised in *The Pueblo Chieftain*. Hancock said advertisements will appear in the local newspaper, as well as on Facebook and Twitter.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, reviewed permitting activities. He said CDPHE has approved six permit modifications since the last CAC meeting. Two of the modification are Class 2—removal of conductive mats in the Receiving and Traveling Area of the Enhanced Reconfiguration Building and the Agent Neutralization Reactor (ANR) Off-gas Treatment System (OTS). Mackey said 14 additional permit modifications are being reviewed, including the waste analysis plan, heat detection procedures and replacement of isolators in ANRs.

No questions were asked of Mackey.

John Riley, coordinator, CSEPP, provided an overview of activities performed by Pueblo County CSEPP during the last year. He said the program ensures community protection through such actions as placing decontamination tow vehicles into service, and a new command response vehicle to the Emergency Services assets, repairing or replacing four mobile sign boards and conducting monthly Emergency Operation Center (EOC) training and exercise events to increase readiness and partnerships. Riley said the Pueblo County Sheriff's Office activated the EOC six times in support of local floods and fires.

Riley said the CSEPP annual exercise, scheduled for next week, will be extremely complex. It will include 37 local agencies and partners and venues in Pueblo West, the City of Pueblo and Boone. He said the Pueblo County Sheriff's Office will host the FEMA Integrated Emergency Management Course June 4-7, and will include more than 100 participants. Riley said CSEPP management team meetings will be held in Pueblo in August, and will include FEMA and Army program leadership.

Gloria Duran, citizen, Avondale, asked why the exercise is not occurring in Avondale, the closest community. Riley said the Pueblo Rural Fire Department covers Avondale and will participate in the exercise. Duran asked, "Other than Tone Alert Radios, how is Avondale prepared for a disaster?" Riley said he and Gayle Perez, public information officer, CSEPP, would stay after the meeting to answer Duran's questions.

Bret Griebenow, project manager, BPT, said a safety improvement plan has been implemented as five people have been injured since the first of the year; however, the plant has achieved nine million hours without a lost workday.

Griebenow said flexible isolators have been installed between pumps to eliminate damage due to vibration. Plant staff are working with CDPHE on a plan on how to resolve issues with the ANR. He said the ANR Recovery Plan has a three prong approach. First, replace existing tubes with stainless steel, Teflon-lined, flexible tubes. Second, inspect the toxic cubicle to determine if vibration broke pipe welds on pipes. The welds were broken so supplemental pipes were ordered. Three, determine if titanium piping is damaged—it was not. Griebenow said sampling of hydrolysate for representative solids began April 22.

Griebenow said the carbon filters are being changed and temporary structures are being erected around the Biotreatment Area. He said the temporary structures will minimize cleanup and false alarms. He said the plant's leak detection system does not identify the difference between hazardous waste and water. The project manager reported on plant progress, saying the plant is on track to resume processing munitions in May. He said propellants from 105mm baseline reconfiguration campaign have been processed by the Anniston Station Detonation Chamber (SDC). The baseline reconfiguration campaign for 4.2-inch mortar rounds has begun and Anniston is ready to receive those propellants. He said the environmental assessment process and public meetings for the SDC are being discussed.

Griffin asked what will happen if the destruction deadline of 2023 is not met. Griebenow said that is a Pentagon decision.

Norton asked if the plan to use Cavity Access Machines for the mortar rounds has been abandoned and if bringing in two SDCs will allow the project to meet the deadline. Griebenow said estimates show the earliest destruction would be complete is Sept. 2023 and latest would be late 2024.

Ross Vincent, member, CAC, said if the primary justification for using the SDC is solids, then the mortars should be evaluated for solids as they are being reconfigured. Griebenow said the project does not have X-ray equipment. He said the use of X-ray is a decision to be made by Program Executive Office, Assembled Chemical Weapons Alternatives, but in his perspective, the best investment is to process the mortars in an SDC.

Walton Levi, deputy site project manager, PCAPP, said baseline reconfiguration was halted this week due to the discovery of polychlorinated biphenyl (PCB) on the fiberboard tubes. He said during the verification of waste streams, low levels of PCBs were found and the staff will need to be trained to deal with this new hazard. Levi said the levels are low enough to continue with the same approach for waste disposal.

Kornelly provided an overview of the purpose for Permitting Working Group meetings. Norton said during the Biotreatment Utilization Group meeting held earlier in the day, participants learned biotreatment can begin 70 to 90 days after operations resume.

Kornelly said some CAC members will travel to Anniston, Alabama, to view the SDC in mid-May and will report on it at the next meeting, which is scheduled for May 30 at 6 p.m. at the Olde Towne Carriage House in Pueblo.

The meeting adjourned at 7:08 p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
30 May 2018

Approximately 30 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex and U.S. Army Pueblo Chemical Depot (PCD) attended this meeting held at the Olde Towne Carriage House in Pueblo, Colorado. No citizens attended this meeting.

Irene Kornelly, chair, CAC, called the meeting to order at 6:03 p.m. She asked for and received approval for the minutes from the April 25 meeting. Kornelly had no project announcements.

Kornelly discussed a recent trip to Anniston, Alabama during which she and two other CAC members traveled to the Anniston Field Office where they received an in-depth overview of its Static Detonation Chamber (SDC). Kornelly said the tour afforded the group an opportunity to ask many questions. She said the SDC will not fit on the pads that formerly housed the PCAPP Explosive Destruction System (EDS). Ken Griffin, member, CAC, said the machine was very impressive and he believes it can do the job. He said he appreciated the opportunity to travel to Anniston, but his main concern is for the main plant. He said a lot of time effort and resources have been spent on the PCAPP facility and that he understood the plant would still have the primary role of destroying the majority of the rounds in the PCD stockpile. Griffin said he would like to see the SDC used only for problematic projectiles and 4.2-inch mortar rounds. Terry Hart, vice chair, CAC, said the SDC is an interesting machine. He said the staging area and associated components is larger than he expected. He said he and others touched the SDC with gloved hands and found it to be warm, not hot. Hart said he wants to see the EDS in operation while the SDC permitting process is underway. He said the community has resisted anything that is related to incineration and it is easier to control liquid pollutants than air pollutants. Hart said the CAC has emphasized its desire for the utilization of the main facility and assurances were provided during the Anniston trip that the vast majority of weapons will be processed by PCAPP. He said the CAC membership still has questions, including will the EDS continue to run while the SDCs are going through the permitting process and possibly through construction; how many SDCs are being proposed, and if more than one is proposed, why; and how munitions will be analyzed in order to avoid deeming an entire lot as unsuitable for processing through the main plant. Kornelly added that as impressive as the Anniston SDC was in terms of increasing the CAC's understanding of the technology, it performed a different type of mission, conventional munitions and energetics, not chemical agent. She said the Anniston pollution abatement system is not the same as the system on the SDC at the Blue Grass Chemical Agent-Destruction Pilot Plant, which has been improved. Kornelly said she expects the PCAPP SDC to have further improvements. She further indicated that there would be many questions and discussions on this aspect of the SDC in the months to come.

Col. Christopher Grice, commander, PCD, said his permitting team went to Anniston the week of May 7 to get a better understanding of the technology. He said the SDC is a simple process which limits worker interaction. He said from a security perspective, the EDS cannot operate

during construction of the SDC. Dan Cox, assistant project manager, BPT, said seeing the SDC working is a much better learning experience than hearing about it.

Col. Grice said Pueblo is a deeply patriotic community. He said he participated in two Memorial Day events. He said the depot currently has 400 employees, and continues to hire guards and toxic material handlers. He said environmental remediation activities continue. Col. Grice said depot staff are working toward getting the EDS back up and running. He said the depot has two upcoming inspections, including an Army Materiel Command surety inspection, which will also include PCAPP. Hart said he would be interested in learning how many depot employees come from the local community. Col. Grice said he will get the requested demographics.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, reviewed permitting activities. He said his team has processed 10 permit modifications since the last CAC meeting, including revisions to the Off-gas Treatment System recirculation cooler, revisions to heat detection procedures and revisions to waste analysis plan. He said six Class 2 modifications are under review, including the waste analysis plan and variations to container storage area inspections. Mackey said a lot of time has been spent on evaluating problems with Agent Neutralization Reactors (ANR) isolators. He said the division evaluated the testing, primarily looking for the representativeness of the solution going through the isolators and found it hard to replicate. He said the solution was to place isolators into system and gradually bring the system on line with wash water, which contains no agent, and evaluate the isolators step by step and then ease into processing with agent, followed by removing the isolators and measure for wall thickness and determine if they maintained pressure.

No questions were asked of Mackey.

Renee Martinez, public outreach specialist, Pueblo Chemical Stockpile Outreach Office (ORO), provides a mid-year presentation about PCAPP and ORO public involvement activities and outreach efforts. Griffin asked about the types of questions asked by the public at outreach events. Martinez said the public has concerns about cost and schedule. Hart asked if the Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA) YouTube account has viewers and followers from Iran and Russia. Maleah Slade, outreach specialist, ORO, said we do.

Bret Griebenow, project manager, BPT, opened the PCAPP portion of the meeting by saying there were four recordable injuries in three months, which he said, is four too many. In response, the plant has had safety stand downs in an effort to improve its safety record. Griebenow presented the roadmap to returning to operations. He said the first item on the roadmap is the testing of hoses on the Test Rig, which is complete; however, there was not a good comparison of the solid size distribution, nor is it known how quickly the Teflon lining of the hoses will wear down. He said more representative sampling will occur in the toxic cubicle, where installation of hoses is complete. The installation of the supplemental supports is complete.

Griebenow said there are a few items to be completed before operations can resume, including the facility construction certification, permit modification and test plan for operations. He said an internal operational readiness review was conducted in parallel with the Test Rig. Griebenow said category one findings have been identified and will need to be closed before he can declare

plant readiness. He said baseline reconfiguration of 4.2-inch mortar rounds continues and the team has achieved the desired rate of 144 rounds per day. To date, more than 2,000 4.2-inch mortar rounds have been reconfigured.

Mike Strong, deputy site project manager (DSPM), PCAPP, said per ACWA policy, the deputy program executive officer will have to approve the restart since the plant has been down for more than 90 days. The Operational Readiness Review board will send a declaration of readiness to ACWA when complete.

Griebenow also presented the ANR test plan addendum roadmap, saying hot water will be introduced first to make sure the system is working correctly, followed by spent decontamination solution and then clear wash water. All are agent free batches. Six batches will be run before the hoses are pulled and pressure tested and take wall thickness measurements. The data will be reviewed to determine ability to re-enter operations safely. Six batches of agent will be run in ANR 1, followed by removal of one hose for pressure testing and wall thickness measurements to determine the life of a hose. Griebenow said because the agent wash water separator tank is full, its contents will have to be processed before munitions can be brought in for destruction.

Griebenow said a proposal from Dynasafe, the manufacturer of the SDC, was received and is being reviewed.

Walton Levi, DSPM, PCAPP, said public involvement opportunities for the environmental assessment (EA) for the SDC will occur in the fall. Preparations for the EA have begun. Air and Resource Conservation and Recovery Act permits require the opportunity for the public to comment.

Strong said plant staff are targeting 25 June for the restart of the P2R EDS. He said quarterly maintenance was performed on the vessel. Even though the unit has been idle for nearly two years, Strong said it's still in good shape. He said there are 86 leakers and rejects await processing by the EDS. Strong said the EDS will also process seven M-70 series bombs recovered from depot cleanup efforts and contaminated energetics removed from leakers. PCAPP staff are also evaluating which historically-problematic rounds they will recommend be processed by the EDS.

Griebenow said the 30-day Hydrolysate Storage Tank weather enclosure is nearly complete. He said drills for unplanned events continue. Recently, a drill was performed on how to evacuate in the event of a wildfire.

Hart asked if there has been further discussion as to why the P2A EDS is not coming to Pueblo. He also asked who made the decision to withhold the unit. Strong said it was important to start up the EDS since the permits are already in place. He said the decision makers are thought to be present at the next CAC meeting.

Griffin asked if the SDC is brought in, will the EDS be taken out. Strong said although the SDC is capable of processing leakers, no decision has been made to acquire it.

Kornelly provided an overview of the Permitting Working Group (PWG) and Biotreatment Utilization Group (BUG) meetings. She said an Anniston-produced video was shown during the PWG meeting. She said the outreach office has a copy of the video and interested parties can view it there. Kornelly suggested a local video be produced on the SDC. During the BUG portion of the meeting, Kornelly said Dr. Earley provided an update on the Biotreatment Area, saying the Brine Reduction System was restarted to empty the tanks.

Kornelly said the next CAC and subcommittee meetings are scheduled for June 27 at 6 p.m. at the Olde Towne Carriage House in Pueblo.

The meeting adjourned at 7:20 p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
June 27, 2018

Approximately 48 individuals representing Bechtel Nuclear, Security & Environmental and Security Business Line, the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); Program Executive Office, Assembled Chemical Weapons Alternatives (PEO ACWA); PuebloPlex and U.S. Army Pueblo Chemical Depot (PCD) and U.S. Department of Defense (DOD) Threat Reduction and Arms Control (TRAC) attended this meeting held at the Olde Towne Carriage House in Pueblo, Colorado. Four citizens attended this meeting.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m. She asked for and received approval for the minutes from the May 30 meeting. Kornelly had no project announcements.

Kornelly introduced special guests, including Dr. Charles Ball, Deputy Assistant Secretary of Defense, TRAC; Craig Campbell, director, TRAC; Suzanne Milchling, Program Executive Officer, ACWA; Brian Sheridan, general manager, Defense and Security, Nuclear, Security & Environmental; and Greg Frank, general manager, Bechtel Defense and Security Business Line.

In his position since the end of January, Dr. Ball said his role is to oversee the ACWA program. He said he was in attendance at the meeting to listen and learn and looks forward to getting input from the community. He said TRAC is committed to meeting the destruction deadline of 2023. Ball said Ms. Milchling is implementing initiatives which will enhance the likelihood of the program meeting the deadline. He said the ACWA program has tremendous visibility, which serves as an incentive for other countries to rid their stockpiles.

Milchling said she is pleased that not only the main plant, but also the Explosive Destruction System (EDS) is operational.

Lt. Col. Eric Sayer, chief of staff, PCD, provided a depot update. He said depot toxic material handlers delivered problematic rounds and seven M-70 bombs, recovered from Solid Waste Management Unit 13 to the EDS site for destruction on June 24. On June 27, depot handler delivered 576 155mm rounds to PCAPP, marking the first movement of 155mm projectiles since the main plant restarted operations. He commended the toxic materials handlers for safe and successful movements. Lt. Col. Sayer said the depot had a Surety Management Review (SMR) this month, passing with "flying colors." He said the depot continues to hire guards and toxic material handlers. Lt. Col. Sayer said seven candidates are currently enrolled in the depot's guard academy. John Norton, member, CAC asked what requirements the depot is looking for in guards. Lt. Col. Sayer said applicants must pass a background check.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, said in the last month efforts have been concentrated on the waste analysis plan and permit modification 215, the revised test plan for Agent Neutralization Reactor (ANR). Mackey's team has been evaluating the suitability of the Teflon-lined isolators (flex hoses). He said numerous batches of wash water

have been evaluated and are beginning to evaluate agent batches, with the goal of determining how often hoses will need to be replaced.

Russell De Salvo, president and chief executive officer, PuebloPlex, provided a presentation on his organization. He provided an historical overview of the depot, saying it was established in 1942 with chemical weapons arriving in 1952. By 1953, DeSalvo said 15 percent of Pueblo residents were employed by the depot. In 1988, the depot was put on the Base Realignment and Closure list so many of the missions were sent elsewhere. The redevelopment authority was established in 1994. In 2013, the Army formally declared 15,847 acres as surplus property, and shortly after a development plan was funded by the DOD Office of Economic Adjustment. In Nov. 2016, full approval came from Housing and Urban Development and the DOD. PuebloPlex has three overarching goals: to create jobs or backfill jobs lost at PCD; to increase the tax base of Pueblo County; and ensure the property is safe for reuse. PuebloPlex has identified 12 land use possibilities, including open space, recreation, manufacturing, warehousing, renewable energy, research and development and law enforcement training, dependent upon the environmental cleanup. Existing assets under the master lease include 15,847 acres, 620 storage igloos, more than 125 building and warehouses and 48 miles of rail. DeSalvo said 404 igloos, 20 building and warehouses and the entire rail network are leased. In 2017, PuebloPlex increased its lease space by 69 percent, its land by 217 percent and secured a 30-year cooperative water agreement. Implementation planning efforts continue in 2018.

John Norton, member, CAC, inquired about the future of G-block. DeSalvo said he could not answer. Doug Knappe, program manager, Hazardous Materials and Waste Management Division, CDPHE, said as long as the igloos meet state standards, they can be reused.

Bret Griebenow, project manager, BPT, said “walking through life” injuries continue, seven this year, so plant managers are implementing a safety improvement plan to reduce injuries.

Greg Mohrman, site project manager, PCAPP, shared plant victories. He said the plant passed the SMR, showing it is mission capable. He said a pre-operational survey was completed, which allowed for the second EDS campaign to begin on June 25. Mohrman said the restart of EDS was significant because it marked the first time for concurrent operations with the main plant, but cautioned the focus remains on the main plant. He said EDS operations is a team effort.

Mohrman said the plant was restarted methodically, in reverse order with the first agent batches processed on June 12. He said the primary purpose of flex hoses is to protect the pump equipment from vibration in the ANRs; testing continues on the ANR flex hoses. He noted that batches are now being processed without the addition of steam which contributed to the vibration problems in the reactors. MWS operations restarted on June 13 marking the restart of 155mm munition disposal. On June 21, the Projectile/Mortar Disassembly system resumed operations with the removal of energetic materials from 155mm munitions at the front of the PCAPP process.

Griebenow said vibration data is being reviewed for final resolution. Griebenow said the amount of vibration is within the acceptable range. Six batches of hot water were tested, followed by six batches of agent, and wash water is being tested currently to determine replacement time of flex hoses. He said the hoses are experiencing negligible wear. Testing is also showing that steam can be eliminated.

Griebenow said the Cavity Access Machines, which are part of the Munitions Washout System, are performing well. He said the plant is processing 60 munitions per shift, 120 munitions per day. Griebenow said the schedule calls for the biotreatment system to start up in November—it will take that long to build up enough hydrolysate to keep the microbes alive. Plant staff are considering starting up one of the Immobilized Cell Bioreactors early, at a reduced feed rate.

Griebenow said ACWA approved the purchase of three Static Detonation Chambers (SDC). The contract was placed with Dynasafe on June 14. He said the first two units should be delivered to PCAPP by October 2019, and the third 60 days later.

Walton Levi, deputy site project manager (DSPM), PCAPP, discussed the Environmental Assessment (EA) for the SDC. He said work on the EA has begun and anticipates a rough draft being complete by the end of July. The goal is to have the assessment out for public review by mid-Fall, in order to wrap it up by the end of the year. He said the site for the SDCs is being determined, but it is thought they will be placed in the vicinity of the EDS.

Mohrman reported destruction totals. As of June 27, 43,951 155mm projectiles have been destroyed. As of June 22, there are 85 rejects. He said 144 4.2-inch mortar rounds are being reconfigured per day, for a total of 4,031 as of June 27.

Mike Strong, DSPM, PCAPP, reported on EDS activities. He said the system is currently processing 105mm rejects; from there, the EDS will destroy the recovered depot M70 bombs, followed by 155mm rejects; and then leakers.

Terry Hart, vice chair, CAC, congratulated the team for the plant and EDS restart and wished the staff luck. He said the CAC is extremely pleased with progress.

Norton asked for clarification regarding information shared earlier in the day at the Biotreatment Utilization Group meeting. He said that it was reported that effluent would be delivered to the Biotreatment Area (BTA) as early as August. Griebenow said staff are in the process of determining the startup date of the BTA.

Norton addressed a second question to Strong, asking how many problematic lots might be processed through the EDS. Strong said since the EDS can only process six munitions at a time, it would be difficult to target an entire lot for processing through that technology. Norton asked if those lots might be processed by the SDC. Strong said that is a real possibility.

Kornelly said Mackey shared much of what was discussed at the Permitting Working Group (PWG) meeting held earlier in the day. She said the permitting process for the SDC was also discussed. She said she thought the RD&D permit was a two-year permit, but learned it is a three-year permit.

Kornelly said the next CAC and subcommittee meetings are scheduled for July 25.

The meeting adjourned at 7:06p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
July 25, 2018

Approximately 33 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program; Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex and U.S. Army Pueblo Chemical Depot (PCD) attended this meeting held at the Olde Towne Carriage House in Pueblo, Colorado. Four citizens attended this meeting.

Irene Kornelly, chair, CAC, called the meeting to order at 6:01 p.m. with a moment of silence for Ross Vincent, a CAC member who recently passed away.

She asked for and received approval for the minutes from the June 27 meeting. Kornelly said there are two vacancies on the commission and applications are available through Jeannine Natterman, administrator, CAC.

Col. Christopher Grice, commander, PCD, provided a depot update. He said the depot has 398 civilians on staff and continues to fill vacancies. He said 21 guards are currently in training. Col. Grice said 362 rounds, 15 of which are suspected to be contaminated and will be evaluated for destruction by the PCAPP Explosive Destruction System (EDS), were pulled from Solid Waste Management Unit 12. The depot commander said Terry Hart, vice chair, CAC, had asked at a previous CAC meeting about the composition of the depot, for which he went to the depot's Equal Employment Opportunity officer for the answer. Col. Grice said 50 percent of the PCD workforce lives in Pueblo County; 75.2 percent of the workforce is white; and employees come to the depot with diverse backgrounds. He said PCD will host a Diversity Day on July 26. The keynote speaker is Ruth Steele, executive director, Dr. Martin Luther King Jr. Cultural Center and Museum, Pueblo.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, said during the last month his team has processed ten class one permit modifications, which consist mostly of changes to the waste analysis plan. He said Agent Neutralization Reactors (ANR) and their isolators continue to be tested, and an issue with an isolator, found on July 25, is being evaluated. He said testing has shown limited wear of the isolators. Mackey said the plant is moving to low temperature testing and will be looking for effective processing without the use of steam.

Mackey also provided a formal presentation on the Multi-Pathway Health Risk Assessment, saying the MPHRA is a screening level risk assessment performed for estimating risk from the hazardous waste thermal treatment processes conducted at PCAPP and PCAPP EDS. He said the original health risk assessment was approved in July 2007 and updated in 2016. The objective of the assessment is to identify chemicals reasonably expected to be present in PCAPP and PCAPP EDS emissions; model how the chemicals can be transported into the environment and food chain; assess how people can directly and indirectly come in contact with them; calculate the cumulative risks; identify potential chemicals posing the greatest risk; and ensure risks are acceptable. Mackey said the MPHRA was prepared by BPT with input from the depot and state

health department. Data is being collected during pilot testing and compared to the risk assessment.

John Norton, member, CAC, asked about moving from steam to hot water. Mackey said batches will be run at 175 degrees Fahrenheit; however, spent decontamination solution may not be processed at that temperature due to heat balance. He said lower temperatures may take longer to react and hence will produce lower emissions. Norton inquired about air emissions from the Static Detonation Chamber (SDC). Mackey said his team will, at a later date, look at data from Anniston.

Ken Griffin, member, CAC, asked if old data from the SDCs [at other sites] will be used. Mackey said stack sampling from the SDCs will be performed during pilot testing.

Walton Levi, deputy site project manager (DSPM), PCAPP, read a letter from Greg Mohrman, SPM, PCAPP, about Mr. Vincent while a photo montage was displayed.

Bret Griebenow, project manager, BPT, discussed the plant's safety statistics and defined recordable, when an employee is treated for an injury and then released to go back to work, versus a lost work day, when someone cannot immediately return to work after being treated. He said the plant recently celebrated 10 million safe work hours, which were recorded from Jan. 22, 2015 through June 30, 2018.

Griebenow said 22 agent batches have been run through ANR 1 and 15 batches through ANR 2. He said the flex hoses are performing well, with no significant wear identified. He said entrants observed liquid on a flex hose July 25. The composition of the liquid will be evaluated with CDPHE.

Griebenow also said a munition movement milestone was achieved on July 5 with the 1,000th Modified Ammunition Vehicle delivery from PCD to PCAPP.

Levi discussed the second campaign of PCAPP EDS. He said the first six-pack of 155mm projectiles was successfully destroyed July 17. He said during maintenance activities performed July 21, monitoring equipment got a mustard agent reading, which was under engineering controls. Levi said it occurred after a batch of 155mm projectiles were destroyed, and the CAC was notified of the event. He said that it is thought there were mustard agent molecules behind the screws that were removed from a blast shield for cleaning. Kornelly asked if the EDS is back in operation. Levi said it is.

Levi said preparations are being made for the Environment Assessment (EA) to be performed for the SDC. He said the EA will have a 45-day review and comment period, with public meetings. It is anticipated the EA will be released in August or September 2018.

Levi reported destruction statistics, saying as of July 20, 47,696 munitions have been destroyed, with 94 rejects.

Griebenow said 125,480 munitions have been reconfigured. Kornelly said she would like to see statistics on how many munitions have been processed by the main plant and EDS since the restart.

Kornelly said Mackey facilitated a thorough discussion regarding the EA during the Permitting Working Group meeting held earlier in the day. She said public meetings will be held in Pueblo and a community close to the depot.

Kornelly said the next CAC and subcommittee meetings are scheduled for Sept. 26. She said some of the CAC members will travel to Kentucky the last week of August to see the SDC located at the Blue Grass Chemical Agent-Destruction Pilot Plant. Kornelly said if there is a need for an August CAC meeting, it will be held Aug. 22.

The meeting adjourned at 6:56 p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Boone Community Center
Sept. 26, 2018

Approximately 40 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program (CSEPP); Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; U.S. Army Pueblo Chemical Depot (PCD) and U.S. Sen. Michael Bennet's (D-Colo.) Pueblo office attended this meeting held at the Boone Community Center in Boone, Colorado. Seven citizens were among the 40 in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m. She asked for and received approval of the minutes from the July 25 meeting.

Kornelly said she and other members of the CAC traveled to the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP) to see its Static Detonation Chamber (SDC). She said the unit in Blue Grass is an updated model of the one in Anniston, and the units planned for Pueblo will have greater Off-gas Treatment System (OTS) throughput. She said the Pueblo system will be larger capacity and more efficient. Doug Knappe, hazardous waste program manager, Hazardous Materials and Waste Management Division, CDPHE, said the Blue Grass SDC is permitted as a miscellaneous unit. He said engineering and operating specifications will need to be reviewed before his team can determine the type of permit the Pueblo unit will have. He said the Pueblo unit will have the same type of controls on emissions, waste feed and management of waste streams as the Blue Grass unit. Kornelly said the SDC is not a small unit; therefore, it cannot be placed on the PCAPP Explosive Destruction System (EDS) pads. CAC members Ken Griffin, John Norton and Terry Hart said they were impressed with the size and scale of the BGCAPP SDC and said they learned about the unit's air flow, OTS, improved heat chambers and "beefed up" air filtration unit. Hart said he appreciated the opportunity to interface with BGCAPP CAC members, who recommended the SDC unit after extensive research. Kornelly cautioned that the SDC has not yet been approved for use for PCAPP.

Col. Christopher Grice, commander, PCD, provided a depot pictorial presentation reviewing depot activities from the past year. As a result of the fire on depot grounds last March, he said removal of asbestos is pending. He said his staff successfully moved 4.2-inch mortar rounds from storage to PCAPP in April. Also in April, the depot celebrated Earth Day with a car show. In May, the depot participated in the CSEPP exercise, as well as the Memorial Day bridge ceremony. In June, PCD staff supported the restart of EDS. The depot commander said activities were performed in August for Antiterrorism Awareness Month. Depot staff also remediated Solid Waste Management Unit 13. Col. Grice said he will speak at the Veterans Day bridge ceremony on Nov. 10, and said the "best thing" he does is speak to the community. The depot celebrated its first Diversity Day in July and will hold a quarterly event. The commander concluded his presentation by saying the depot is prepared to protect the stockpile even if the federal budget is not approved.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, said 10 permit modifications, four dealing with administrative changes, have been approved since the last CAC meeting in July. There have been six class one modifications, dealing with the Munition Service Magazine filter change out and maintenance; revisions to Agent Neutralization Reactor (ANR) #2 operating requirements; changes to the compliance table and operations plans; and changes to the way munitions are transferred from PCAPP to the EDS. An additional seven permit modifications are being reviewed, including revisions to operating plan tables; treatment of waste and waste items in containers; revisions to how the ANRs are configured; and changes to the waste analysis plan. Mackey said his team is reviewing the proposal to reduce washout pressure, with rotation, in the Munitions Washout System, which will be incorporated into operation procedures. Mackey also discussed the Multi-Pathway Health Risk Assessment, saying there have been issues with laboratory data quality; as such, the parties are looking at ways to revise the Pilot Test Demonstration Plan to get good numbers, with lower detection limits, and results without lab bias. There is a need to collect additional data throughout pilot testing. Mackey said permitting for the SDC is a work in progress. He said his team is considering a class three permit modification, which would be added to PCD's permit, which would allow some work to be done under a temporary authorization (TA). PCAPP is running under a Research Development & Demonstration (RD&D) permit and the SDCs are not RD&D.

Norton said the SDC permit was discussed during the Permitting Working Group (PWG) meeting held earlier in the day and the CAC members wanted to make a resolution. He read a statement that said the CAC requests that CDPHE keep the commission apprised of any TAs regarding the work done to install SDCs at PCAPP.

Erica Houghton, coordinator, CSEPP, shared information from the 2018 exercise. The exercise was held on May 2 with three different scenarios: one on post and two off post. Houghton said Pueblo County had no findings; strengths were noted and observations identified for continuous improvement. Houghton said the observations consisted of outdated communications forms; overlapping hot and cold zones—a training issue related to the decontamination of humans and animals to prevent recontamination; no pre-entry physicals; and ineffective communication, including limited patient tracking and improper use of incident command. She said strengths observed were real-world notifications, integration of a drone, participation by multiple county commissions, participation by School District 70 and resource tracking. Houghton said 37 agencies and organizations, or 2,000 people, participated in the exercise.

No questions were asked of Houghton.

Bret Griebenow, project manager, BPT, discussed the plant's safety improvement plan, which is seeing results. Greg Mohrman, site project manager (SPM), PCAPP, said a new program executive officer for Assembled Chemical Weapons Alternatives came on board Sept. 10. Michael Abaie is a member of the senior executive service and was former director of the engineering directorate within the U.S. Army's Research, Development and Engineering Command. Mohrman said Abaie toured PCAPP on Sept. 18; he said the new PEO is focused on performance and mission completion and has been invited to attend the Dec. 12 CAC meeting.

Griebenow discussed plant improvements, including Munitions Treatment Unit bin door replacement; installation of new linear slide bearings on two of 10 Cavity Access Machines; and

the change out of flex hoses on the ANRs every 14 batches. Griebenow said Explosion Containment Room #2 is back in service, after being down since July 2017.

The BPT project manager said the restart of the Biotreatment Area (BTA) is expected to occur Oct. 2. He said since the initial start of BTA operations in September 2016, more than one millions gallons of hydrolysate have been processed.

Walton Levi, deputy SPM, PCAPP, discussed the SDC Environmental Assessment (EA), in which three SDCs are proposed to process 4.2-inch mortar rounds. He said under the National Environmental Policy Act (NEPA), an EA must be performed. He said the comment period for the EA kicked off Aug. 22 and will conclude Oct. 6. Levi said three public meetings were held in early September, resulting in 12 participants, aside from CAC members. During the public meetings, questions were asked about ACWA, PCAPP and the SDC. Levi said he hopes to wrap up the EA by the end of October. Mohrman said the NEPA process will need to be complete before a decision on acquiring the SDCs can be made. He said there is a desire to reuse the EDS site for ancillary equipment with new pads for the SDC.

Levi said PCAPP hosted a group of regulators from Kentucky who were interested in learning about the main plant and the SDCs.

Mohrman said as of Sept. 21, 61,334 munitions, including those from EDS, have been destroyed. He said 17,710 projectiles have been destroyed in the main plant since the plant restarted on June 13. He said staff is learning more about how to operate the plant and sustain it. Mohrman said there have been four “zero” days, when no munitions were destroyed, since the restart.

Norton asked if the weekly average number of munitions destroyed is higher since the restart. Mohrman said yes.

Mohrman discussed baseline reconfiguration, saying the reconfiguration of 105mm projectiles is complete but many 4.2-inch mortar rounds remain. He said there has been a change in shifts, with workers now working twelve-hour, day shifts.

Griebenow said the off-site shipment of hydrolysate began Sept. 25, with the expectation that 150,000 gallons, up to 250,000 gallons, will be shipped. He said based on previous experience, 52 to 53 truckloads, four trucks per day, with a Monday, Wednesday and Friday schedule, will be shipped to Port Arthur, Texas. He said there are several reasons for the shipment, including the 30-day Hydrolysate Storage Tanks are near capacity, better munition throughput, the production of more hydrolysate than expected, the flushing of ANRs for buildup and a high number of pressurized rounds that had to be decontaminated. These activities have produced more hydrolysate than anticipated.

Mike Strong, deputy SPM, provided an EDS update. He said the EDS restarted June 25, initially processing a back log of leakers and rejects from the plant, and seven recovered M70 bombs from PCD. The back log was completed on Aug. 11. A permit change is allowing for palletized rounds to be processed by the EDS, reducing risk to the main plant. The EDS is performing four shots per week, six rounds per shot.

Hart asked if the M70 bombs are significantly larger than 155mm projectiles. Col. Grice said they are one and a half times larger.

Hart said although CAC members understand why the shipments are necessary, they believe any shipment of hydrolysate is a failure. He said CAC members don't like shipments because they want the PCAPP facility to be used. Hart said he needed to strongly reiterate the CAC wants little or no shipments in the future. He said if shipments are being done for political expediency, the CAC has a problem with that.

Griffin said he supported Terry's comment.

Mohrman said the shipments are not for the sake of expediency.

Knappe asked Griebenow to elaborate on the difficulties experienced in bringing ECR #2 back on line. Griebenow said there were several challenges, including contamination from a leaker which necessitated the removal of the Munitions Monitoring Enclosure and Parts Monitoring Enclosure for hands-on decontamination, and new parts had to be fabricated.

Kornelly provided an overview of the PWG meeting held earlier in the day. She said the next CAC and subcommittee meetings are scheduled for Oct. 24.

The meeting adjourned at 7:28 p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
Oct. 24, 2018

Approximately 37 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program (CSEPP); Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; and U.S. Army Pueblo Chemical Depot (PCD) attended this meeting held at the Olde Towne Carriage House in Pueblo. Three citizens were among the 37 in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m. and acknowledged Dr. Charles Ball, Deputy Assistant Secretary of Defense (Threat Reduction and Arms Control), and Program Executive Officer (PEO) Michael Abaie, Assembled Chemical Weapons Alternatives, who were on the phone.

Dr. Ball thanked the commission for the opportunity to address them. He apologized for the need to ship additional hydrolysate off site and said he takes full responsibility for the additional shipments. Dr. Ball said the primary reason for the shipment is because the plant is running quicker than anticipated and storage tanks will need to be empty for the Integrated Facility Demonstrations (IFD). Ball said the off-site shipment is unacceptable but, ultimately, he takes responsibility for it. He said off-site shipment cannot continue and he, with the new program executive officer, will take measures to ensure it will not happen again.

Mr. Abaie introduced himself and said he'll be at the December CAC meeting. He apologized for his first introduction to the group being by phone. Mr. Abaie said he was distraught about the hydrolysate shipment. He said more hydrolysate is being created because more munitions are being destroyed than anticipated. He said a PCAPP model showed the amount of hydrolysate that would be produced; however, the model was in error. He said 350 to 400 munitions per day are being processed, producing more hydrolysate than expected and the Biotreatment Area (BTA) was not restarted early enough to handle the amount of hydrolysate being produced. Mr. Abaie said plant throughput has been decreased so the storage tanks will not be overwhelmed. He said he is upset by the mistakes, for which he takes responsibility, and wants to make sure it won't happen again. He said if two Immobilized Cell Bioreactors (ICB) run at maximum capacity, they will handle the amount of hydrolysate produced in the plant. He suggested converting ICBs 3 and 4 into flex storage, which he said will take up to eight months at a cost of three million dollars, and will require a Part B permit. Mr. Abaie said the BTA is currently running at 25 percent of demonstrated feed rate and is working toward achieving 75 percent.

Terry Hart, vice chair, CAC, said he would have preferred that Dr. Ball and Mr. Abaie be at the meeting to discuss the issue face-to-face. He thanked the gentlemen for their sincere apologies. Hart said historically the community has been opposed to off-site shipment. He said the National Research Council's recommendation of off-site shipment as a failsafe was never well received by the CAC. Hart said off-site shipment should only be used in a severe emergency and believes the shipments are being done for convenience. He said the shipments are putting Pueblo and other communities at risk.

Hart said the CAC has had a good relationship with project staff but he no longer feels that way. He said trust and faith has been violated. And although he understands the plant needs to move toward the IFDs, he doesn't understand how it could be designed and operated by "pumping more in the front end than taking out of the back end." He said plant issues have produced off-site shipments on two occasions. The plant is currently shipping out up to 500,000 gallons and now anticipates another shipment of up to 250,000 gallons, for a total of 750,000 gallons. Hart said although the IFD is important to the CAC and they too want success, he said the commission believes there is another option. They believe the "proper" path forward is to delay the IFDs in order to bring the BTA up to speed. He said munition processing could be slowed down in order that hydrolysate production be slowed down. He said that he believes the only thing preventing that from happening is the desire of plant staff to move forward with the IFD. Hart said the IFD can be delayed in order that the BTA be used. He said that while he understands mistakes can happen with a pilot plant, he believes the current situation is a "made up" crisis. Hart said his understanding is that the CAC is being asked for permission for the additional shipments of hydrolysate, to which, his answer is no.

Dr. Ball thanked Hart for his candid response. He said he and Hart have different definitions of convenience. He said when the plant has to slow down because hydrolysate cannot be shipped, money is lost, which is reflected poorly to the international community. Dr. Ball said the project cannot afford to delay.

Mr. Abaie said the CAC losing trust puts him in a difficult position. He asked the CAC to imagine how difficult it was for him, as the new PEO, to go to Army and the Office of the Secretary of Defense chains to explain the need for additional off-site shipments of hydrolysate; he said it was not an easy thing to do. Mr. Abaie said he not only answers to the CAC, but also to senior leaders. He said the additional off-site shipments are not a matter of convenience as he is held accountable for the need and necessity. He said he plans to put tools in place to ensure that it is not used as a convenience measure. He said he would love to use the plant as designed, and is working diligently on a plan to use the ICBs.

John Norton, chair, Biotreatment Utilization Group (BUG), said the commission was told that using ICBs 3 and 4 as flex storage is not practical and may not be an option. He said if more storage had been created a year ago, it would have alleviated the need for off-site shipment. Mr. Abaie said he had not heard about the impracticability of converting the ICBs into flex storage. He said he is also looking at the possibility of bringing ICB 3 online to treat hydrolysate; however, feels converting ICBs 3 and 4 into storage is more practical.

Robert "Bob" Jonardi, new CAC member, surmised that losing money and reputation are Dr. Ball's main concerns. He said he estimates that one million gallons of hydrolysate have been produced in the plant, and of that, 50 percent has been shipped off site. Jonardi said he wanted clarification on Dr. Ball and Mr. Abaie's support of the off-site shipment of an additional 250,000 gallons of hydrolysate and asked if there is an alternative. Dr. Ball said he does not want to slow down production and did not say he was against the off-site shipment. Mr. Abaie said off-site shipment is necessary to get to the IFDs. He said better planning may have resulted in less hydrolysate being shipped off site. Dr. Ball said it is frustrating to know that the BTA is causing the problem when it was a system of great confidence.

Kornelly said she doesn't believe there is anything wrong with the BTA, but poor planning.

Dr. Velma Campbell, new CAC member, said it is her firm belief that the CAC is an essential element to the project and its membership does not take decision making lightly. She said she endorses the recommendation to slow down plant processes in order to allow the BTA to absorb the excess stored material and avoid off-site shipment. She said she believes the CAC endorses increased storage capacity. Dr. Campbell said allowing shipment would reward poor planning and mistakes. She said this is not the first time off-site shipment has been the fallback. She also said it is the result of thinking the chemical demilitarization process is a dichotomy of the demilitarization of the weapons and treatment of the waste. She said demilitarization is not complete until the hydrolysate goes through the BTA. Dr. Campbell also said she understands the conversion of flex storage would require further permitting and asked what would happen if it is determined that ICBs 3 and 4 are needed for their original intent. She said she takes offense to the insinuation that the CAC's insistence that the job be done right, resulting in the delay of the chemical demilitarization process, is a lack of consideration for service members. Dr. Ball said he didn't mean to suggest that the CAC has any less concern for the service members than he or Mr. Abaie. He said the longer the plant runs, the more money it'll cost, which means less money for the troops. He said although commitments were made in good faith, bad planning and bad execution has led to the need for off-site shipment. Dr. Ball said he agrees that the BTA is not an add on, and from here on out, wants hydrolysate to be treated on site. He said the failure should not be compounded with the failure to carry out the main mission.

Mr. Abaie said he is committed to ensure the entirety of the plant be used. He said he wants a little time to put his finger prints on the project in order to resolve issues so they won't happen again. He said the plant is not like a light switch and space is needed to run the plant at capacity. He said he wants to see if the conversion of ICBs 3 and 4 can be expedited.

Ken Griffin, member, CAC, said the plant was facing the same problems when he first joined the commission and remembers the CAC suggesting greater storage capacity, which he said was dismissed. Griffin said he inquired about the BTA in August and was told there were no problems. Mr. Abaie said the ICBs should have been converted into flex storage after the first off-site shipment. He said better planning would have gotten the BTA up and running sooner. He said he understands Griffin's frustration and had the same questions about storage when he toured the plant.

Kornelly said there is a false perception that the CAC wants the project to go on indefinitely. She thanked Dr. Ball and Mr. Abaie for their time and willingness to discuss the off-site shipment. She said the commission is reasonable but tough. Kornelly said depending on what happens between now and the end of November, there may be a need for a Permitting Working Group (PWG)/BUG meeting, and perhaps even a CAC meeting on Nov. 28.

Before ending the call, Mr. Abaie asked for indulgence to win back the CAC's trust.

Kornelly asked for approval of last month's CAC minutes. She formally introduced the two new CAC members. Jonardi said he is a retired engineer who worked for the Bechtel Corporation for eight years, his last two years spent on PCAPP systemization. Dr. Campbell, who practices occupational and environmental medicine in Pueblo, said she had been involved with PCAPP since its inception.

Col. Christopher Grice, commander, PCD, welcomed the new commission members. He said during his daily morning briefings, he finds it satisfying to report the amount of rounds that have been taken out of storage. He said he believes Dr. Ball is taking serious actions to make sure the project is on track. Col. Grice said Mr. Abaie asked a lot of questions, from how parts are procured to how the systems work, when he toured the plant.

Grice also reported a successful treaty inspection since the last CAC meeting. He said his staff are being stretched to the limit, supporting main plant, baseline reconfiguration and Explosive Destruction System (EDS) activities. Col. Grice said he signed the Finding of No Significant Impact related to the Static Detonation Chamber (SDC) Environmental Assessment (EA). He said he is waiting for comments from the SDC EA to be complete. The depot commander also reported upcoming community involvement events, including the presentation of the flag at an upcoming Colorado State University-Pueblo football game and several Veterans Day events.

No questions were asked of Col. Grice.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, addressed permitting requirements for flex storage, saying he understands the need for the permit and can prioritize and be flexible and responsive. Mackey said his team is in the process of evaluating 10 permit modifications, including one on the treatment of waste and waste containers for the off-site shipment of secondary waste. He said his team is in ongoing discussions with PCAPP staff about IFD sampling and how it relates to the Multi-Pathway Health Risk Assessment analysis and SDC permits. Mackey said his team, in coordination with PCAPP staff, is working on air permitting requirements for the SDCs. He said a compliance advisory has been issued regarding the pH probes in the Agent Neutralization Reactors. He said malfunctions have led to false readings. A conference call regarding the compliance advisory is scheduled for Nov. 7.

No questions were asked of Mackey.

Bret Griebenow, project manager, BPT, said poor planning and wrong readings created the need for the additional off-site shipment of hydrolysate. He said he took responsibility for the proposed shipments. He said Mr. Abaie recently spent four and half hours walking the plant, asking questions and challenging the plant to be better. Griebenow said the safety improvement plan is showing promise as there have been no lost time incidents since the plan was implemented.

Griebenow described a seven-day rolling average since operations resumed, saying the plant has moved from processing 100 munitions per day up to 300 munitions per day. He said the replacement of Munition Treatment Unit (MTU) bin doors, MTU 2 belt drive replacement and decontamination of the Munitions Washout System required operations to be paused for two days. Griebenow said improvements made to Cavity Access Machines have paid off in that 690 munitions were processed in one day on Oct. 3. He said a side effect of increased production is the off-site shipment of hydrolysate. Griebenow reported that 40 tankers carrying 187,976 gallons of hydrolysate were shipped to Port Arthur, Texas, between Sept. 25 and Oct. 19. Kornelly asked if flooding in Texas has impacted the shipments. Griebenow said no.

The BPT project manager also discussed batch feeds of the ICBs. He said the first batch feed occurred on Oct. 5 and the second on Oct. 19, and anticipates ramping up to full throughput by Nov.

7. He said once the ICBs are operating at full throughput, it will be the first time the plant will be operating from “stem to stern.” He said IFDs are expected to take place in mid-November.

Walton Levi, deputy site project manager, PCAPP, said the key take away is more than 400 tons of agent has been destroyed, which is about 16 percent of the total stockpile. He said only 17 rejects have resulted from the reconfiguration of 4.2-inch mortar rounds, with up to 300 rounds being reconfigured per day.

Levi also reported on the SDC EA, saying four official comments resulted from the public comment period and three public meetings, and the comments are being addressed. Hart said questions asked during trips to Alabama and Kentucky to view the SDCs were incorporated into the EA. He formally requested that the CAC be given a copy of the EA report. Hart asked when the decision for additional off-site shipment would be made and formally requested the options report. Kornelly said it was moved and seconded that the CAC requested information concerning Dr. Ball’s recommendations for hydrolysate shipments or other types of options and that the CAC receive advanced notice of the decision.

Hart said the CAC was repeatedly promised that they would be informed of decisions made pertaining to off-site shipments and would be participants in the decision-making process.

Kornelly said PWG/BUG meetings are tentatively set for Nov. 28 at 2 p.m. She said there is the possibility of a CAC meeting being held on the same day. She said the next regularly scheduled meetings are Dec. 12.

The meeting adjourned at 8:01 p.m.

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Colorado Chemical Demilitarization Citizens' Advisory Commission Meeting
Olde Towne Carriage House
Dec. 12, 2018

Approximately 44 individuals representing the Bechtel Pueblo Team (BPT); Chemical Stockpile Emergency Preparedness Program (CSEPP); Colorado Chemical Demilitarization Citizens' Advisory Commission (CAC); Colorado Department of Public Health and Environment (CDPHE); Federal Emergency Management Agency; Program Executive Office, Assembled Chemical Weapons Alternatives (ACWA); Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP); PuebloPlex; U.S. Army Pueblo Chemical Depot (PCD) and U.S. Sen. Michael Bennet's Pueblo office attended this meeting held at the Olde Towne Carriage House in Pueblo. Two citizens were among the 44 in attendance.

Irene Kornelly, chair, CAC, called the meeting to order at 6 p.m.

Kornelly provided an overview of activities that have occurred since the last commission meeting. She said during the meeting held Oct. 24 and subsequent teleconferences, the CAC voiced their opposition to the off-site shipment of an additional 250,000 gallons of hydrolysate and provided suggestions for alternatives for treatment of the hydrolysate. Kornelly said ultimately the hydrolysate was not shipped off site, which she considers a win for the CAC. She said the CAC recently had lunch with Program Executive Officer Michael Abaie, ACWA, and his acting deputy Nicholas Stamatakis and discussed permitting of the Static Detonation Chambers (SDC).

Terry Hart, vice chair, CAC, said he is extremely pleased that Dr. Charles Ball, Deputy Assistant Secretary of Defense (Threat Reduction and Arms Control), and Mr. Abaie listened to the CAC's concerns. He looks forward to continued work with the gentlemen.

Kornelly said she had no program updates.

Lt. Col. Eric Sayer, military deputy commander, PCD, introduced incoming depot commander Col. Michael Cobb. As the result of increased production at PCAPP, Lt. Col. Sayer said depot personnel move up to 3,000 rounds per week, from the depot to the pilot plant. He said his staff receives approximately 700 reconfigured munitions from the plant per week; those munitions are placed in storage. Lt. Col. Sayer said the depot continues to hire; open positions are posted at usajobs.gov.

No questions were asked of Lt. Col. Sayer.

Kevin Mackey, unit leader, Hazardous Waste Permitting Unit, CDPHE, provided an overview of permitting activities. Since the last CAC meeting, an additional five Class 1 permits have been approved. The permits deal with revised operating parameters of the Cavity Access Machine, including a lower pressure wash; changing the Agent Neutralization Reactor to bypass one of the preheaters in the Brine Concentrator Feed tank—nine instead of 10 heaters are used; and deferral of the B20 heat exchanger—the carbon steel was going to be replaced with stainless steel but it was delayed due to new operating parameters and won't be changed until there is a lull in processing or a campaign changeover. Mackey said the carbon steel should hold up well. Eleven permit modifications are in review, including additional changes to the waste analysis plan. He said a Class 2 permit modification under review is the treatment of waste and waste items in containers and how

the facility will lower the agent levels in the waste contained in drums. Another permit modification in review is a change to air flow rate alarms in the Munition Treatment Unit. Mackey said there has been a lot of discussion regarding SDC permitting and revising Multi-Pathway Health Risk Assessment (MPHRA) protocols and the way risk is measured. Mackey said there have also been discussions related to bringing Immobilized Cell Bioreactor (ICB) Module 3 on line.

Robert “Bob” Jonardi, CAC member, asked about the driving force behind changing carbon steel to stainless steel in the B20 heat exchanger. Mackey said in early operations, the pH dropped and corroded the end caps. He said stainless steel can handle the dips in pH. Mackey said plant staff also looked at how to get a more stable pH level. If the pH is high and consistent, it reduces the risk of corrosion. Jonardi asked if there is any risk of leakage should the carbon steel not be changed out. Mackey said risk is low as analysis and routine inspections are a permit requirement.

The Pueblo Chemical Stockpile Outreach Office (ORO)-produced Year in Review video was shared.

Bret Griebenow, project manager, BPT, said there has been a steady decline of recordable safety incidents since the June 13 restart, and plant staff received official notification on Dec. 13 of their recertification of Star Status in Occupational Health and Safety Administration’s Voluntary Protection Program.

Griebenow said the focus of plant staff has been on Integrated Facility Demonstrations (IFD), which began Nov. 13. He said 10 systems were operating in the Agent Processing Building during the initial demonstration. Despite a very successful first run, a low flow alarm sounded causing operations to pause for an hour and a half. Plant staff are investigating what caused the alarm. The plant ran at maximum capacity so that emissions could be reviewed for the plant’s Part B permit. Despite the hour and a half pause, the plant experienced its best 24-hour period to date, processing 780 munitions. Griebenow cautioned that 780 munitions processed is not achievable every day.

Emissions sampling is also occurring in the Biotreatment Area (BTA). There have been issues with the flow stability of the ICBs; as such, flow has been increased and decreased to achieve steady state. This instability is being reviewed. ICB Module 3 is being prepared for contingency operations. Griebenow said it should be ready in May.

Jonardi asked if ICB Module 3 was always considered a contingency. Griebenow said four modules were in the original design but two modules are all that are needed to keep up with the hydrolysate produced by the plant.

Terry Hart, vice chair, CAC, asked what the average throughput of the plant is. Griebenow said the purpose of the IFDs is to determine that number. He said the plant is currently processing pressurized rounds, which causes contamination and requires clean up. Griebenow said that although the plant was designed for some pressurized rounds, they are seeing far more pressurized rounds than were anticipated and there is a lot of variability within munition lots.

Dr. Velma Campbell, member, CAC, asked what form the contamination is in. Bret said the contamination coming from pressurized rounds is liquid, which spills onto the machine and floor. Dr. Campbell asked if the liquid goes air borne; Griebenow said it did not. Ken Griffin, member,

CAC, asked how much down time is required for cleanup. Griebenow said one CAM can continue to run while another is being decontaminated.

Griebenow brought the conversation back to the BTA, saying staff are moving toward 75 percent design thiodiglycol (TDG) loading, which is the maximum demonstrated throughput rate. He said currently the TDG removal efficiency is greater than 95 percent.

Greg Mohrman, site project manager, PCAPP, commended the ORO on the production of the Year in Review video. Mohrman said he is happy to share good news stories. He shared a quote, “Our plant is still talking to us.” Mohrman said Gary McCloskey, deputy project manager, BPT, said we have discovered the problems at the 10,000 munitions level; now we’re looking at the 100,000 munitions level and learning as the plant “talks to us.” Improvements have been made so the equipment will function better.

Mohrman said the shared goal of ACWA, PCD and BPT is to safely destroy the stockpile in accordance with public law by December 2023. Investments have been made to the main plant to keep it operational; sequential improvements were made for sustainable and reliable operations.

Three SDCs are being manufactured for PCAPP, with delivery of the first unit slated for August 2019. Mohrman said the goal is to place the SDCs on their pads when they arrive. Several teams have been formed to prepare for the SDCs—plans for utilities, buffer storage, the transport of munitions, emergency response, etc., all need to be put into place. An Integrated Process Team was put together to look at permitting issues. The first government-only meeting was held Dec. 11.

Mohrman also discussed SDC siting. He said the existing Explosive Destruction System (EDS) site will be used for the SDC. The current design approach is to reuse the EDS pads for ancillary equipment and new pads will be poured directly adjacent for the SDCs. The new pads will be thicker and more reinforced to hold the weight of the SDC units.

Mohrman also presented destruction numbers. As of Dec. 7, 86,992 155mm projectiles have been destroyed. Between June 13 and Dec. 7, 43,590 munitions were destroyed, which reflects improved throughput. Mohrman said one of the metrics looked at to determine better throughput is how many zero days, when no munitions were destroyed, the plant has had. Since June 13, the plant has experienced four “zero” days, setting a record for the least consecutive zero days since operations began in 2016.

Mohrman said to date, 129 leakers and rejects have been found, and most of those were destroyed by the EDS. John Norton, member, CAC, asked if leakers and rejects resulted from baseline reconfiguration and if they posed a threat to the workforce. Mohrman said there was no threat because the munitions were monitored from storage and while they were unpacked. The operators, in personal protective equipment, overpacked leakers into Single Round Containers (SCR). Mohrman said baseline reconfiguration continues. There were more than 97,000 rounds to be reconfigured; more than 18,000 are complete.

Mike Strong, deputy site project manager, PCAPP, presented EDS. He said the second campaign was completed Dec. 5, which started off with 98 rounds to be destroyed. Then, workers looked for problematic lots which posed the greatest risk for processing. A permit change allowed for one lot

of in-tact palletized munitions to be processed by the EDS, for an additional 248 rounds. PCD Solid Waste Management Units (SWMU) produced seven M70 bombs, which were also destroyed by EDS. Similarly, rejects from the main plant were destroyed, for a grand total of 391 munitions destroyed. Strong said more rejects and leakers will result from main plant operations and baseline reconfiguration. Those items will be overpacked in SRCs and stored to await destruction by an SDC. The EDS is going through the closure phase, which consists of decontamination and monitoring verification. Strong said PCAPP staff have been challenged to identify a new location for EDS and potentially bring it back on line.

Norton asked how many gallons of liquid waste have been generated by EDS. Strong said he will bring that number to the next CAC meeting.

Norton also asked for the rationale for maintaining an EDS in addition to the SDCs. Mohrman said it is so the plant will always have the capability to destroy munitions. If there is a need to destroy munitions between now and when the SDCs arrive, EDS will be available. He said there is also the potential to use EDS for treaty sampling associated with SDCs. Since the munitions will be placed intact into the SDC, there is no way to access them for treaty sampling; therefore, an alternate method for accessing the agent cavity must be used.

Hart asked about the throughput rate of an SDC. Mohrman said it depends on the munition type and net explosive weight. Griebenow said the range is approximately 100 to 140 munitions per day.

Hart said the CAC has always advocated for the EDS to continue to run.

Griffin asked about SWMUs 12 and 13. Lt. Col. Sayer said MWMU 13 is complete, but it'll take several years to complete SWMU 12 and the depot is looking to have the SDC permitted to destroy any recovered munitions.

Dr. Campbell asked about the new location for the EDS. Strong said a location has not been chosen. He said the intent is to use the P2A, which is in Maryland, and return the P2R.

Kornelly provided an overview of the Permitting Working Group (PWG) meeting held earlier in the day. She said there was a long discussion regarding the public participation process for SDC, which, she said, could be a six to nine-month process. Norton, who serves as chair of the Biotreatment Utilization Group, said Dr. Jim Earley, chief scientist, PCAPP, discussed issues experienced with one of the ICBs. Kornelly said PWG/BUG meetings are scheduled for Jan. 30 at 2 p.m. She said the CAC will meet the same day at 6 p.m.

The meeting adjourned at 7:18 p.m.

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