SAFELY HANDLING “LEAKERS”

Pueblo Chemical Depot (PCD) has stored more than 780,000 chemical-filled munitions since the 1950s, in about 100 storage buildings called “igloos.” These munitions are 155 mm projectiles, 105 mm projectiles and cartridges, and 4.2-inch mortar cartridges containing 2,611 tons of the chemical agent mustard.

Most munitions are stored without incident. However, PCD Chemical Operations Directorate personnel are prepared to handle “leakers,” a munition leaking liquid mustard agent or emitting vapor in an igloo.

Before a chemical operations crew opens an igloo, personnel attach a Real Time Analytical Platform (RTAP), a mobile air monitoring vehicle, to the door and monitor the air inside. When sensors indicate mustard agent is present, the igloo air is resampled with a different RTAP for confirmation. If agent is still detected, the event is reported to the PCD Operations Center, Pueblo County, the state of Colorado and PCD’s higher headquarters, the U.S. Army Chemical Materials Activity in Maryland.

The chemical operations crew attaches a carbon air filtration unit to the door, which processes 1,000 cubic feet per minute. This pulls air from the igloo through the filters. The air is filtered and monitored until it does not register mustard agent.

After monitoring, crew members dressed in protective equipment enter the igloo to visually inspect the munitions. If there is no visual evidence of a leak, each pallet of munitions is shrouded with plastic sheeting and each section is monitored separately until air monitors detect the source of the leak. This can be a long, methodical process, as each igloo contains thousands of munitions.

When the leaker is found, it is sealed in a steel container and placed into a separate igloo to await destruction. Leakers are not processed through the main plant of the demilitarization facility but use a separate system designed for this type of problematic munition.

Any mustard agent that spilled on other munitions, wood pallets or the concrete floor is decontaminated and the waste removed to a certified hazardous waste storage area.

Chemical operations crews use RTAPs to monitor storage igloos weekly to detect leaking munitions.

Encompassing approximately 23,000 acres, PCD’s primary function is the safe and secure storage and protection of 2,611 tons of mustard agent that is part of the national stockpile of chemical munitions. PCD is home to the Pueblo Chemical Agent-Destruction Pilot Plant, operated under the Program Executive Office, Assembled Chemical Weapons Alternatives. PCD transfers munitions to PCAPP for destruction. Both organizations operate to safely and efficiently destroy the chemical weapons stockpile while keeping the community, workforce and environment safe.