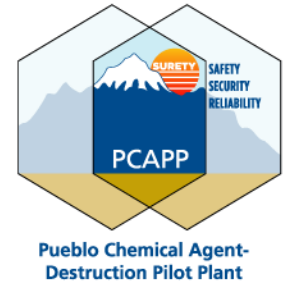


Problem Rounds Path Forward Briefing Series

Schedule of Topics

29 June 2011



Presented to:
Colorado CAC

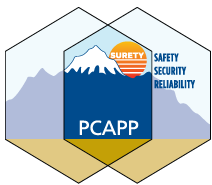
Presented by:
Scott Susman, ACWA Systems Engineering and Operations

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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 BNI's RFP Process ... **DELAYED** 8 Dec '10
 - NEPA Process **COMPLETED** 26 Jan '11
 - NEPA Process Q&A **COMPLETED** 30 Mar '11
 - Determination of potential EDT feeds (types and quantities) 27 Apr '11
 - Considerations for processing boxed 105mm projectiles **COMPLETED** 27 Apr '11
 - Other Topics ??????
 - EA/MPHRA Update 29 Jun '11
 - Final Disposition of the EDT

Problem Rounds Path Forward Briefing Series



Environmental Assessment Update

29 June 2011

Presented to:
Design Options Working Group

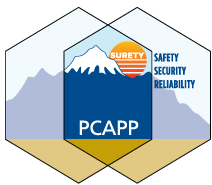
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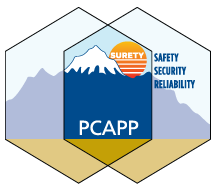


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Multi-Pathway Health Risk Assessment (MPHRA) Protocol Development

■ History

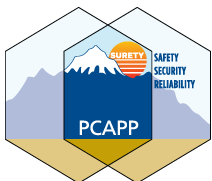
- The PCAPP MPHRA was finalized and submitted to CDPHE in May 2008 as a requirement under the Colorado Hazardous Waste Regulations 100.28(h)
- The 2008 MPHRA received CDPHE approval on June 24, 2008
- Conduct of the 2008 MPHRA followed a detailed protocol that was developed by the Project Team and approved by CDPHE



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Multi-Pathway Health Risk Assessment (MPHRA) Protocol Development

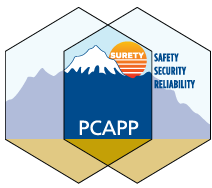
- **Basic EDT Protocol**
 - An MPHRA will be prepared for the EDT for use in the environmental assessment to be conducted pursuant to the National Environmental Policy Act (NEPA)
 - The results of the EDT MPHRA will be added to the results of the original PCAPP MPHRA



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Multi-Pathway Health Risk Assessment (MPHRA) Protocol Development

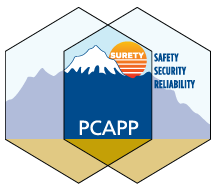
- Proposed Approach being Discussed with CDPHE
 - The EDT MPHRA will use the same protocol as the original 2008 MPHRA
 - Additional routines will be used as necessary to accommodate project features that may not have been present in the original PCAPP design. In general, these routines were already discussed in the original protocol.
 - An “apples-to-apples” comparison with the original MPHRA will be possible, and EDT results will be added to the PCAPP results
 - A brief paper will describe any differences between the original protocol and the EDT protocol



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NEPA Process – Schedule

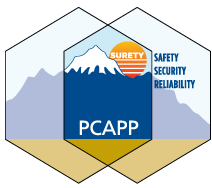
Activity	Calendar Year				
	2011	2012	2013	2014	2015
NEPA PROCESS					
FONSI OR NEED FOR EIS					
EDT IMPLEMENTATION					
PCAPP START OF OPS					
CURRENT PERMIT CONDITION FOR EDT					
EDT START OF OPS (TBD)					



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EDT Potential Feed Materials

- **Overpacked Munitions**
 - Previously sampled or Leaking Munitions in propellant charge cans and/or single round containers (SRCs)
- **Treaty Sampled Munitions**
 - Munitions that need to be sampled to demonstrate the presence of agent to the OPCW
- **Reject munitions**
 - Items that can not be processed through the plant by normal means
 - Quantities estimated based on previous experience and results of LPMD testing at Anniston
- **Energetic material**
 - Those that are determined to be agent contaminated
 - Those that require further processing
 - Based on economics or practicality



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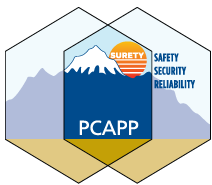
Reject Munitions

LPMD Rejects and resulting PCAPP projections

Munition Type	Original # Planned for LPMD	LPMD Rejects	LPMD Reject Rate	Approximate Equivalent PCAPP Rejects	Anticipated Range based on Lessons Learned*
4.2-inch M2	20,016	205	1.024%	1,000	500-1,000
105 mm M60	20,495	36	0.176%	650	650-1,000
155mm M110 HD	7,959	31	0.389%	1,200	50-1,200
Totals	48,470	242	0.499%	2,850	1,200-3,200

* Estimated range attempts to take into account differences in equipment configuration and munition configuration, but is ultimately still an estimate.

Based on earlier experienced LPMD reject rates, an upper bound of 13,000 rejects will be retained due to specific unknowns with the PCD stockpile.

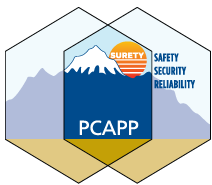


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Energetic Material

■ Energetic material

- Based on discussions with Treatment Storage and Disposal Facilities, two components removed from the munition, can not be treated without being further processed
 - 4.2" fuze and burster are attached and require separation before shipment. While this capability is being built into the plant, it does add a step in the process that increases process risk
 - The 155mm burster is too large for TSDF treatment without size reduction. This capability is not built into the plant and would require the TSDF or third party to size reduce adding risk
 - There are approximately 100,000 4.2" fuze/burster components and 300,000 155mm bursters that may, as a result, be processed in an EDT



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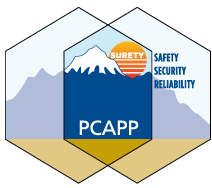
EDT Processing – Criteria Scoping

- 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 (SDC)
 - 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)

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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Destruction Pilot Plant

Summary

■ Summary

- MPHRA and EA preparation proceeding. Outcome of EA anticipated for March 2012 release for comment.
- Need to finalize criteria and conduct assessment to determine reasonableness with respect to purpose and need for consideration of any particular EDT system.
- Preliminarily, it appears the EDS may not be a reasonable approach given the specific processing needs for PCAPP.