CBARR Performs Developmental Testing of New EDT for Potential U.S. Use
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In May, I held a town hall with the dedicated men and women of CBARR. More than 125 of our employees attended in person at Edgewood and remotely via live broadcast to our Pine Bluff offices. It had been four years since our last all-hands meeting, and as I stated in my opening remarks to staff, a lot has changed in the world in that time. Change is difficult, frankly, but it is essential that we adapt to those changes both in our own lives and as an organization.

I can confidently say that CBARR has evolved in that time to meet the dynamic nature of the WMD community. Just a glance at a list of our recent successes is a measurement of our capability of adapting to meet the needs of our customers in the chem-bio defense industry:

- Current field operations at nine sites globally;
- An interagency agreement with the Environmental Protection Agency to train first responders and on-scene coordinators from the Environmental Response Team based in New Jersey as well as several regions across the U.S.;
- And an increasingly successful relationship with the Program Executive Office, Assembled Chemical Weapons Alternatives (PEO-ACWA), which is responsible for a significant number of WMD destruction projects.

Yet we are never satisfied to allow our successes to stunt our growth as a business unit. We are constantly evaluating and refining procedures and processes for our mainstay operations – investigations, remediation, discovery and destruction – and we are utilizing existing capabilities in new and exciting ways, such as providing training to first and secondary responders and offering consulting services to customers around the world. Our best work lies ahead. 

Tim Blades
CBARR Director of Operations
Collaborative Technology Efforts Result in New Tool for Operators

An ordnance technician uses a newly designed hand tool to remove an ignitor cartridge from a simulated chemical agent mortar.

A new hand tool, designed and built through a partnership of organizations including CBARR, will make work easier and safer for operators at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP).

The ignitor tool was designed through collaboration with CBARR, the Program Executive Office, Assembled Chemical Weapons Alternatives (PEO-ACWA) and PCAPP contractors, and was manufactured at the Edgewood Chemical Biological Center (ECBC).

The PCAPP is being readied to start destroying more than 700,000 chemical weapons later this year. Part of that destruction process includes reconfiguring some of those weapons by removing fuses and ignitors by hand before they can go through with the neutralization phase. Using the new tool to remove ignitors is expected to lessen the number of munitions that cannot easily be processed in the plant.

“Our customer, PEO-ACWA, brought our team in to review the reconfiguring process. We were able to identify an issue and they asked if we could help solve it,” said Tom Rosso, CBARR business manager. “Our CBARR team utilized resources within ECBC to identify possible solutions and then collaborated with PEO-ACWA and their team of contractors to arrive at a final solution, which is this new ignitor tool. We then utilized resources within ECBC to complete design and manufacture the tool right here at Edgewood.”

Versions of the tool range from one that is lighter and thinner for detailed work, to versions that are stronger and heavier to provide more leverage. Each version of the tool is made from metal that doesn’t produce sparks when working with mortar components.

Part of systemization, or getting the PCAPP ready to operate, involves practicing every process step on exact scale models of munitions. This practice allowed engineers and operators to test the prototypes quickly in conditions that closely match working on real chemical agent munitions.

Did You Know?

CBARR Holds Second Chem-Bio Response Training for EPA Responders

CBARR held its second training session recently with the Environmental Protection Agency (EPA). Members from the agency’s headquarters, EPA Regions 2 and 3, its Environmental Response Team and contractors, as well as representatives from Washington Headquarters Service, came to ECBC for the three-day training.

CBARR personnel and staff from the ECBC Advanced CBRNE Training Program provided classroom instruction, as well as hands-on site recovery exercises. The training program is an opportunity for CBARR to teach techniques developed through its history of worldwide operations and to highlight to these agencies the resources and experience that CBARR can bring to a real-world CONUS event.

“CBARR’s personnel have a level of expertise that I don’t think exists anywhere else,” said Keith Glenn, an on-scene coordinator from EPA Region 2 in Edison, N.J. Dee Valdes, from the Las Vegas-based western headquarters of the EPA Environmental Response Team, added: “We’re looking forward to setting up another session where we can bring the rest of the staff and other regions.”
In John Ditillo’s office, surrounded by sports memorabilia from his favorite teams, are shelves of binders containing the plans for projects he has managed for CBARR.

“We have binders and binders of plans that require reviews and modifications,” he said, “and these plans cover everything from the project site history to potential hazards, from proposed recovery to temporary storage and ultimately destruction or disposal. Only after the plans are approved, is it time to go out in the field.”

The binders are a clear reminder of CBARR’s total lifecycle management capabilities. “We’re a one-stop shop,” Ditillo said. “We can do just about anything and play a role in most parts of a project’s lifecycle.”

Ditillo started his career at Aberdeen Proving Ground in December 1983 as an Army lieutenant chemical officer, then came aboard two years later in the same position as a civilian. Since that time, he has seen countless projects go from the planning stage through various phases of investigation, remediation, decontamination, storage, destruction and recovery.

Some projects live an extended lifecycle with CBARR support, such as Spring Valley, which has been in various stages of operations since 1993 and is now on its fourth generation of CBARR program leadership. Other projects live a much shorter lifespan, such as current operations at Tooele Army Depot – South in Utah, which is nearly at the end of its lifecycle in less than four years.

Projects often start with a phone call from the U.S. Army Corps of Engineers – Huntsville Center, the Army’s lead agency for chemical remediation projects and one of CBARR’s biggest customers. “Huntsville gives us a heads up that something’s coming, where it is and what they expect to find there, as well as a timetable,” Ditillo said.

Initial phases include historical reviews and documentation of the project goals and operational plans followed by feasibility studies and remediation, while the final stages involve destruction, decontamination and restoring a site for reuse.

CBARR has supported the project at Tooele Army Depot – South since 2012 and crews most recently deployed to the installation in December 2015. “The site contained a massive debris pile,” Ditillo said. There were an estimated 50,000 munitions at the site that had to be cleared off of the surface. Most of items were non-chemical and the disposal of these items were handled by the site contractor. However, the project recovered over 200 chemical-containing munitions that were placed in storage in an earth-covered igloo on the installation.

The first phase lasted a year and a half, after crews had removed all scrap metal larger than a dime from the surface – drums, nails, binding straps and munitions. Then they used ground-penetrating radar to see what’s under the surface.

“We wanted to find out if anything is buried – munitions, drums, anything,” Ditillo said. “The mission of the project was to define the problem and present our findings to the Army Environmental Command for them to make further recommendations for additional remediation.”

CBARR, in support of the U.S. Army Chemical Materiels Activity, will also carry out the destruction phase of the Tooele project this summer. CBARR will be operating an explosive destruction system in Tooele, destroying all chemical munitions that were uncovered and stored in the first phase.

As one project nears the end of its lifecycle, the CBARR team is
Did You Know?

CBARR Team earns ECBC Excellence in Safety Award

The CBARR team that worked on the Pueblo Chemical Agent Destruction Pilot Plant Explosive Destruction System (PCAPP EDS) has earned the 2016 Edgewood Chemical Biological Center (ECBC) Excellence in Safety Award.

The award was presented by ECBC Director Joseph A. Corriveau during the center’s Executive Safety Committee meeting on June 7. Dennis Bolt, CBARR project manager for the PCAPP EDS project, received the award for the business unit, with seven members from ECBC’s PCAPP EDS team on hand for the ceremony. “I went to Pueblo and visited PCAPP while CBARR was in operations with the EDS,” Corriveau said during the presentation. “I was impressed by the level of work this team performed. They handled the most challenging items with exemplary safety procedures.”

The CBARR team supported the site setup, systemization, operation and warm shut-down of the PCAPP EDS project at Pueblo Chemical Depot in Colorado. The PCAPP EDS project was sponsored by the Program Executive Office-Assembled Chemical Weapons Alternatives (PEO-ACWA); the EDS unit is owned by the U.S. Army Chemical Material Activity’s (CMA) Recovered Chemical Material Directorate (RCMD) and operated by CBARR.

“ACWA has been very happy with our working relationship with ECBC,” said Joe Novad, technical director at PEO-ACWA. “Originally, our plan for the PCAPP EDS was to have an outside contractor run the EDS but the project plans changed and we brought in CBARR.”

The Excellence in Safety Award honors an individual, team or office that has made a significant contribution to safety at ECBC. The award is given annually, but candidates may be nominated for actions that occurred over the previous two-year time period. The Executive Safety Committee presents the award in June to celebrate National Safety Month.

“The PCAPP EDS operation was a complex, potentially high-risk chemical operation,” Bolt said. “Implementation of day-to-day best safety practices were an integral part of the overall project and resulted in an outstanding safety record.” Over the project duration, Bolt reported, there were approximately 68,000 man-hours worked with only one recordable accident, that being a twisted ankle.

Over a period of nearly 20 months, the team conducted more than 120 destruction operations in which 560 mustard agent (HD) filled munitions were destroyed. During that time, there were at least 17 crew rotations of 28-30 day intervals with 21 ECBC employees per crew. Approximately 100 people were deployed from ECBC to Pueblo throughout the project.

Another important safety aspect that was highlighted throughout the project is the “stop work” policy. According to this policy, any onsite worker who sees a potential safety risk has the authority to call a stop to the operation. Policies are reviewed and safety measures are implemented by the team before work can begin again. This is an existing CBARR policy that has been reinforced in other field operations including the PCAPP EDS project.

“Safely conducting high-risk sustained chemical operations requires an embedded safety culture in which each individual on the team takes ownership of their own safety as well as looking out for others on the team,” said Bolt.

Three more missions are planned with the PCAPP EDS, Novad said. The plant is expected to process a total of 780,000 munitions during three campaigns. As part of each campaign, munitions that can’t be safely destroyed using PCAPP’s regular destruction procedures will be set aside and CBARR will destroy them in the EDS. CBARR is expected to resume operations with the PCAPP EDS in 2017.

CBARR’s capabilities are supported by their own cranes, forklifts, filtration systems, monitoring systems and mobile labs. CBARR’s approximately 200 personnel range from chemists and engineers to electricians, technicians and truck drivers.

Many CBARR employees are cross-trained for more than one role. For example, a chemist may also be trained as an EDS operator and an EDS operator may also be a sample technician, collecting and analyzing air monitoring samples. Having a flexible workforce enables CBARR to meet demand, said Ditillo.

“In one phone call, we can cover all of that,” Ditillo said. “We have incredible equipment and talent resources here.”
Coming to America? 
CBARR performs developmental testing of new EDT for potential U.S. use

The CBARR business unit of ECBC is facilitating developmental testing of an explosive destruction technology (EDT) that has not been used in the United States.

A team of 20 employees from CBARR’s Edgewood headquarters and its field office at Pine Bluff Arsenal in Pine Bluff, Ark., as well as members of ECBC’s environmental and safety teams, are participating in the testing of the DAVINCHLITE. DAVINCH stands for Detonation of Ammunition in a Vacuum Integrated Chamber, while LITE refers to a refinement to the original system.

DAVINCHLITE is set up in an enclosure with chemical agent filter systems mounted on an adjacent skid.
Testing is being conducted at ECBC to ensure that the system meets U.S. safety and environmental standards, according to Ray DiBerardo, CBARR project manager. No previous tests on the system have been conducted in the U.S.

Representatives from Kobe Steel of Japan, manufacturer of the system, arrived at ECBC in mid-February and will be onsite for the duration of the project, which is slated to be completed in July. They are providing technical support, troubleshooting and process electrical engineering.

“We brought this technology to CBARR because we are confident in their knowledge of U.S. standards for operating EDTs,” said Koichi Hayashi, deputy general manager of the technology and process engineering section of Kobe Steel. “We have experience all over the world where chemical agent is being destroyed, but the United States has very strict safety requirements. We’re not as aware of the details of U.S. regulations so CBARR specifically helps with that.”

DAVINCHLITE and DAVINCH, its older, bigger sibling, have been used overseas for almost 10 years. Currently, the DAVINCH series of transportable EDT products is being used in seven projects worldwide, including China, Belgium and France.

The original DAVINCH model is referred to as DV 60, referring to its maximum rating based on the number of kilograms of explosives it holds. DAVINCHLITE, rated at DV 24, has less than half the explosive handling capacity of the original DAVINCH. The slimmed-down version still meets the requirements of the U.S. Department of Defense Explosives Safety Board, which regulates EDTs for military uses, Hayashi said.

The size reduction was one of many adaptations Kobe Steel made for the unit to be used in the U.S. DAVINCHLITE consists of a cylinder with a chamber inside an enclosure and an off-gas treatment system in a second enclosure. Both enclosures are connected to chemical agent filter systems, which Hayashi said is also unique to U.S. operations.

The model brought to CBARR is uniquely designed with an outrigger feature for unloading and installation. The cylinder can be delivered to the worksite on a flatbed tractor trailer to the exact spot where it will be installed for use. The cylinder then lifts itself up on metal legs so the truck can pull away. Once the truck is clear, the legs retract to lower the system to the spot where it will be operated.

“The whole chamber is put into place by itself, no crane needed,” said Masahiko Sugimoto, deputy general manager of the plant engineering and operation service section of Kobe Steel. The installation of the system at CBARR was the first time this feature has been used.

“DAVINCHLITE is designed for easy handling for transportation over land and sea. The entire system is modularized, connected by piping,” Sugimoto said. The system uses implosion energy, which destroys from outside to inside. Donor charges are placed outside the munition, and the shock and heat of the explosion destroys the chemical agent and any energetics.

DAVINCHLITE is designed to process smaller batches of chemical weapons, 200 to 300 items per year, compared to DAVINCH and other technologies currently in use, which can process 1,000 items per year. DAVINCHLITE can process other items -- smoke-producing munitions, conventional munitions, and other non-chemical items -- as well as chemicals.

“If testing is successful, DAVINCHLITE could be another tool in the toolbox, as far as EDTs go,” said DiBerardo.
The developmental testing for a high-throughput explosive destruction technology is funded by the Chemical Materials Activity (CMA) and executed under a Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) contract with Kobe Steel. Kobe Steel was awarded the contract by JPEO-CBD to meet CMA’s requirement, and subsequently partnered with CBARR under a Cooperative Research and Development Agreement. CBARR has already successfully checked off its first task, completing the set-up of the equipment in 20 days, again a first for the system in any country. Comparatively, the DV 60 normally takes two to three months to be completely installed.

Two weeks of training on how to use the equipment and its related software was followed by a two-day preoperational survey. Representatives from Kobe led the training, beginning with a general overview in a classroom setting then breaking into functional groups for remainder of the training.

Additional preoperational survey exercises include performing normal operations such as wrapping a munition and placing it in the chamber, as well as preparations for upset conditions such as contamination, a medical emergency or both.

“It was a top to bottom review,” DiBerardo said.

Testing began the last week of April and continued for 40 days. Initial tests used explosives only, to gauge the ability of the chamber to withstand the blast. The second testing phase used simulated test 75mm and 155mm projectiles. The final testing phase will use mustard agent contained in Department of Transportation bottles. This testing progression uses a safe, deliberate crawl (explosive), walk (surrogate), run (mustard) approach, DiBerardo said.

The future of the DAVINCHLITE in the U.S. is uncertain. How it will be utilized will partly be determined by this test, DiBerardo said, but who eventually uses it is completely up to its owners, Kobe Steel, who said they are looking at both military and commercial engineering uses for system.

“If the system performs well, additional testing may be requested and the system may stay here a while longer,” DiBerardo said. “In the end, the technology has to prove itself.”

Behind the Process
How DAVINCH and DAVINCHLITE destroy munitions

While DAVINCH and DAVINCHLITE differ in size, they operate similarly. DAVINCHLITE consists of a cylinder with a double-walled steel vacuum detonation chamber and an off-gas treatment system inside an environmental enclosure. The technology is designed to withstand and contain the force of the detonation necessary to destroy the munition, its chemical agent fill and its over-pack container.

 Operators place a container or munition containing chemical agent inside DAVINCHLITE in a sling hanging from the ceiling of the detonation chamber, where it is surrounded by donor explosives. Electronic detonators are attached to the detonation cord and the detonation chamber is closed.

The detonation of these donor explosives shatters the container or munition, and the shock and heat of the explosion destroys the chemical agent and any energetics.

The detonation off-gases are processed through an off-gas treatment (OGT) system that cleans, cools and neutralizes the acidic gases. The OGT system also incorporates a hold-check-release design feature that allows for testing of the DAVINCHLITE exhaust gases and other pollution control systems prior to release to the atmosphere.

After detonation, the explosive chamber of the DAVINCHLITE is monitored to verify complete agent destruction. Once verified safe, the chamber door is opened and the scrap metal fragments are removed and safely stored and monitored before being shipped off-site to be disposed of as hazardous waste at a properly permitted facility.
ECBC recently received approval from the U.S. State Department and Department of Commerce, under regulations set forth by the Organization for the Prohibition of Chemical Weapons (OPCW), to increase its storage allotment of chemical agent to support planned testing this year of new explosive destruction systems, including DAVINCHLITE. DAVINCHLITE, an explosive destruction system designed in Japan, is currently being tested at ECBC for potential future use in the U.S.

“We received permission to increase our storage allotment. This, in turn, allows us to increase production,” said CBARR’s Wyatt McNutt, who serves as the treaty compliance officer for ECBC.

OPCW is the governing organization of the Chemical Weapons Convention (CWC), a treaty signed in the 1990s by nearly 200 countries including the United States that prohibits the production, stockpiling and use of chemical weapons. Under this treaty, participating countries can only manufacture chemical agent for research and testing, not for use in weaponry.

ECBC has the only facility in the U.S. that is allowed to produce Schedule 1 materials (chemical agents) in quantities greater than 100 grams per year. The chemical agents are manufactured at its Chemical Transfer Facility (CTF), which OPCW refers to as a single small-scale facility. The CTF is managed by CBARR.

“We store and make all of the chemical agent that any organization in the U.S. needs,” McNutt said. “We generally make 20 to 30 times that amount in each batch.”

Under CWC, the CTF is certified as both a single small-scale facility and a destruction facility, which McNutt describes as unusual. Other facilities are either storage or destruction only. “We’re the only multi-declared facility in the country,” he said. This designation covers the CTF single small-scale facility, as well as the Munitions Assessment and Processing System (MAPS) facility for munitions destruction and the EDS technology.

Last fall, ECBC began working with the State Department, which is the lead U.S. agency for the CWC, to change the amount of chemical agent ECBC could manufacture. The U.S. is allowed to maintain 1 metric ton of Schedule 1 material. Hundreds of chemicals fall under that 1 metric ton, McNutt said. The Department of Defense, under which ECBC falls, had a 750kg allotment, and the Dept. of Commerce had a 250kg allotment. ECBC requested, and was granted, a change in allotment to 900kg, with the Dept. of Commerce going down to 100kg.

“This was about knowing our customer needs,” McNutt said. “The increased amount allows us to meet the needs of future testing of new destruction technology, including DAVINCHLITE.”

“Operationally, we’re limited on how much we can make in one batch,” said Jen Exelby, chief of CBARR’s Chemical Operations Branch. The CTF usually manufactures batches of 2,500ml; however, customers are requesting 40,000ml for a project such as DAVINCHLITE. “So it can take several months to produce what we need for testing,” she said. “The increased limit gives us flexibility in planning for production.”

McNutt said the new limits will stay in place until all agencies revisit them at a later time.

“"We store and make all of the chemical agent that any organization in the U.S. needs."”

Wyatt McNutt
OPCW Compliance Officer for ECBC
In a tree-lined neighborhood in the northwest corner of the District of Columbia sits CBARR’s longest running project, now spanning its second generation of leadership. The Spring Valley mission is a testament of CBARR’s capability to manage changing needs, evolving technology and advancing new concepts throughout the lifecycle of a project.

CBARR has been conducting operations in support of the U.S. Army Corps of Engineers-Huntsville Center (USACE) and Baltimore District at the former American University Experiment Station (AUES) located at the Spring Valley Formerly Used Defense Site (SVFUDS) for more than two decades. The AUES was used by the U.S. Army during World War I for testing chemical weapons. After World War II, the land was developed into a residential area known for its suburban feel and prime location.

In the early 1990s, new construction unearthed items from the war years. Since 1993, environmental cleanup efforts, including destruction operations, have taken place at a variety of locations around the SVFUDS site. While operations have not been consistently performed in these last 23 years, CBARR has been there every step of the way.

“We’ve made continual enhancements to the way we do our job here,” said Dave Kline, who took over as CBARR’s Spring Valley project manager a few years ago. “We stay on top of it to make sure we’re meeting the customer’s needs.”

“It’s evolved since the beginning,” said Kline, a mechanical engineer. “How we monitor worker safety, from the duct work to the power supply, are among the advances we’ve made.”

CBARR’s onsite support includes air monitoring and filtration systems for the project. Currently, work is focused on excavating a lot where a house was removed. As operators are sifting through the dirt, CBARR’s technicians are monitoring the air to ensure that no potentially harmful chemicals are escaping into the environment.

“One of the issues is that the filtration systems are extremely noisy,” Kline said. CBARR custom-built the chemical agent filtration systems, referred to as CAPS on site, which filter air from the environmental enclosure (tent) where the remediation work is taking place. Kline and his team collaborated with the USACE to develop a noise abatement system designed specifically for CBARR’s equipment. Additional enhancements include:

- **Ductwork**: CBARR used several types of ductwork before settling on the spiral-round ductwork currently in use. “It’s commercially available, which works best for us and for our customer,” Kline said. “It’s easy to get, easy to replace and at a much lower cost. It looks better, too.”

- **Mobile Monitoring Laboratory**: CBARR’s onsite mobile monitoring laboratory is housed in an expandable conex container which is transportable by a road trailer. The side opens up, doubling the square footage, so the operators can set up tables and run the MINICAMS and DAAMS near-real time detection systems. This design was specifically selected for the project due to the mobile monitoring laboratory’s capability to support multiple MINICAMS and DAAMS stations and the time savings for setup compared to a fixed structure.

- **Dust control**: To manage the dust, Kline’s team installed home furnace filters into the diffuser. The furnace filters slide in and out so they can be changed daily. This move saves the pre-filters in the filtration system. “The furnace filters pick up most of the particles, and they’re less expensive than having to replace the pre-filters, saving our customer money and reducing filtration system maintenance downtime,” he concludes. Kline receives a daily readout of how the filters are performing.

CBARR’s air filtration systems at the Spring Valley site are outfitted with a custom-designed noise dampening box placed on top of each system to mitigate the sound of the blower from the filter.
Kipapa Gulch, Hawaii: Located in the middle of Oahu, Kipapa Gulch was used by the U.S. Navy to store ammunition in the early 1940’s. The Navy drilled more than 120 tunnels into the lava-rock cliffs and filled them with tons of explosives. Some archival reports indicated that a few of the tunnels may have stored chemical munitions. CBARR and a team of agencies mobilized six months ago to the site and investigated 84 of these tunnels for potential contamination.

Over the course of the project, CBARR analyzed 750 historical background air monitoring samples in its on-site mobile laboratory using DAAMS with Gas Chromatograph Mass Spectrometer. In addition, CBARR’s Environmental Monitoring Laboratory (EML) performed extraction analysis of more than 500 soil and concrete samples collected from the tunnels for sulfur mustard and related degradation products. More than 400 of the 500 samples were extracted and analyzed utilizing the on-site mobile laboratory after successful expansion of the EML’s accreditation by the U.S. Department of Defense Environmental Laboratory Accreditation Program.

Redstone Arsenal, Alabama: During the planning of the multiyear investigation and remediation of multiple sites across Redstone Arsenal, an Army installation in the Huntsville area, the expectation was that CBARR would conduct extraction and analysis of environmental samples at ECBC. However, due to numerous concurrent operations at Redstone, the U.S. Army Corps of Engineers-Huntsville Center, has requested additional CBARR support to conduct headspace analysis of samples prior to shipment to ECBC for low-level extraction and analysis. CBARR’s mission began in late spring and will last six to eight weeks. CBARR experts will utilize multiple MINICAMS outfitted with different analytical columns to perform headspace screening. This monitoring strategy will allow for confirmation analysis without the need for on-site analysis of DAAMS, and minimize the need for additional personnel and equipment resources.

Savanna Army Depot, Illinois: Operations have begun at the former Savanna Army Depot in Illinois for a Remedial Investigation Feasibility Study (RI-FS) conducted by the U.S. Army Corps of Engineers-Huntsville Center. CBARR is supporting the investigation of three mustard burn areas with near-real-time and historical air monitoring onsite and conduct environmental sample analysis at CBARR’s fixed lab at the Edgewood Chemical Biological Center.

In preparation for operations, contractors for the U.S. Army Corps of Engineers have been training in preparation for intrusive operations. CBARR has deployed a chemist and two technicians who are conducting near real-time continuous air monitoring with Miniature Continuous Air Monitoring Systems (MINICAMS) and Depot Area Air Monitoring Systems (DAAMS) collection for this mission. The team is also collecting environmental samples which will be sent to the lab at ECBC for analysis to determine if traces of chemical agent or degradation product exist. Support at the site will be required until mid-July.

Mobile Powered Distribution System (MPDS): Designed and patented by CBARR’s Field Maintenance Branch Supervisor Jeff Gonce, who saw the need to reduce set-up time and costs to putting up a traditional electrical distribution panel, the MPDS is powered with shore power (from a building or power drop) via a power cord and a generator serves as back-up. The MPDS will automatically transfer between shore power and generator power as needed, and includes a step-down transformer on the inside to adjust power between the pre-configured power connections that support the mobile monitoring laboratory and the filtration systems. However, the MPDS supports many other potential power connections if needed which provides maximum flexibility for the customer if additional equipment is needed.

“This is just some of the technology we use to accomplish our goals,” Kline said.

This phase of the project has lasted three years. CBARR has four to five crew members onsite, six days a week, on rotation an average of two to three weeks. In addition, CBARR chemists in Edgewood perform environmental sample extraction and analysis of samples collected at Spring Valley in their fixed laboratory. Remediation is expected to be completed in early 2017 and the lot will be regraded for future use.
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