Pueblo
# exchange
A Partnership for Safe Chemical Weapons Destruction

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Pueblo Chemical Agent-Destruction Pilot Plant

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# Igloo Construction: Connecting the Past to the Present

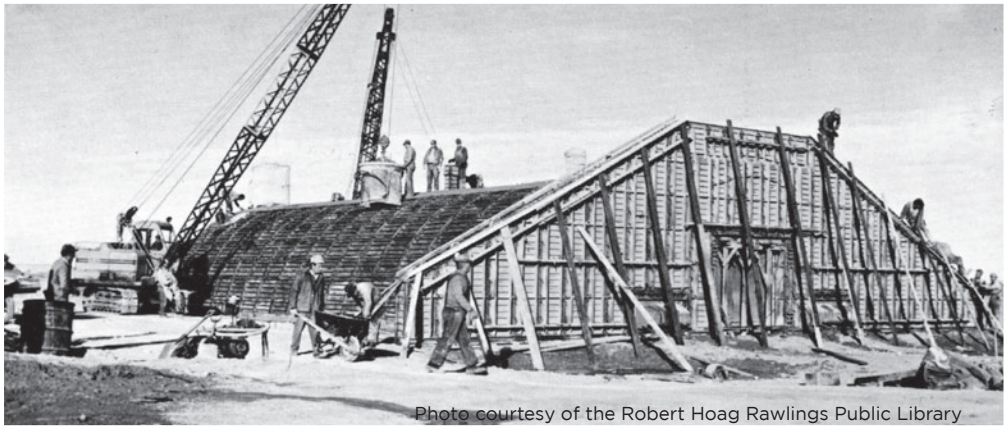

Photo courtesy of the Robert Hoag Rawlings Public Library

Photo by Ken Young

In 1941, igloos at the U.S. Army Pueblo Chemical Depot, pictured top, were built using wooden forms, with rebar stretched over steel 2 x 2-foot pans to capture the placed concrete. This process took approximately two weeks to complete. Today, the Munitions Service Magazines, pictured bottom, placed at the Pueblo Chemical Agent-Destruction Pilot Plant were assembled using precast concrete forms in less than two days. See related stories on pages 4 and 5.

# PCAPP Team Sets Its Sights on Start-up

By SANDY ROMERO
Bechtel Communications Manager

With acceleration of construction at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP), it is time to begin turning over systems and subsystems to the group of employees who will manage "start-up" activities.

Photo by Renee Martinez

**Workers place concrete over rebar for the pads that will house the Immobilized Cell Bioreactors, which will break down hydrolysate, the byproduct of the neutralization process.**

"This year marks the beginning of turning over systems," said PCAPP Site Superintendent Steve Thieme. "As the first step in the system turnover process, the construction group and the start-up group will work together to complete subsystem 'walk downs,' and the construction and engineering groups will review documents to develop punch lists."

"Walk downs confirm that the plant is being built to engineering specifications. It is a very detail oriented verification process," said PCAPP Systemization Manager Tim Messersmith. A punch list defines engineering and construction work items that need to be completed. For example, a door might need to be touched up with paint or a roof might need a repair. "It's a similar process that someone goes through to rent an apartment," Thieme added.

During the summer months, the construction team will turnover the first subsystems for systemization testing and commissioning. These sub systems will include electrical high voltage and medium voltage switch gear and essential utilities. Once the start-up group receives a subsystem, they take control of it and test it to ensure its readiness for plant operation.

A total of 263 subsystems and 20 facilities will be turned over during a two-year period so that the start-up group will have control of all systems by 2012. Some of the larger systems include the Munitions Washout System (MWS) and the Brine Reduction System. Subsystems, or smaller systems, refer to components of the larger systems. For example, subsystems of the MWS include high pressure wash water and high pressure hydraulics. The MWS drains chemical agents from munitions and washes them out with hot water.

"We expect a learning curve as we progress through these subsystem turnovers," said Messersmith. "But, that will improve with time."

For the remainder of 2010, the PCAPP plant will see the arrival of all of the components of the Biotreatment Area, including the Immobilized Cell Bioreactors and the Brine Reduction System. The Agent Processing Building, one of two main processing buildings, remains critical to the construction effort.

"We expect to be at 85 percent construction completion by the end of the year," said Thieme. "Though challenging, this is an achievable goal."

## Site Project Manager Bids Farewell

Dear Friends and Colleagues,

After much deliberation and discussion with my wife, it is with mixed emotions that I share some important news.

I have accepted a position as the site project manager at the Umatilla Chemical Agent Disposal Facility in Oregon and will be leaving the Pueblo Chemical Agent-Destruction Pilot Plant team at the end of this month.

This was a very difficult decision for me. I am very proud of this project and all we have accomplished together. In the past seven years, the pilot plant has transformed from a conceptual engineering design to a state-of-the-art chemical weapons destruction facility that today, is well on its way to completion.

It has truly been a great privilege to lead such a fantastic workforce, strengthened by an invested community. Together we have met every challenge tossed our way. Each has strengthened our commitment to success as we strive to reach our ultimate goal: the safe destruction of the depot's chemical weapons stockpile.

The Assembled Chemical Weapons Alternatives program will be naming an interim manager soon. I know you will welcome whoever follows in my footsteps with open arms and your unwavering support.

I will always think fondly of my time in Pueblo, and I thank you for your friendship, loyalty and support.

Very Respectfully,

*Gary Anderson*

Pueblo Chemical Agent-Destruction Pilot Plant
Site Project Manager

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# Practice Will Make Perfect

By RENEE MARTINEZ
PCAPP Community Outreach Specialist

"Dummy" munitions will be making their way to the U.S. Army Pueblo Chemical Depot (PCD) this summer, on a mission to help the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) be as safe and efficient as possible.

Known as ACWA Test Equipment, or ATE, thousands of inert munitions will be transported to PCD for storage and will ultimately be used to test processing systems and train workers before actual chemical agent munitions are processed by the plant. These mock munitions look, weigh and handle like real chemical rounds, however, they do not contain explosives or chemical agent. The liquid mustard agent will be simulated with another substance such as ethylene glycol, the main ingredient in antifreeze, so that all components of the system, including the agent draining process, can be tested. These mock munitions will be handled with the same care as real munitions and will make for safer working conditions.

"The ATE allow for training with inert components rather than actual munitions," said Dan Hall, PCAPP plant manager. "In addition to familiarizing personnel with the munitions that we will destroy, this testing process allows us to work through any equipment or installation issues and will aid in operator training prior to the start of operations."

Hall explained that some of the ATE munitions will be damaged or destroyed during training, while others will be used over and over. Hall feels the ATE munitions are crucial for safety and training, as it will allow staff to become familiar with handling the munitions. "This type of testing is important as it will help us to minimize the quantity of reject munitions during plant operations and ensure success of the project," Hall added.

The ATE munitions will come to Pueblo from Deseret Chemical Depot in Utah. PCD will store them until needed by PCAPP. While in storage, the ATE will be under the supervision of PCD's Quality Assurance Specialist (Ammunition Surveillance), Elizabeth Wachutka. "We [PCD] could fit all of the ATE munitions into five igloos, but we will use 10 igloos so we will not have to stack them so high," said Wachutka. "This will make it easier and safer for our staff when moving them to PCAPP. We will treat the ATE munitions just like they are the real thing."


U.S. Army photo

**Pictured are inert mortar rounds known as ACWA Test Equipment or ATE. Using ATE allows project staff to work with munitions that are virtually identical to real weapons, without the danger of live rounds.**

Photo by Bob Kennemer

**During testing at Anniston Army Depot, Ala., Linear Projectile Mortar Disassembly Munitions Handler Charlie Walker uses an assisted lift machine to maneuver a mock 155 artillery shell as part of training and preparation for destroying actual mustard-filled rounds. Similar tests will be conducted at the Pueblo Chemical Agent-Destruction Pilot Plant.**

# Magazine Construction Workers Match Their Predecessors for Quality, Workmanship

By TOM SCHULTZ
PCAPP Public Affairs Specialist

Construction of four new service magazines, three for munitions and one for energetics, is nearing completion at the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP). The work marks the first time such structures have been built at the U.S. Army Pueblo Chemical Depot since the Army Corps of Engineers originally raised them here in 1941.

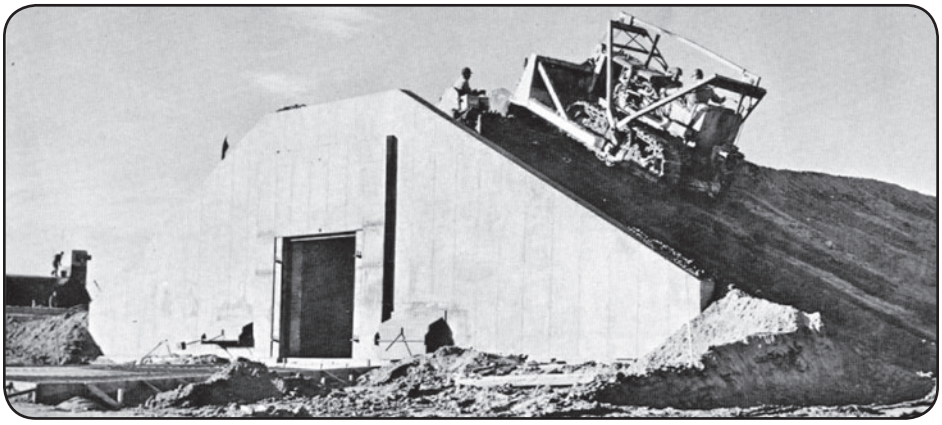

Photo courtesy of the Robert Hoag Rawlings Public Library
**When built in the 1940s, dozers pushed up to two feet of earth over each igloo. Today, the completed work still stands as a tribute to the crafts that raised them nearly 70 years ago.**

The early magazines, concrete placed over steel-reinforced forms that are covered with earth, have stored munitions ranging from bullets to blockbuster bombs to the current chemical weapons stockpile. Technically called earth-covered magazines, but more commonly known as igloos, the interiors are 80 feet deep, 26 feet wide and 14 feet high at the center.

Ruben Rodriguez worked at the depot from 1954 to 1986. He began as an ammunition inspector, who transferred to Surveillance in 1976. An unofficial depot historian, Rodriguez gathered old publications such as newspapers, post guides and photos, which he donated to the Robert Hoag Rawlings Public Library for safekeeping. He recalls that not all munitions made it inside the igloos. Dozens of crates holding 750-pound bombs were often stored on pallets, in open berms, between bunkers. With pride, Rodriguez described, "Even under those conditions, not a single munition was lost or showed signs of corrosion."

Unlike their predecessors, the new Munitions Service Magazines (MSM) and Energetics Service Magazine (ESM) at PCAPP feature construction techniques that stand generations apart. While the igloos started out as wooden forms built on the PCD site, the MSMs and ESM units were built using precast sections made elsewhere and placed using cranes, chains and a Bechtel workforce with an eye for precision.

The new units are slightly larger, 90 feet deep by 30 feet wide and 14 feet high. However, they will share the same concrete caps on each end, as well as earthen coverings. The MSMs and ESM will provide safe on-site storage for the munitions during the operations phase at the plant.

The biggest change the PCAPP workforce has experienced in utilizing new construction methods, versus construction efforts of the past, is the time it takes to raise the structures. Technology has taken schedules that once were measured in weeks to an average of two days per unit.

Wade Hollingsworth and Ted Montoya are the Bechtel foremen supervising the construction of the new magazines. Each comes from a family with a heritage in the crafts. Hollingsworth's father worked on depot projects as an ironworker. Montoya's grandfather worked as a carpenter at the depot for several years. "I once stood on the roof of the Enhanced Reconfiguration Building," said Hollingsworth. "I looked out over those igloos observing the way they lined up; the symmetry is perfect. Not one out of place." Montoya added, "Those ironworkers and carpenters were masters."

Both foremen saw the excellence that went into building the originals. And while the techniques may have changed, each realizes that the type of people doing the work today has not - carpenters and ironworkers, working to the same high level of quality and having the same level of pride in their accomplishments.

When work is complete, the magazines' entrances will be enclosed with all corridors leading to the Enhanced Reconfiguration Building. Once operations begin, the magazines will become the first stop in what will be the last few hours of the existence of the chemical munitions.

And for the craft workers who helped put them together, that's a goal well worth achieving.


Photo by Ken Young

**Precast concrete forms for the Munitions Service Magazines were placed in March 2010.**

Photo by Ken Young

**Foreman Ironworker Jeremy Aragon guides into place one of several precast forms for the Munitions Service Magazine.**


**The first earth-covered magazines, more commonly called igloos, at the U.S. Army Pueblo Chemical Depot were built by the Army Corps of Engineers starting in 1941.**

U.S. Army photo

# Environmental Assessment Examines Possible Use of Explosive Destruction Technologies at PCAPP

The Assembled Chemical Weapons Alternatives (ACWA) program recently performed a study to identify alternatives to maintain continuity of destruction operations between Chemical Materials Agency completion and ACWA start-up.

Results of this study proposed the use of explosive destruction technologies to augment the currently planned destruction technology of neutralization followed by biotreatment in Colorado. Alternatives being evaluated for possible use include the Army's Explosive Destruction System (EDS) and/or commercially available explosive destruction technologies used in other countries. Use of these technologies would increase confidence to achieve the congressional mandate to complete destruction of the Pueblo chemical weapons stockpile by 2017.

To support this effort, the U.S. Army Pueblo Chemical Depot, in conjunction with ACWA, completed an environmental assessment to meet the requirements of the National Environmental Policy Act and Title 32 Code of Federal Regulations Part 651. The environmental assessment, released on Feb. 27, concluded that no significant environmental impacts would occur as the result of the construction and operation of the EDS and/or other explosive destruction technology systems.

A public comment period ran from Feb. 27 through April 30 in order to provide the community time to review the information and provide comments. In conjunction with the public comment period, two public meetings were held to garner comments and feedback from the community.

Following a review of public comments, a decision will be made on the draft Finding of No Significant Impact.

Please visit the ACWA website at www.pmacwa.army.mil to sign up for e-news updates on this and other plant news. Copies of the environmental assessment and other supporting documents are also on the web or any of the Pueblo-area information repositories:

- Robert Hoag Rawlings Public Library, 100 East Abriendo Ave. in Pueblo
- Avondale Water and Sanitation District, 321 3rd St. in Avondale
- Boone Community Center, 421 East First St. in Boone

Photo by Chris Higginbotham

At recent public meetings, Pueblo area community members had the opportunity to share their comments regarding the Environmental Assessment with Assembled Chemical Weapons Alternatives leadership.

# Employee Corner

## New Deputy Project Manager Brings Experience, Enthusiasm

By SANDY ROMERO
Bechtel Communications Manager

With an office covered in construction drawings, people lined up at his door to see him, and an overload of e-mail filling his inbox, Randy Denelsbeck considers his new assignment as deputy project manager for the Pueblo Chemical Agent-Destruction Pilot Plant (PCAPP) to be both exciting and challenging.

Photo by Sandy Romero

**Randy Denelsbeck, the Bechtel deputy project manager who joined the team in late February, enjoys the challenge his new position brings.**

"I am very familiar with this project," Denelsbeck said reflecting back on his visits to the PCAPP site as acting functional manager of construction for Bechtel Systems and Infrastructure, Inc., in Frederick, Md.

Denelsbeck is originally from New Jersey, but has spent time working in several cities throughout his 27 year Bechtel career, including a seven-month Alaskan project for the Department of Defense and a 12 month assignment in Mississippi. After Hurricane Katrina, Denelsbeck served as construction manager to oversee placement of 35,000 trailers in the Mississippi Gulf Coast area. "This was one of the most rewarding experiences I've had," he said.

An electrical engineer by trade, and an environmental engineer who received a degree from Augusta Technical College in Georgia, Denelsbeck finds the PCAPP project appealing because it is one of the few Bechtel projects contracted to perform construction, systemization, operation and closure. Denelsbeck is also pleased with the Bechtel Pueblo Team. "This is a great team with friendly people and a lot of good talent," he said.

Soon, Denelsbeck will be joined by his wife and his youngest daughter; his eldest daughter is attending college out of state. He looks forward to Colorado outdoor activities, including golfing, hunting and fishing.

## Jackson Hopes to Make a Positive Impact

By ROSEMARY PATTERSON
PCAPP Community Outreach Specialist

How does it feel to be a Saints fan in Bronco country?

"Pretty good," says Terrance Jackson, who is Pueblo Chemical Agent-Destruction Pilot Plant's (PCAPP) new environmental protection specialist.

Photo by Rosemary Patterson

**Terrance Jackson, PCAPP environmental protection specialist, is an avid New Orleans Saints fan, "Geaux Saints!"**

TJ, as he prefers to be called, has spent the last few months relishing in the Saints' Super Bowl championship and getting acclimated to his new job. He is responsible for assisting in the interpretation, implementation and oversight of the hazardous waste program at PCAPP, while ensuring compliance with all environmental statutes and regulations. He hopes to make a positive impact on the environment through the implementation of better management and mitigation best practices.

He served in the U.S. Marine Corps for 13 years as a chemical, biological, radiological and nuclear defense specialist and also acted as the military liaison for the Environmental Management Division's Resource Conservation and Recovery Section at Camp Lejeune, N.C.

Jackson is pleased to have found the camaraderie he experienced in the Marine Corps at PCAPP. "I believe the camaraderie is paralleled, if not better than what I had experienced during my time in the Marines," he said. "When you enjoy working with the people around you, it makes you appreciate your job a whole lot more."

Jackson was born and raised in the Mississippi Gulf Coast town of Gulfport, which is located approximately 70 miles east of New Orleans. In his spare time, he is working on earning a bachelor's degree. Although a devoted football fan, his love for sports comes second to the love he has for his family, which he says is his pride and joy.

## Information | *Exchange*

The Pueblo *Exchange* is designed to keep you up to date on the chemical weapons destruction project. Submit your feedback and potential story ideas by contacting the editor, Renee Martinez, by phone at (719) 546-0400 or e-mail at martinez_renee@bah.com.

## Online Resources

Find out more about ACWA's mission to safely destroy the chemical weapons stockpiles located at the Blue Grass Army Depot, Ky., and U.S. Army Pueblo Chemical Depot, Colo., by visiting www.pmacwa.army.mil. Interested stakeholders may provide feedback to the program by clicking on the "Give Feedback" icon.

Additional information regarding chemical weapons destruction in Colorado and Kentucky can be found at the following websites:

- ACWA Website: www.pmacwa.army.mil
- ACWA Photostream on Flickr: www.flickr.com/photos/acwa
- ACWA YouTube Channel: www.youtube.com/usaeacwa

You may also subscribe to the ACWA Real Simple Syndication, or RSS, feed by visiting http://www.pmacwa.army.mil/connect/acwa_rss.html.

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PCAPP

SAFETY SECURITY RELIABILITY