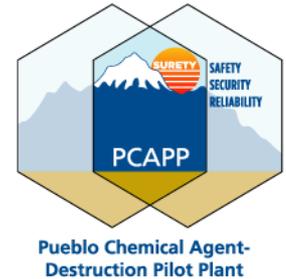


National Environmental Policy Act (NEPA) Approach and Strategy



Explosive Destruction Technology (EDT)

24 April 2012

Presented to: Pueblo Community

Presented by:

Jon Ware, Environmental Scientist, NEPA Project Lead, ACWA

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

Agenda

- NEPA Overview
- NEPA Document Withdrawn
- Environmental Assessment Framework
- Multi-pathway Health Risk Assessment
- Navigating the Environmental Assessment
- Findings of the Environmental Assessment



Pueblo Chemical Agent-
Destruction Pilot Plant

NEPA Overview

- Promulgated January 1970
- First major environmental law in U.S.
- Applies to major actions of the federal government executive branch
- Two major goals of the environmental review process are better informed decisions for Agency personnel and citizen involvement
- Levels of analysis
 - Environmental Impact Statement (EIS)
 - Environmental Assessment (EA)
 - Record of Environmental Consideration (REC)



Pueblo Chemical Agent-
Destruction Pilot Plant

NEPA Document Withdrawn

- February 2010 Pueblo Chemical Depot (PCD) EDT EA – Accelerate destruction operations and maintain continuity of the nation’s chemical stockpile destruction activities
 - Office of the Secretary of Defense Directed Action modified
 - NEPA document withdrawn
- Current EA addresses problematic mustard-filled munitions and explosive components
 - Addresses many stakeholder concerns for more detailed quantitative analysis
 - Addresses comments given on the 2010 EA
 - Document developed in conjunction with Colorado Department of Public Health and Environment (CDPHE) and Environmental Protection Agency (EPA) Region 8 oversight



Pueblo Chemical Agent-
Destruction Pilot Plant

Environmental Assessment Framework

- Supplemental Environmental Assessment to the 2002 site-specific PCAPP EIS
- 2002 EIS did not specifically address potential impacts associated with the destruction of the leaking, over-packed, other “reject” munitions, or explosive components as contemplated by the proposed action in this EA
- Emissions and waste disposal packages were developed using information from each vendor
- A screening level multi-pathway health risk assessment (MPHRA) on the emissions associated with the proposed EDT facility was developed
 - Updated and combined with the 2008 PCAPP MPHRA
 - Received developmental comments by staff toxicologist from CDPHE and EPA Region 8



Pueblo Chemical Agent
Destruction Pilot Plant

Environmental Assessment Framework

- Expanded analysis on:
 - Air Emissions
 - Solid Waste Management Issues
 - Socioeconomics and Environmental Justice
 - Health Risk Assessment
 - Assessments of the direct and cumulative impacts of the proposed EDT facility on Pueblo County and the surrounding counties
 - Analysis of lifetime cancerous, long-term noncancerous, and acute short-term inhalation hazard risk
 - Assessments of impacts to nearby organic farmlands



Pueblo Chemical Agent-
Destruction Pilot Plant

Multi-pathway Health Risk Assessment (MPHRA)

- Protocol
- Risk Characterization
- Uncertainty Analysis/Conclusions



Pueblo Chemical Agent-
Destruction Pilot Plant

MPHRA Protocol

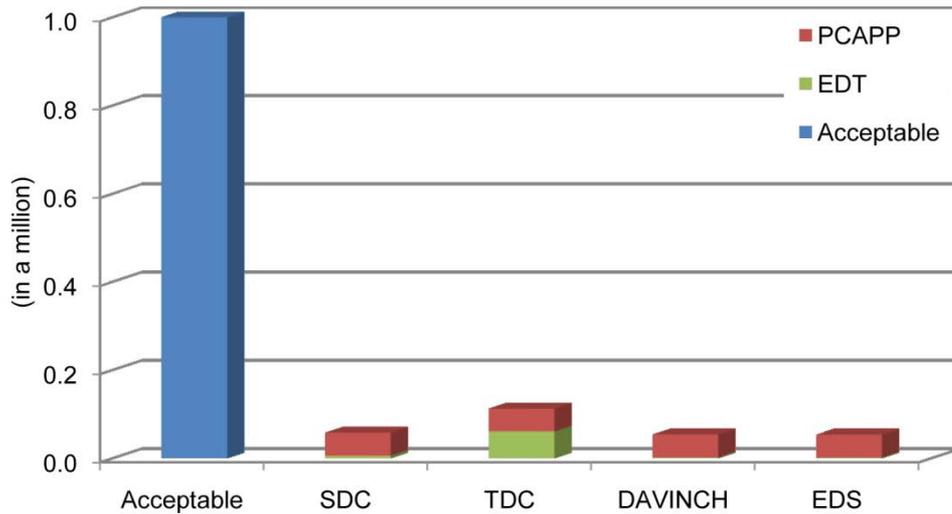
- A MPHRA was prepared to assess air emissions impacts for use in the environmental analysis to be conducted pursuant to the NEPA
- The PCAPP MPHRA was finalized and submitted to CDPHE in May 2008 as a requirement under the Colorado Hazardous Waste Regulations 100.28(h)
- Conduct of the 2008 MPHRA followed a detailed protocol that was developed by the Project Team and approved by CDPHE
- The EDT MPHRA used the same protocol as the original 2008 MPHRA
- An “apples-to-apples” approach consistent with the original MPHRA was possible, and EDT results were added to the PCAPP results
- Additional routines were 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
- The Final EDT MPHRA was also approved by CDPHE



Pueblo Chemical Agent-Destruction Pilot Plant

MPHRA Risk Characterization

Summary of Carcinogenic Risk Results



Visual Comparison of Combined Carcinogenic Risks

EDT	Total Carcinogenic Risk		Percent of Acceptable Risk for EDT + PCAPP ^b
	EDT	EDT + PCAPP ^a	
SDC	0.00572E-06	0.0577E-06	5.8%
TDC	0.0606E-06	0.113E-06	11.3%
DAVINCH	0.00171E-06	0.0537E-06	5.4%
EDS	0.00136E-06	0.0534E-06	5.3%

a. PCAPP Risk Level = 0.0520E-06.

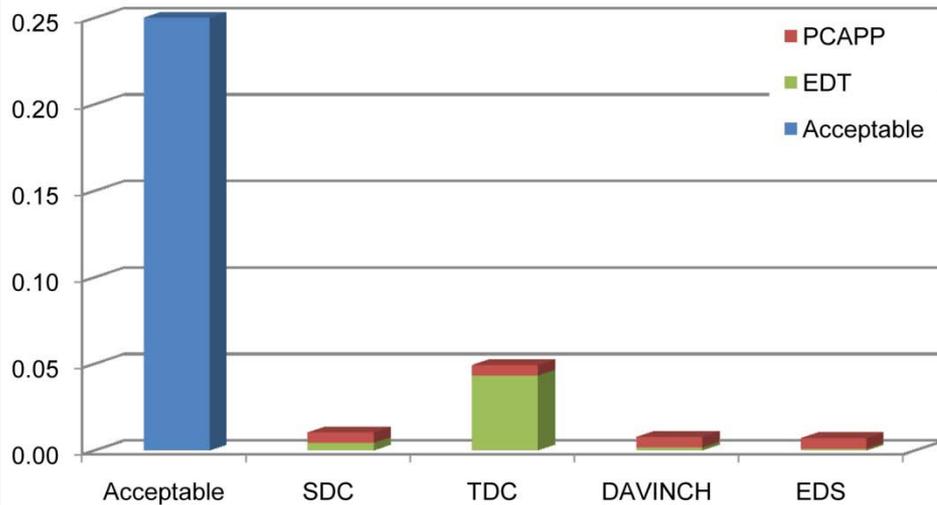
b. Acceptable Risk Level = 1.0E-06.



Pueblo Chemical Agent-Destruction Pilot Plant

MPHRA Risk Characterization

Summary of NonCarcinogenic Hazard Results



Visual Comparison of Combined Noncarcinogenic Hazards

EDT	Total Hazard Index		Percent of Acceptable Hazard for EDT + PCAPP ^b
	EDT	EDT + PCAPP ^a	
SDC	0.00421	0.0103	4.1%
TDC	0.0431	0.0492	19.7%
DAVINCH	0.00158	0.00767	3.1%
EDS	0.000791	0.00688	2.8%

a. PCAPP Total Hazard Index = 0.00609.

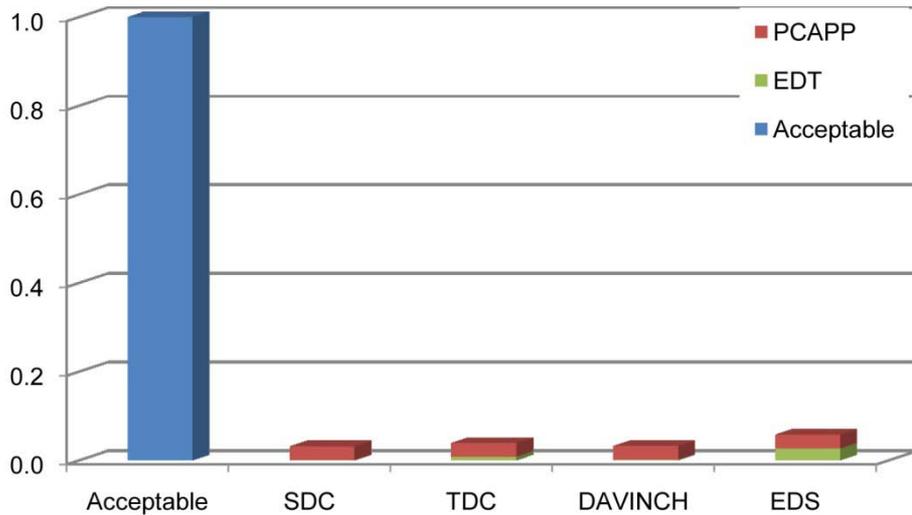
b. Acceptable Hazard Index = 0.25.



Pueblo Chemical Agent-Destruction Pilot Plant

MPHRA Risk Characterization

Summary of Acute Hazard Results



Visual Comparison of Combined Acute Hazards

EDT	Total Hazard Index		Percent of Acceptable Hazard for EDT + PCAPP ^b
	EDT	EDT + PCAPP ^a	
SDC	0.00026	0.0313	3.1%
TDC	0.0079	0.0389	3.9%
DAVINCH	0.00136	0.0324	3.2%
EDS	0.0267	0.0577	5.8%

a. PCAPP Total Acute Hazard Index = 0.031.

b. Acceptable Acute Hazard Index = 1.0.



Pueblo Chemical Agent-
Destruction Pilot Plant

MPHRA Uncertainty Analysis and Conclusion

- Several potential sources of uncertainty may impact the results obtained from this MPHRA. These uncertainties may cause the results previously discussed to be either more or less conservative. The MPHRA summarizes these potential uncertainties and their impacts on the risk and hazard results previously discussed in this section.
- The application of the quantitative uncertainty analysis demonstrates that even when the most conservative quantifiable uncertainty parameters are incorporated into the MPHRA for all EDTs, the resulting carcinogenic risks, including the baseline results from the PCAPP MPHRA, are below the acceptable risk level specified by CDPHE.



Pueblo Chemical Agent-
Destruction Pilot Plant

Navigating the Environmental Assessment

ORGANIZATION OF THIS ENVIRONMENTAL ASSESSMENT

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The First Place to Look in the EA is page i

This page includes a short description of what is contained in each section of the EA.

The next several pages of this packet will provide a description of each of those sections and highlight where you can find key information you may be interested in.



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SECTION 1 - INTRODUCTION

- summarizes the purpose of and need for the proposed action and provides relevant background information about the chemical agents and munitions to be destroyed at the PCD.

Key Areas:

1.1.1 (The PCD Inventory of Mustard-Filled Munitions) – Describes the potential feed materials to be processed through an EDT
1.2 (Overview of Proposed Action) and 1.3 (Purpose and Need for the Proposed Action) – Describes the intent to use an EDT and provides the rationale for that intent
1.4.1 (Framework) and 1.4.2 (Approach) – Provides a clear description of how the analysis was conducted



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SECTION 2 - PROPOSED ACTION AND ALTERNATIVES

- describes in detail the proposed action and the no-action alternative, as well as other alternatives to the proposed action.

Key Areas:

While there is no specific portion of this section to highlight here, if you want more details for each of the alternatives being considered (the different EDT systems), it can be found in this section. There are photos of each system as well as a detailed descriptions.



Pueblo Chemical Agent-
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SECTION 3 - THE AFFECTED ENVIRONMENT AND POTENTIAL ENVIRONMENTAL CONSEQUENCES

describes the existing environmental resources that could be affected by the proposed action and identifies the potential environmental impacts of implementing the proposed action and of the no-action alternative.

Key Areas:

Again, while there is no specific portion of this section to be highlighted, however, this section can be used as a resource to understand all the areas that were considered for potential impacts. If you want further explanation of the conclusions in any of the areas in Section 4, you can refer back to this section for that detail.



Pueblo Chemical Agent-
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SECTION 4 - CONCLUSIONS

summarizes the findings about the potential environmental impacts for the proposed action and no-action alternative, and makes a recommendation on whether to proceed with a Finding of No Significant Impact.

Key Areas:

***This section is the key section for the entire document.** It is 14 pages long and summarizes the impacts for the proposed action in 16 areas of analysis to include; Land Use, Air Quality, Surface Water Resources, etc. These summaries are all presented separately if there are specific areas that you are interested in. Most are short and concise to provide an immediate impression of the impacts.



Pueblo Chemical Agent-Destruction Pilot Plant

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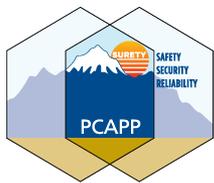
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APPENDICES

- Summary of comments received from withdrawn EA

- Army correspondence with agencies associated with cultural resources

- EDT emission parameters



Pueblo Chemical Agent-
Destruction Pilot Plant

Findings of the Environmental Assessment

- The information and analysis presented in the Environmental Assessment (EA) indicate that the proposed action would produce no significant environmental impacts. This finding applies to an EDT facility that incorporates any one of the four types of EDT units that were evaluated in this EA: the Static Detonation Chamber, the Transportable Detonation Chamber, the DAVINCH (Detonation of Ammunition in a Vacuum-Integrated Chamber) and the Explosive Destruction System
- Based on the analysis provided in the EA, the Proposed Action will have no significant impact on land use, air quality, surface water resources, groundwater resources human health and safety, aquatic resources and wetlands, terrestrial ecological resources, socioeconomic resources, aesthetics, cultural resources, environmental justice, noise, waste management, transportation of waste, or resource requirements



Pueblo Chemical Agent-
Destruction Pilot Plant

Questions?