

Information Sheet

HWAD Mercury Consolidation Project

Background Information

- The Defense Logistics Agency (DLA), through its field activity, DLA Strategic Materials, manages an inventory of 4,890 tons of pure virgin elemental mercury. The mercury is one of many commodities stored for more than 50 years in the National Defense Stockpile for use in times of national emergency.
- The elemental mercury, contained in industry-standard 76-pound iron/steel flasks, is currently in storage at three DLA storage sites located – Somerville, NJ, Warren, OH, and New Haven, IN.
- In February 2006, the DLA announced selection of Hawthorne Army Depot as the mercury consolidation location.
 - The Hawthorne Army Depot (HWAD), located in Mineral County, is a government-owned, contractor-operated (GOCO) facility, controlled by the US Army Joint Munitions Command, Rock Island, Ill.
 - The selection process was determined through the Environmental Impact Statement process with the Record of Decision issued by DLA.
- In 2006, Nevada legislature enacted legislation (Senate Bill No. 118) with provisions to protect the health, safety and welfare of the residents of the State of Nevada from the effects of the handling and storage of mercury when present in a quantity of 200,000 pounds or more.
 - The Bill required the State Environmental Commission to adopt regulations relating to the handling and storage of mercury when present in a quantity of 200,000 pounds or more.
 - In September 2006, the Nevada Division of Environmental Protection (NDEP) expanded its Chemical Accident Prevention Program (CAPP) to cover storage facilities exceeding the threshold quantity of mercury in storage.
 - Since 2006, HWAD has been working with NDEP to address safety and security issues involved with the elemental mercury storage.

Project Initiation

- The Nevada Division of Environmental Protection (NDEP) has approved the transfer of a small portion of commodity-grade elemental mercury to Hawthorne Army Depot, Hawthorne, Nev., from a National Defense Stockpile (NDS) storage site in New Jersey. The shipments are expected to occur in August 2010.
- The trial shipments will be used to validate the operating procedures required by Nevada's Chemical Accident Prevention Program (CAPP).

HWAD Mercury Consolidation Project

Mercury Consolidation Safety & Security Considerations

- Following is a recap of work completed at HWAD in preparation for receipt of mercury shipments:
 - Completion of two Process Hazard Analyses (PHAs), as required by CAPP. The PHAs include reviews of procedures, equipment, and training related to the storage of mercury.
 - Upgrade of the 14 mercury warehouses at HWAD with impervious floor lining material, emergency fire and security alarm systems, and enhanced interior lighting.
 - Installation of a carbon dioxide fire suppression system in each of the storage warehouses.
 - Training of HWAD employees and area emergency response personnel in standard operating procedures, emergency response procedures and use of mercury vapor detection instruments.
- Following is a recap of specialized work completed to address specific concerns of NDEP:
 - Re-inspection of 128,000 mercury flasks in 21,450 overpacks to confirm that all containers were in proper condition for shipment before transfer to HWAD.
 - Special structural testing of mercury flasks by the Oak Ridge National Laboratory (ORNL), using both non-destructive and destructive metallurgical testing techniques.
 - Development of overpack inspection and verification protocols for application at DLA shipping points and at HWAD receipt point.

Mercury Over-packing Project

- An environmental remediation company completed a mercury overpacking project in April 2002. The work occurred at DLA Strategic Materials depots located in Somerville, N.J.; Warren, Ohio; and New Haven, Ind.



Several layers of protection have been added inside the drums: (1) The drums are lined with an epoxy-phenolic coating; (2) a cushioning material is located in the bottom of each drum; (3) the flasks are separated by a cardboard divider for additional cushioning; (4) the contents are sealed in a thick plastic bag; and (5) each drum lid is equipped with a half-inch rubber gasket and a steel-locking ring that is bolted to seal the drum. The drums are very secure and both airtight and liquid-tight.

HWAD Mercury Consolidation Project



- Additionally, the overpacked drums are placed on drip pans positioned on wooden pallets.



- Environmental monitoring plays a major role in the safety and security of the mercury stockpile. This is accomplished through an environmental assurance inspection process to ensure continued safe storage. For instance, each pallet is stored one-high with adequate aisle space for clear vision of each drum and pallet, and warehouse interiors are monitored for mercury vapor using state of the art Lumex RA-915 mercury vapor detection instruments.

HWAD Mercury Consolidation Project



MERCURY TRANSPORTATION OPERATIONS

- DLA Strategic Materials has more than 50 years experience shipping hazardous materials with no reportable mishaps during that entire time.
- A number of measures will be taken to ensure health, safety, security, and environmental protection during transportation of the mercury to Hawthorne Army Depot:
 - DLA will comply with U.S. Department of Transportation (DOT) regulations pertaining to mercury as outlined in 49 CFR.
 - Closed tractor-trailer rigs will be used
 - All truck drivers will be trained and certified in the handling of hazardous materials.
 - Shipments will be tracked via Global Positioning Satellite
 - Each pallet of mercury overpacks will be banded and braced
 - In the event of a transportation incident, drivers are instructed to call specific emergency telephone numbers



HWAD Mercury Consolidation Project

Mercury Storage at Hawthorne Army Depot:

- Levels of protection at Hawthorne will include:
 - Closely controlled access
 - Concrete warehouses
 - Security, fire detection and fire suppression systems
 - Sealed warehouse floors and spill retaining berms using a mercury impervious liner material s
 - Spill prevention control and response procedures
 - Skilled workforce specialized in the handling of hazardous materials such as ammunition, explosives, weapons and technical ordnance material
 - Routine monitoring and inspections of mercury

FOR MORE INFORMATION

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