Executing Future U.S Department of Energy Cleanups

Columbus Closure Project (CCP)
ECC & E2 Closure Services LLC
Glenn Henderson, Closure Manager

Columbus Closure Project (CCP) Accelerated Closure Site

- **Former Hot Cell/Test Reactor Facility**
- **Five radiologically contaminated buildings**
- **4,000 linear feet of contaminated underground piping**

FOR MORE INFO...

COLUMBUS CLOSURE PROJECT, - CONTRACT NO. DE-AC24-040H20171

CCP Performance Goals

- **Safely remove radioactive materials to levels that will allow future use of the 11.7 acre site without radiological restrictions**
- **Return the Nuclear Sciences Facility to a state suitable for future construction**

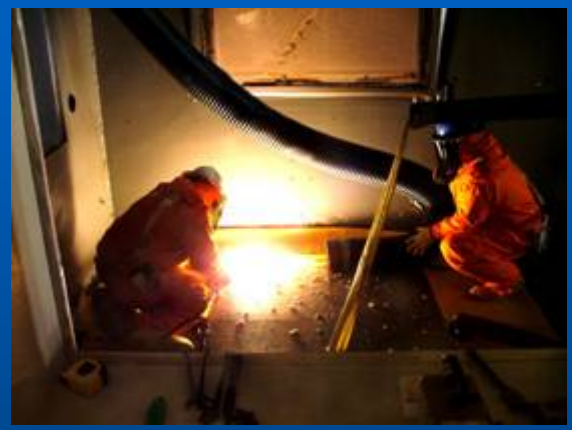
Columbus Closure Project (CCP) Regulatory Setting

- US Department of Energy, (DOE)
- US Nuclear Regulatory Commission, (USNRC)
- Ohio Department of Health, (ODH)
- Ohio Division of Natural Resources (ODNR)
- US Department of Transportation, (US DOT)
- Ohio Environmental Protection Agency (OEPA)
- US Environmental Protection Agency, (USEPA)
- Occupational Safety and Health Administration, (OSHA)

CCP integrated low level waste reduction strategies

Approach to building demolition

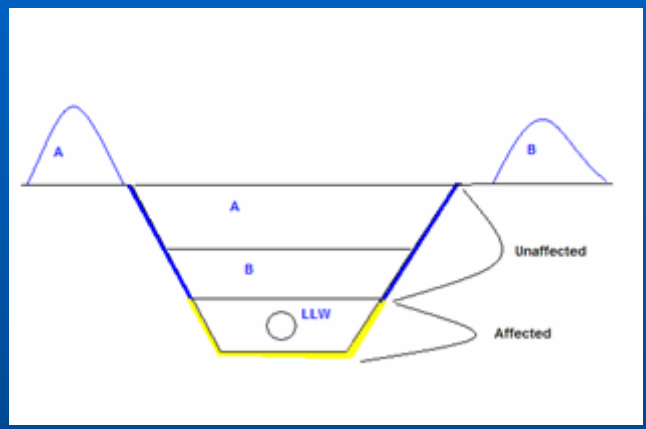
- **Free Release Buildings prior to demolition**
- **Isolate and Remove sources of contamination prior to demolition**



CCP integrated low level waste reduction strategies

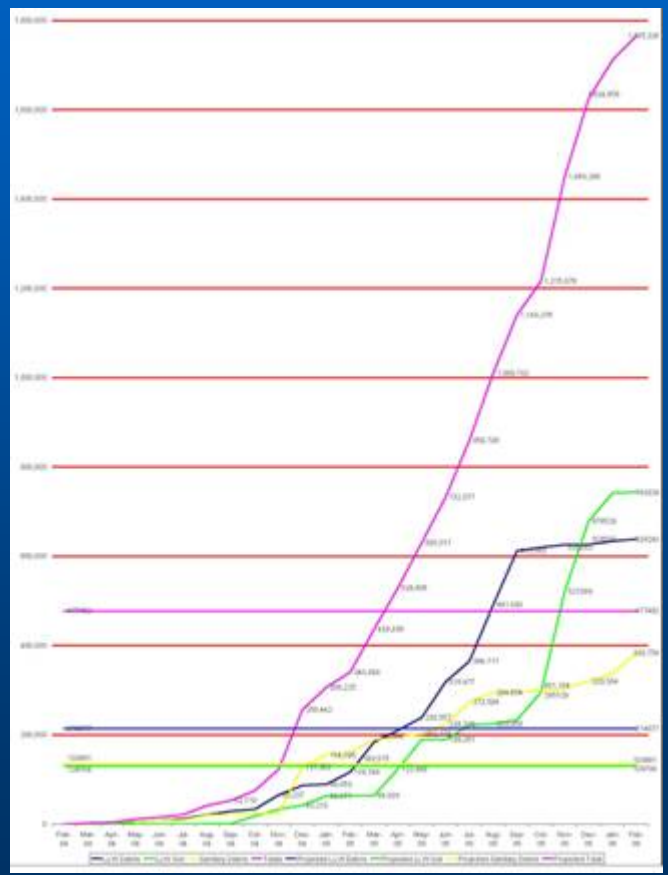
Approach to excavating contaminated piping

- **Segregate clean over burden from contaminated soil and piping**
- **Developed an NRC Approved Method**



CCP- Managing Project Waste Volume Increase

- **Project radioactive waste volumes increased**
- **~3 times more than planned**
- **Impacted Critical path**



CCP- Managing Project Waste Volume Increase

- **Actual waste volume significantly > than Bid Spec**
- **Waste shipment weight limitations impacted # of shipments**
- **Higher contamination levels in soils than expected**
- **Prior site remediation incomplete**

CCP- Managing Project Waste Volume Increase

Mitigation Strategies

- **Use multiple disposal options**
- **Segregation = alternative disposal for qualifying material**
- **Optimize container management**
- **Double waste shipping production rates**

CCP- Managing Project Waste Volume Increase

Maximizing disposal options

- **Disposal via LLW Trans-load Rail Yard**
- **Disposal via Licensed LLW Transfer Facility**
- **Disposal via use of Sub-Title “D” Landfill**
- **Disposal at alternate sites, NTS & Barnwell**

CCP- Managing Project Waste Volume Increase

Disposal via Trans-load at local Rail Yard

- **CS loading Intermodals directly on rail cars**
- **Increases on site shipping productivity**
- **Responsible for 50% savings on LLW transportation cost.**

CCP- Managing Project Waste Volume Increase

Disposal via Licensed LLW Transfer-Facility

- **Consolidation multiple intermodals into single gondola rail car**
- **Reduces increasing container inventory**
- **Responsible for 50% savings in LLW transportation cost**

GH1

CCP- Managing Project Waste Volume Increase

Alternative disposal through detailed waste segregation

- **Sub-Title “D” Landfill with DOE support**
- **Responsible for ~$5.8M savings**

GH1 Glenn Henderson, 2/18/2007

CCP- Managing Project Waste Volume Increase

Use of Alternative Disposal Sites

- **Class C Waste**
  - **Nevada Test Site**
  - **Barnwell SC**

CCP- Managing Project Waste Volume Increase

Was the mitigation strategy effective?

- **393 shipments through trans-load rail yard**
- **1122 shipments through local transfer facility**
- **1045 shipments diverted to Sub-title“D” landfills though Waste segregation**
- **486 shipments by truck to disposal site**
- **7 shipments to alternate disposal sites**

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Columbus Closure Project
Lessons Learned

CCP rear view mirror

Future considerations

- **Waste growth contingency planning**
- **Understanding the T&D equation**
- **Maximize multiple waste disposal paths**

CCP rear view mirror

Final Impact

- **Project LLW volume tripled**
- **Project Cost doubled**
- **Project Schedule increased by 13%**

CCP rear view mirror

The most important lesson to remember about project success is:

“It is all about your people”

Questions & Comments

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