


US EPA ARCHIVE DOCUMENT




Defense National Stockpile Center

Mercury Storage Site
Hawthorne, Nevada

Commodity-Grade Mercury Stakeholder Meeting


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Denver, Colorado


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Agenda

- Mercury Safety Initiatives – 2002-2005
- Safety Initiatives – 2007
- DNSC/Nevada Collaboration
- Process Hazard Analysis
- Transportation





Hawthorne Army Depot



130 Miles South-East of Reno
300 Miles North of Las Vegas
Elevation 4,320 Feet



Mercury Safety Initiatives

Mercury Overpacking Project

- Phase I (2002) – Overpacked 108,386 flasks
- Phase II (2005) – Overpacked 20,276 flasks
- Flasks inspected/cleaned
- Epoxy-coated steel drums
- Layered protection
 - Absorbent pads
 - Plastic liners
 - Half inch rubber gasket
 - Air & liquid tight/locking ring



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Mercury Safety Initiatives

Mercury Overpacking Project

- Inspected 128,662 flasks
- 8 flasks had external contamination
- We found no leaking flasks
- Tightened 100 stoppers



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Ongoing Safety Initiatives

- Container Inspections:
 - Phase 1 involves inspection of flasks prior to shipments to Nevada
 - Phase 2 is an in-depth analysis of storage containers to address:
 - Protocols for recurring inventory inspections
 - Flask and drum integrity for long-term storage

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Container Inspections

- Phase 1, flask and drum Inspection plan
- Under review by NDEP
 - Open each drum and inspect all flasks
 - Check for free mercury and tightness of plug
 - Re-flask as necessary at origin
 - Apply a thread sealer to stoppers
 - Install new drum gaskets
 - Reseal each drum

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Container Inspections

- Phase 2, flask integrity analysis
 - Oak Ridge National Laboratories (ORNL) to develop protocols for mercury vapor inspections for projected 40-year storage period
 - ORNL to develop expectations for flask and drum integrity





Additional Safety Initiatives

- HWAD Facility Upgrades
 - Installation of electrical service, lighting, fire detection and security systems
 - Installation of Terra-Nap flooring and ramps
 - Installation of fire suppression system
- Repositioning of Materials
- Cost \$7.8 million

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Warehouse Markings



Warning Signs



Warehouse Security



Alarm Panel



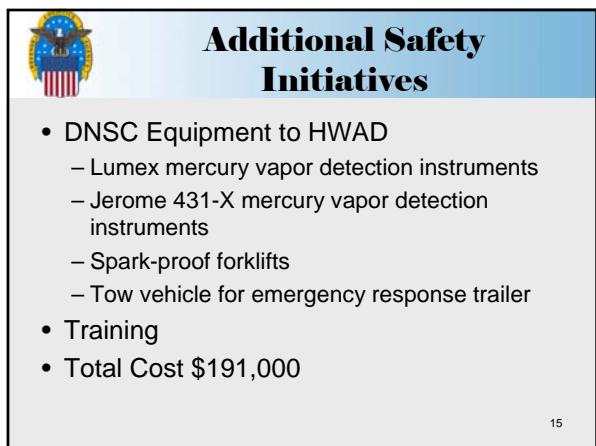
Warehouse upgrades - Flooring



Terra-nap Flooring









DNSC/Nevada Collaboration

- NDEP, HWAD & DNSC Cooperative Efforts
 - *Process Hazard Analysis*
 - *NDEP Site Visits*

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Process Hazard Analysis (PHA)

- DNSC supported NDEP'S inclusion of elemental mercury under Nevada's Chemical Accident Prevention Program (CAPP)
- Preparation of a PHA supports the Nevada CAPP
 - The PHA is a systematic approach to hazard identification, management and mitigation


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Process Hazard Analysis (PHA)


- Four areas analyzed in PHA:
 - Transportation to Hawthorne
 - Mercury receipt at Hawthorne
 - Mercury transit on Hawthorne
 - Long-term, monitoring, handling and storage of mercury at Hawthorne

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 **Process Hazard Analysis**

- Team prepared a PHA :
 - Process flow diagrams
 - “What-if” checklists
 - Human factors checklist

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 **Transportation to Hawthorne**

- All shipments will comply with U.S. Department of Transportation requirements for shipment of hazardous materials
- Transportation to start in 2007
- Certified hazardous material haulers
 - GPS tracking
 - CB radios
 - Cellular telephones
- Transport cost \$1.3 million



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DNESC's Commitment

We are committed to
the safety of our employees,
our communities,
and the protection of the environment.