

Problem Rounds Path Forward Briefing Series



Schedule of Topics

23 August 2011

Presented to:

Design Options Working Group

Presented by:

Scott Susman

ACWA Systems Engineering and
Operations

A PARTNERSHIP FOR SAFE
CHEMICAL WEAPONS DESTRUCTION

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U.S. Army Element, Assembled
Chemical Weapons Alternatives



Pueblo Chemical Agent
Destruction Pilot Plant

Schedule of Topics

- Possible Problem Rounds Path Forward Topic Areas for Future Discussion
 - Problem Rounds Processing Alternatives **COMPLETED** 8 Dec '10
 - Path Forward Schedule and Bechtel's Proposal Process **DELAYED** 8 Dec '10
 - National Environmental Protection Act (NEPA) Process **COMPLETED** 26 Jan '11
 - NEPA Process Q&A **COMPLETED** 30 Mar '11
 - Determination of potential feeds (types and quantities) **COMPLETED** 27 Apr '11
 - Considerations for processing boxed 105mm projectiles **COMPLETED** 27 Apr '11
 - Other Topics TBD
 - Environmental Assessment (EA)/Multi-Pathway Health Risk Assessment (MPHRA) Update **COMPLETED** 29 Jun '11
 - EA/MPHRA Update 23 Aug' 11
 - Final Disposition of the Explosive Destruction Technology (EDT)..... TBD

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Environmental Assessment Update

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Explosive Destruction Technology (EDT) Processing – Criteria Scoping

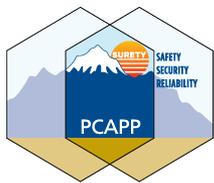
- Assuming Low & High Range of Rejects & Overpacks and 155mm & 4.2" bursters, the preliminary estimated operating times for each of the EDT systems is*:
 - DAVINCH
 - 1.5 to 3 years
 - Static Detonation Chamber
 - 2.5 to 5 years
 - Transportable Detonation Chamber (TDC)
 - 2.5 to 4.5 years (2 units)
 - Explosive Destruction System (EDS)
 - 15 to 25 years (2 units)

**CRITERIA
ASSUMPTIONS
PRESENTED IN
JULY**

Times are preliminary and do not include potential propellant and 105mm bursters

May not be a reasonable approach for our application

* Actual operating times may vary depending on equipment and facility availability estimates



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EDT Processing – Current Basis and Assumptions for Input to EA/MPHRA

- Explosive Destruction Technology (EDT) systems will operate 12 hours per day, seven days per week
- Feeds have been characterized as REQUIRED or DESIRED
 - REQUIRED feeds include maximum anticipated overpacks and rejects (13,000) as well as 155mm bursters and 4.2" fuze/bursters
 - DESIRED feeds include balance of energetic material (propellant, 105mm fuzes and bursters) and are currently planned to be treated off site
 - EDT processing needs were determined by establishing how many units were required to process all of the Required feeds within a five-year period
 - The left over capacity for each EDT was used to calculate how much of the Desired feeds could then be processed without additional units
 - The Environmental Assessment/Multi-Pathway Health Risk Assessment (EA/MPHRA) will therefore reflect impacts from the processing of all of Required feeds and some or all of the Desired feeds depending upon throughput capacity of the number of units to process the Required feeds



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EDT Processing – Current Basis and Assumptions for Input to EA/MPHRA (con't)

- Based on these feed assumptions, ACWA calculated the capacity of each of the Explosive Destruction Technology (EDT) systems as follows:
 - DAVINCH
 - One Unit can process all Required and Desired feeds in five years
 - Static Detonation Chamber (SDC)
 - One Unit can process all Required and roughly 75 percent of the Desired feeds in five years

DAVINCH



Static Detonation
Chamber



EDT Processing – Current Basis and Assumptions for Input to EA/MPHRA (con't)

- Transportable Detonation Chamber (TDC)
 - Two Units can process all Required and Desired feeds in five years
- Explosive Destruction System (EDS)
 - Nine Units can process all Required and a minimal amount of the Desired feeds in five years



Transportable Detonation Chamber



Explosive Destruction System



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Environmental Assessment (EA) Status

- Given the current basis and assumptions, all three commercial EDT systems and the EDS will be considered alternatives in the EA.
- We are in the process of assessing the completeness and the Health Impacts of each commercial vendors' emissions data and the Government's data for the EDS
- EA continues to be crafted
- Outcome of EA anticipated for March 2012 release for comment.



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EDT Schedule

Activity	Calendar Year				
	2011	2012	2013	2014	2015
NEPA PROCESS					
FONSI OR NEED FOR EIS					
EDT IMPLEMENTATION					
PCAPP START OF OPS					
CURRENT PERMIT CONDITION FOR EDT					
EDT START OF OPS (TBD)					



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Explosive Destruction System (EDS) Study Review

- Questions had been asked with regard to possibility of using caustic instead of Monoethanolamine (MEA) as the neutralant in the EDS
- Based on available information:
 - MEA was chosen based on its effectiveness in that configuration and it does not generate Schedule 2 compounds which are subject to compliance with the Organisation for the Prohibition of Chemical Weapons requiring further treatment
 - Caustic has not been tested with the EDS hardware and its effectiveness in destroying the feed material and impact to the equipment is not known



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Questions?