

# **DoD Chemical Demilitarization Program**



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# Chemical Weapons Destruction Facilities

100% of Stockpile Now Under Contract for Destruction

Original Stockpile: 31,500 Tons  
Current Stockpile: 22,807 Tons  
Tons Destroyed: 9,036 Tons  
Percent Destroyed : 28.7%  
As of: June 14, 2004

Umatilla, Oregon  
UMCDF<sup>1</sup>  
HD - TC  
GB - P,R,B  
VX - P,R,M,ST

Newport, Indiana  
NECDF<sup>1</sup>  
VX - TC

Tooele, Utah  
TOCDF<sup>2</sup>  
H - P; HT - C,  
HD - C,TC  
~~GB - C,P,R,B,TC~~  
VX - P,R,M,ST, TC  
GA - TC

Aberdeen, Maryland  
ABCDF<sup>2</sup>  
HD - TC

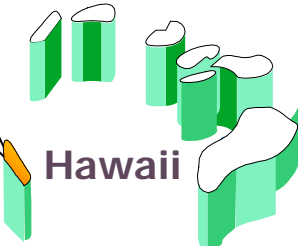
Pueblo, Colorado  
PCAPP<sup>3</sup>  
HD - C,P  
HT - C




Pine Bluff, Arkansas  
PBCDF<sup>1</sup>  
HD - TC  
HT - TC  
GB - R  
VX - R,M

Anniston, Alabama  
ANCDF<sup>2</sup>  
HD - C,P,TC  
HT - C  
GB - C,P,R  
VX - P,R,M

Blue Grass, Kentucky  
BGCAPP<sup>3</sup>  
HD - P  
GB - P,R  
VX - P,R

Johnston Atoll  
(JACADS)<sup>1</sup>  
0 Tons



-  Systemization CWDF  
<sup>1</sup> PMECW
-  Operational CWDF  
<sup>2</sup> Director Operations
-  Design/Const CWDF  
<sup>3</sup> PMACWA

 *Operations Complete*  
<sup>1</sup> PMECW

 States Participating in Chemical Stockpile Emergency Preparedness Program.



# Summary

- ★ Safely destroyed over 1.4 million items containing 9,036 tons of chemical agent, representing 28.7% of original stockpile (as of 30 May 04)
- ★ Every Chemical Weapons Convention (CWC) milestone met to date
- ★ 3 facilities operational (Tooele, Aberdeen, Anniston)
- ★ 3 facilities in systemization (Umatilla, Newport, Pine Bluff)
- ★ Contracts awarded for Pueblo and Blue Grass (PMACWA) and design is underway
- ★ NSCMP Mobile Systems Approved for Operations - Three Mobile Munitions Assessment Systems (MMAS) Units, Rapid Response System (RRS), Single Chemical Agent Identification Sets (CAIS), Access and Neutralization System (SCANS) and Explosive Destruction System (EDS) Three Phase 1 Units
- ★ NSCMP Pine Bluff Munitions Assessment System (PBMAS) and Pine Bluff Ton Container Destruction Facility (PBTCDF) operational. Currently, operations are suspended due to monitoring interference from a Pine Bluff Arsenal pesticide remediation effort near the sites. Anticipating a return to operations in mid-June 2004.



# Accomplishments

## Chemical Stockpile Disposal

- ★ TOCDF - Completed VX ton container campaign, successfully completed the Metal Parts Furnace Agent Trial Burn (ATB)
- ★ ANCDF - Completed processing of drainable GB M55 rockets, completed GB gelled/crystalline M55 rocket ATB, currently ahead of schedule
- ★ UMCDF - Completed Integrated Operations Demonstration
- ★ PBCDF - Received state approval of liquid incinerator and deactivation furnace surrogate trial burns
- ★ ABCDF - Re-started operations following improvements to drain stations and ton container clearance operations
- ★ NECDF - Closed public comment period on Environmental Assessment addressing disposal hydrolysate at DuPont; CDC/EPA initiated independent assessment per Congressional request

## Non-Stockpile Chemical Materiel

- ★ Started chemical agent identification set (CAIS) operations at Pine Bluff Munitions Assessment System
- ★ Commenced disposal of Aberdeen Proving Ground (APG) empty ton containers
- ★ Completed destruction of M441 shipping and firing tubes recovered at Umatilla
- ★ Completed QL destruction at the Pine Bluff Integrated Binary Production Facility and began destruction of DC Building
- ★ Submitted Resource Conservation and Recovery Act permit application for the Pine Bluff Explosive Destruction System (EDS) to the State of Arkansas and held public meeting
- ★ Completed multiple round testing at APG for the EDS Phase 2 Unit 1
- ★ Conducted ribbon cutting ceremony for Munitions Assessment and Processing System at APG



# Projections

## Chemical Stockpile Disposal

- ★ TOCDF - Complete VX 155mm projectile campaign and start VX spray tanks processing
- ★ ANCDF - Gain approval to process gelled/crystalline rockets, start GB 8-inch projectile processing
- ★ UMCDF - Begin chemical agent destruction operations
- ★ JACADS - Complete final sampling and removal of contaminated coral, thereby completing all necessary on-island work
- ★ PBCDF - Continue preparation for start of agent operations
- ★ ABCDF - Initiation of supplemental decontamination unit, limited ton container cleanout operations
- ★ NECDF - Completion of systemization and Operational Readiness Review, installation of ton container line enhanced steam decontaminator, reach decision on disposal of hydrolysate at DuPont

## Non-Stockpile Chemical Materiel

- ★ Begin EDS Phase 1 operations at Dugway Proving Ground
- ★ Complete design of the Binary Destruction Facility at Pine Bluff Arsenal
- ★ Begin multiple round testing at APG for EDS Phase 1 Unit
- ★ Begin field testing of Lewisite sludge decontamination solutions for the Pine Bluff Ton Container Destruction Facility
- ★ Conduct EDS Phase 2 Operational IPR
- ★ Conduct EDS Phase 1 Multiple Round Testing IPR
- ★ Complete Pine Bluff EDS Environmental Assessment and Finding of No Significant Impact



# Johnston Island

Before



JACADS completed destruction 2,031 tons of GB, VX, and Mustard Agent in Nov 00.

After



## Key Points:

- Completed primary closure in December 2003
- Scheduled to complete contaminated coral removal and final sampling in June 2004
- On track to completely depart Johnston Island by June 2004
- On track to initiate contract closeout by September 2004
- Scheduled to complete phase II Human Health Risk Assessment by December 2004
- On track to closeout Resource Conservation and Recovery Act permit in May 2005



# Tooele and Anniston



TOCDF and CAMDS have destroyed 6,627 out of 13,617 tons of GB, VX, and Mustard Agent (May 30, 2004).

## Key Points:

- 100% of the GB stockpile, entire rocket stockpile, and VX ton containers have been destroyed at TOCDF
- Currently processing VX 155mm projectiles
- Completed Metal Parts Furnace Agent Trial Burn April 7, 2004
- Processing schedule being revised

## Issues/Challenges:

- Difficulty achieving desired production rates
- Mustard strategy implementation
- Secondary waste processing
- Airborne exposure limit implementation



ANCDF has destroyed 176 out of 2,253 tons of GB, VX, and Mustard Agent (May 30, 2004).

## Key Points:

- 33,063 GB M55 rockets have been destroyed at ANCDF.
- Completed processing of drainable GB M55 rockets
- Completed gelled rocket Agent Trial Burn April 4, 2004; Agent Trial Burn report submitted May 7, 2004, to State of Alabama for review
- Currently in scheduled maintenance outage
- Preparing for GB 8-inch projectile campaign

## Issues/Challenges:

- Timely implementation of metal parts furnace discharge airlock modifications
- Minimize downtime associated with gelled rocket processing
- Airborne Exposure Limit implementation



# Umatilla and Pine Bluff



UMCDF will destroy 3,717 tons of GB, VX and Mustard Agent.



PBCDF will destroy 3,849 tons of GB, VX and Mustard Agent.

## Key Points:

- Working towards a July 2004, operations start date
- All systems for GB M55 rockets ready for operations
- Currently undergoing Operational Readiness Review process
- Preparing for Liquid Incinerator 2 surrogate trial burn and Brine Reduction Area (BRA) performance test

## Issues/Challenges:

- Meet Oregon startup approval requirements in relation to U.S. Army requirements
- Pollution Abatement Filtration System Class 3 permit modification request approval (decision scheduled for May 20, 2004)
- BRA performance test requirements
- Airborne Exposure Limit implementation

## Key Points:

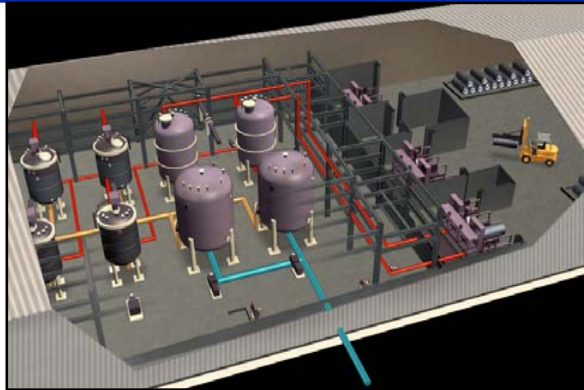
- Operations start date revised; Systems Contractor negotiations are ongoing to incentivize to a 1<sup>st</sup> Quarter FY05 start of agent operations
- Liquid Incinerator and Deactivation Furnace System Surrogate Trial Burns approved by the Arkansas Department of Environmental Quality
- Currently undergoing preparations for start of agent operations

## Issues/Challenges:

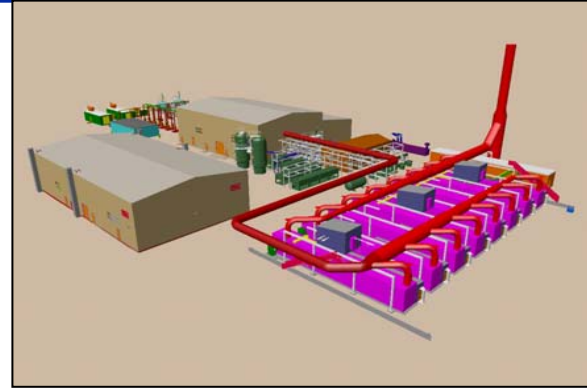
- Staffing shortfalls in operations and maintenance
- Airborne Exposure Limit implementation



# Aberdeen and Newport



ABCDF has destroyed 201 tons out of 1,625 tons of Mustard Agent (May 30, 2004).



NECDF will destroy 1,269 tons of VX.

## Key Points:

- 252 ton containers have been drained at ABCDF
- Shipping hydrolysate/waste water to Dupont for treatment and disposal
- Mustard agent destruction at ABCDF to be completed 1<sup>st</sup> Quarter FY05
- TCC limited operations to begin 4<sup>th</sup> Quarter FY04, full operations to begin 2<sup>nd</sup> Quarter FY05
- Closure estimated to be 24 months

## Issues/Challenges:

- Completion of drain station modifications
- Maintenance requirement to support operations is significantly higher than expected
- 1X waste management
- Airborne Exposure Limits implementation
- Achievement of full rate destruction

## Key Points:

- Operational Concept: VX neutralization onsite followed by post-treatment and disposal at commercial TSDF
- Partnering with ACWA to demonstrate enhanced steam decontamination system in lieu of Ton Container Cleanout line
- Start of agent operations on/about September 7, 2004, not later than 5 weeks after receipt of the Department of Health and Human Services report on Dupont

## Issues/Challenges:

- Validating ability to clear hydrolysate made from greater than eight weight percent VX
- Public acceptance of off-site treatment and disposal of caustic hydrolysate



# Pueblo and Blue Grass



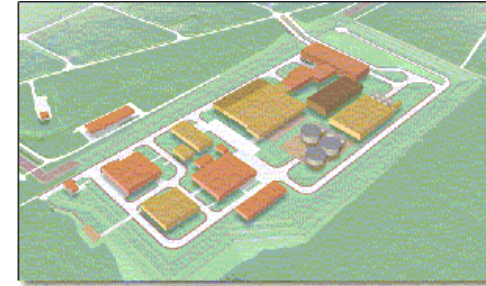
- PCAPP Will Destroy 2,611 tons of Mustard Agent.
- Operational Concept: Neutralization Followed by Biotreatment.

## Key Points:

- Review of intermediate design underway
- Draft Research, Development & Design stage I permit issued by Colorado Department of Public Health and Environment in April 2004.
- Design alternatives analysis underway

## Issues/Challenges:

- Airborne Exposure Limits implementation



- BGCAPP Will Destroy 523 tons of GB, VX and Mustard Agent.
- Operational Concept: Neutralization Followed by Supercritical Water Oxidation.

## Key Points:

- Design efforts on-going
- Research, Development & Design permit application submitted to Commonwealth of Kentucky in March 2004

## Issues/Challenges:

- Airborne Exposure Limits implementation



# Conclusion

- ✦ Disposal operations ongoing at 3 sites, working to achieve better processing rates
- ✦ Working to start operations at 2 additional sites during calendar year 2004
- ✦ Risk issues include Airborne Exposure Limits, multi-agent monitoring, stockpile degradation and secondary waste