



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# Waste Isolation Pilot Plant Recovery Update Underground Ventilation System

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March 16, 2015

- **Background--WIPP Ventilation**
- **DOE Order 413.3B**
- **Summary of CD-0 Approval for the WIPP Underground Ventilation System (UVS)**
- **Path Forward for the WIPP UVS**

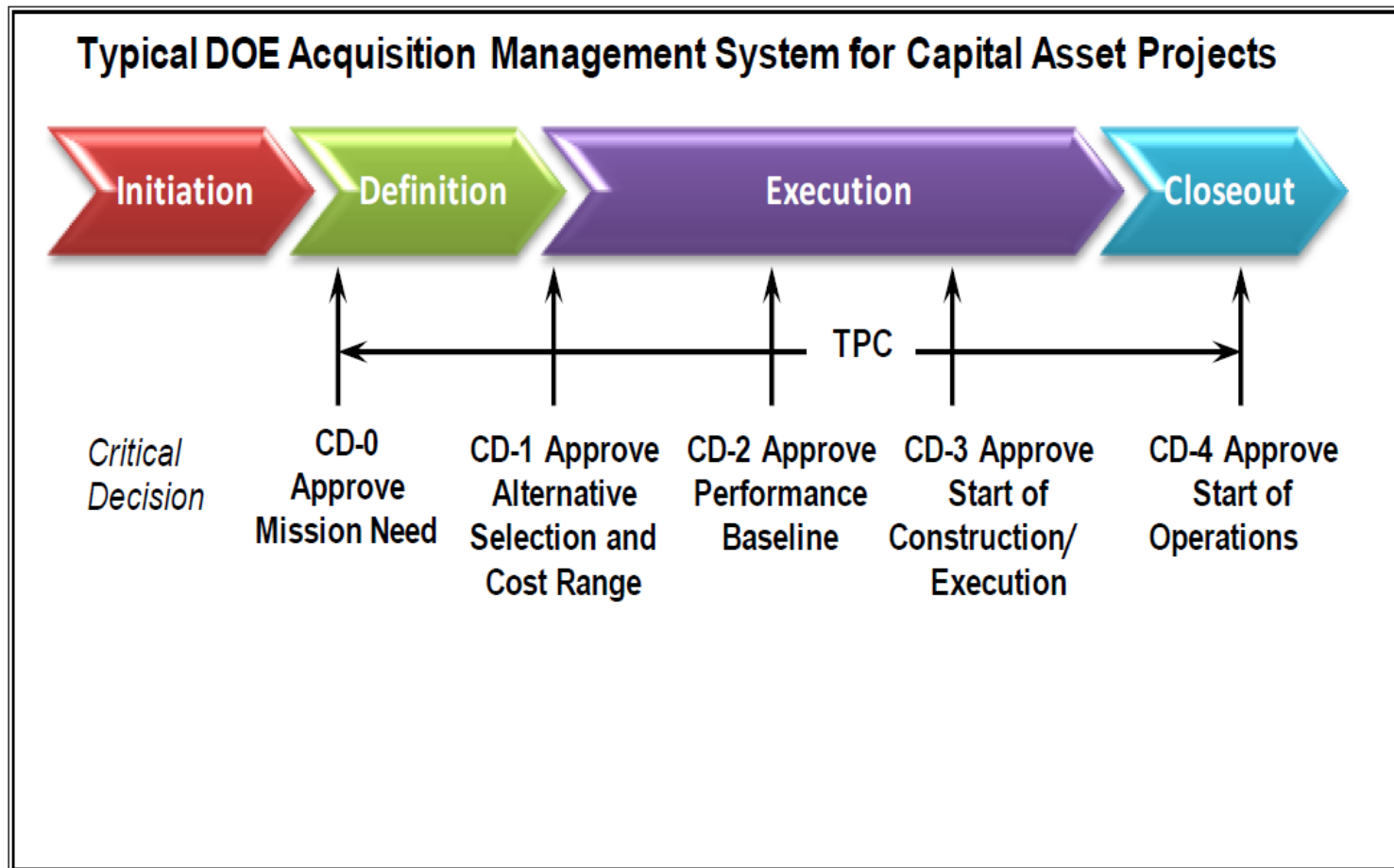
- **Increasing ventilation (airflow) is a principal requirement for safe underground operations, as it supports worker safety, mining and waste emplacement.**
- **Current Status**
  - Ventilation in Filtration Mode
    - 60,000 cubic feet per minute (cfm) of filtered air
  - Note: WIPP's standard (unfiltered) operational airflow is 425,000 cfm
    - WIPP Permit requires annual average 260,000 cfm through underground
    - Minimum of 35,000 cfm of air through the active rooms when waste disposal is taking place
- **Recovery Actions-- Ventilation will be increased in three phases.**
  - **Phase I** – HEPA skid and fan unit (114,000 cfm). ECD: June 2015.
  - **Phase II** – Reconfiguring airlock and bulkheads and additional fans (180,000 cfm). ECD: August 2015.
  - **Phase III (not needed for initial limited operations)** – Design and construct new permanent ventilation system (420,000 cfm). CD-1: Summer 2015.



# Overview of DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*

**DOE Project Management Order is mandatory for all capital asset projects with Total Project Cost (TPC) greater than or equal to \$50M.**

- To deliver the project within the original performance baseline, cost and schedule, and fully capable of meeting mission performance, safeguards and security, and environmental, safety, and health requirements.
- To implement Office of Management and Budget Circulars:
  - A-11, Part 7, *Capital Programming Guide*, which prescribes new requirements and leading practices for project and acquisition management;
  - A-123, *Management's Responsibility for Internal Control*, which defines management's responsibility for internal control in Federal agencies;
  - A-131, *Value Engineering*, which requires that all Federal agencies use Value Engineering (VE) as a management tool.



## CD-0: Approve Mission Need



Perform a mission validation Independent Review on all Major System Projects.



Approve Mission Need Statement Document



Conduct Independent Cost Review (ICR) on all Major System Projects.



For Hazard Category (HazCat) 1, 2, and 3 nuclear facilities, document DOE expectations for Safety-in-Design



## CD-1: Approve Alternative Selection and Cost Range

Approve Acquisition Strategy



Approve preliminary Project Execution Plan (PEP)



Tailoring Strategy, if needed



Appointment of Federal Project Director

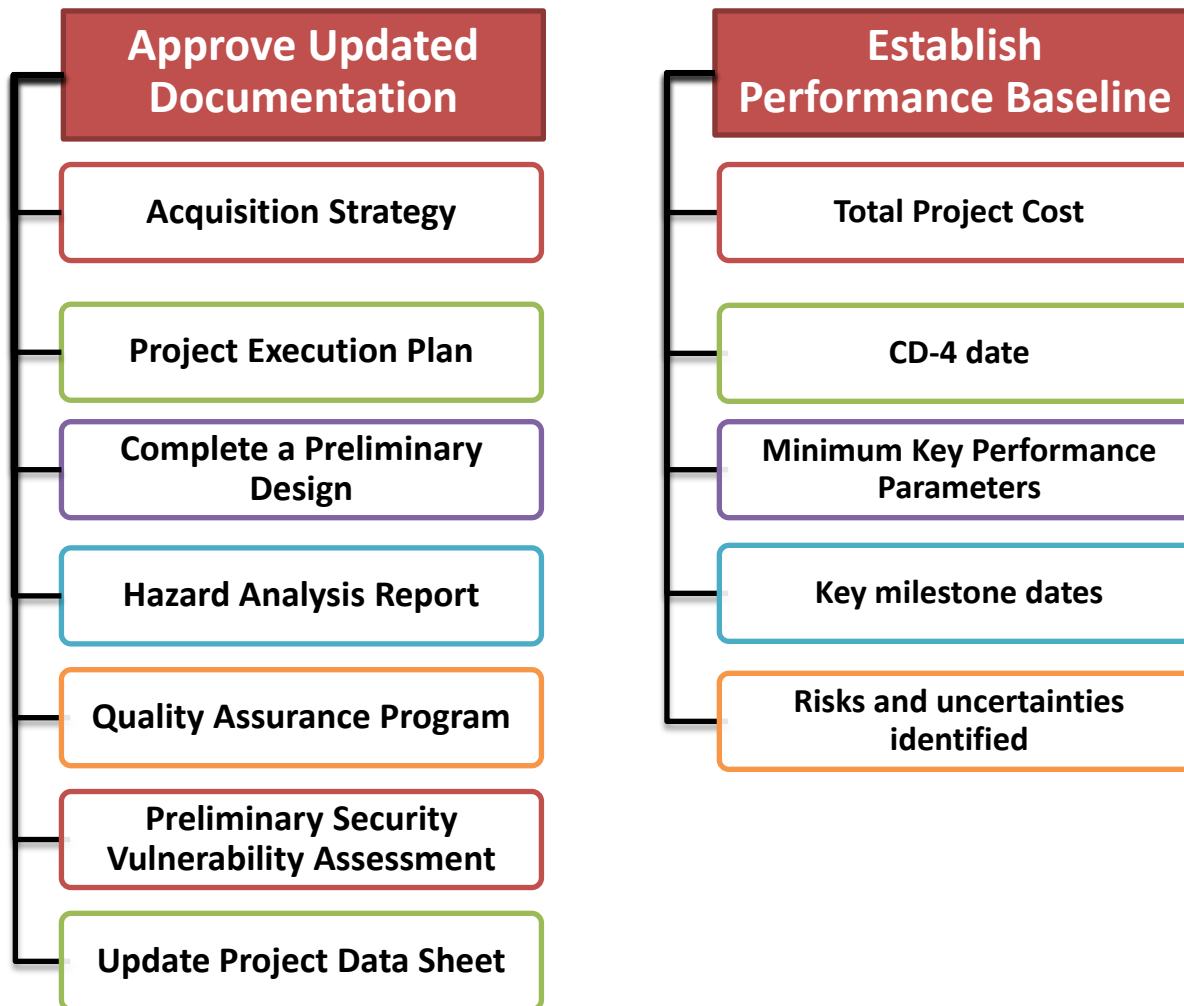


Establish and charter Integrated Project Team with responsibility matrix



Develop Risk Management Plan

## CD-2: Approve Performance Baseline





## CD-3: Approve Start of Construction/Execution

Approve updated CD-2 documents for major changes

Complete Final Design and Review

Employ a certified Earned Value Management System compliant with ANSI/EIA-748B, *Standard for Earned Value Management System*, or as required by contract

Update Quality Assurance Program for construction field design changes, and procurement activities.

## CD-4: Approve Start of Operations



**Verify Key Performance Parameters and Project Completion Criteria have been met**



**Issue a Project Transition to Operations Plan**



**Conduct a Readiness to Operate Review**



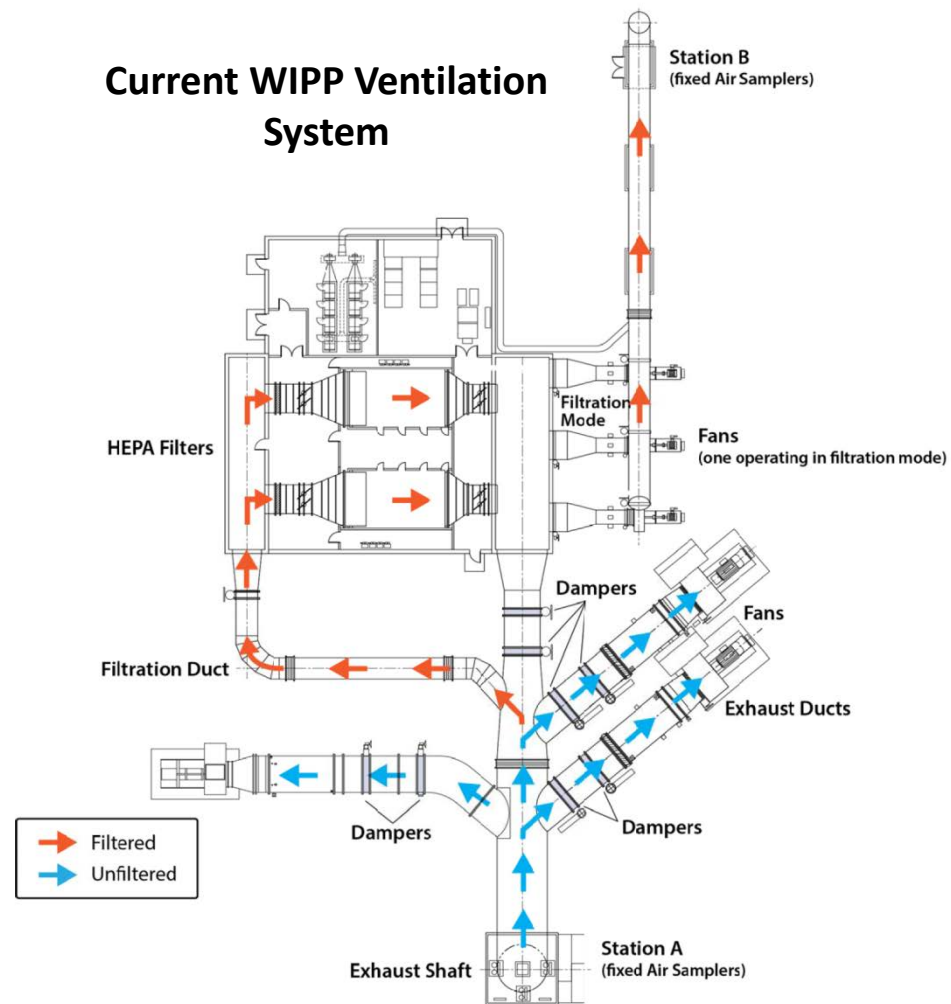
**Final Hazard Analysis Report, Documented Safety Analysis, Safety Evaluation Report**



**Issue Project Closeout Report**

## From Statement of Mission Need:

- A new UVS is required to reach pre-incident air flow rates.
- The UVS serves the WIPP underground by providing acceptable working conditions, in a life-sustaining environment, during normal operations.
- The UVS serves as a first line of defense in the event of a waste handling accident by providing a single pass, direct flow of air to High Efficiency Particulate Air filters.
- The new UVS is necessary to support concurrent mine maintenance, mining and waste emplacement to meet the complex's TRU disposal needs.




# Summary of CD-0 Approval for the WIPP UVS (cont.)

- The aggregate Rough Order of Magnitude (ROM) cost range for this Mission Need is \$77M - \$309M
  - DOE Guide 413.3-17; -50% +100% based upon upper bound of ROM estimate.
  - Currently two capital asset project line items are anticipated, ventilation system and exhaust shaft.
  - The capital projects are still in the early DOE project planning process, which requires deliberative planning and decisions.
  - Costs are based on the planning to date and may change as new information is received or requirements change
- **CD-0 and Mission Need Statement Document were approved by EM-1 on October 22, 2014.**

- FY 2015 Funding: \$324.5 million
  - PBS 0080, Recovery, Operate Disposal Facility: \$127 million (includes \$42.1 million reallocated from base)
    - 15-D-411, Ventilation System: \$12 million
    - 15-D-412, Exhaust Shaft: \$4 million
  - PBS 0080, Base, Operate Disposal Facility: \$120.2 million
  - PBS 0081, Central Characterization Project: \$35.2 million
  - PBS 0090, Transportation: \$21.6 million
  - PBS 0020, Safeguards and Security: \$4.5 million
  
- FY 2016 Funding: \$248.2 million
  - PBS 0080, Recovery, Operate Disposal Facility: \$87 million
    - 15-D-411, Ventilation System: \$23.2 million
    - 15-D-412, Exhaust Shaft: \$7.5 million
  - PBS 0080, Base, Operate Disposal Facility: \$86.8 million
  - PBS 0081, Central Characterization Project: \$22.6 million
  - PBS 0090, Transportation: \$16.2 million
  - PBS 0020, Safeguards and Security: \$4.9 million

## Overall Schedule

	UVS/Exhaust Shaft 
<b>Critical Decisions (CD)</b>	
CD-0: Approve Mission Need	October 22, 2014
CD-1: Approve Alternative Selection and Cost Range	3 <sup>rd</sup> /4 <sup>th</sup> QTR Fiscal Year 2015
CD-2: Approve Performance Baseline	1 <sup>st</sup> QTR Fiscal Year 2016
CD-3: Approve Start of Construction	TBD
CD-4: Approve Project Completion	TBD