U.S. Department of Energy

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FERNALD, OH • MIAMISBURG, OH
WEST VALLEY, NY

MIAMISBURG ENVIRONMENTAL MANAGEMENT PROJECT

GENERAL MOUND SITE OVERVIEW

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DIRECTOR

JUNE 18, 2002

U.S. Department of Energy

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DISCLAIMER

The information in this document is to provide interested parties, including prospective offerors, general site information. It does not necessarily represent the specific information that will be contained in the Request for Proposal (RFP) to be issued for the re-compete of the Mound site clean-up contract. The information in the RFP governs what should be in your proposal if you choose to submit one. If there is any conflict in this information and information in the RFP always follow the RFP.

AGENDA

- Introduction
- Historical Overview
- DOE/Nuclear Energy (NE) Overview
- Clean-up Process
- Accomplishment/Remaining Work
- Current Issues

OHIO VISION

We will achieve, for all our sites, an environmentally restored end state which serves the communities' needs, and we will do it within a decade

MEMP MISSION STATEMENT

To safely clean-up the former nuclear production facilities and transition the site to the community by 2006

Secretary of Energy

Spencer Abraham

Office of Nuclear Energy, Science & Technology

William D. Magwood, IV

Assistant Secretary for Environmental Management

Jessie Roberson

Office of Worker & Community Transition

Mike Owen

Ohio Field Office

Jack R. Craig (Acting)

EM-30

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Miamisburg Environmental Management Project

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Peyton S. Baker

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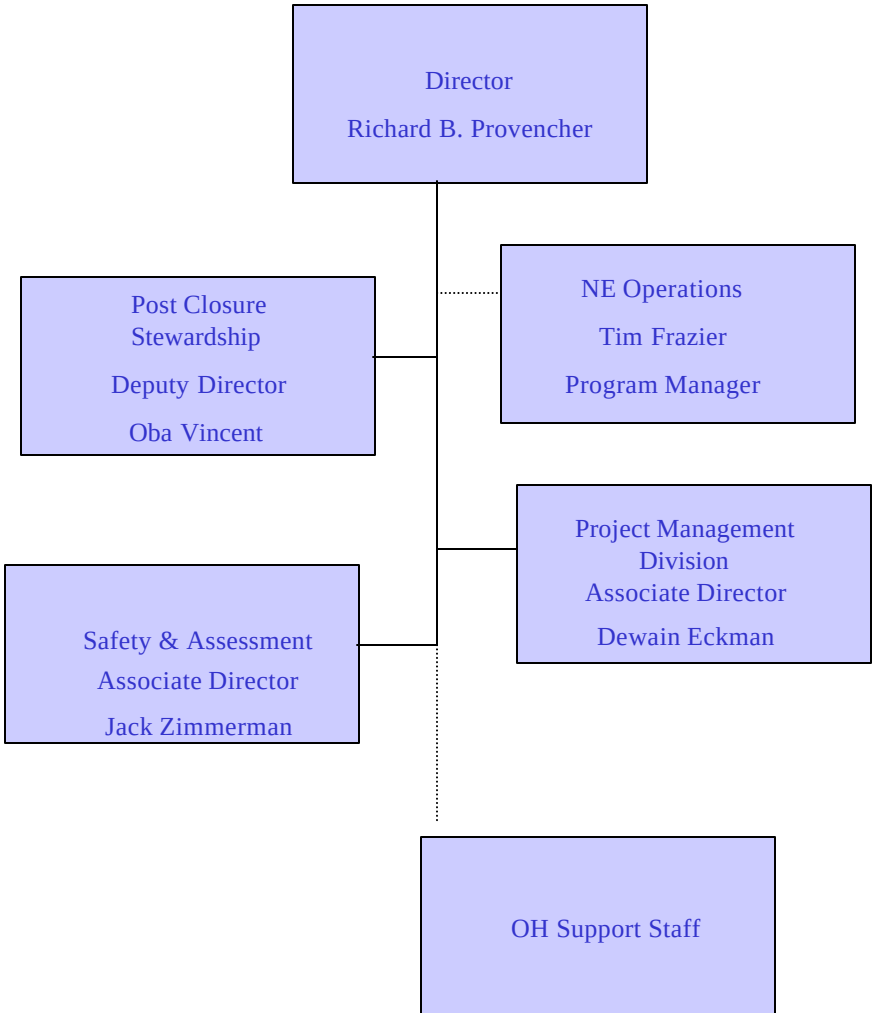

- DOE/MEMP Primary Functions
  - Contract Administration
  - ES&H Oversight
  - Project Management
- Total DOE Personnel on Site
  - Ohio Field Office - 81
  - MEMP - 29

MOUND SITE HISTORY

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MOUND SITE 1994

SELECTED HISTORY OF MOUND

- May 1948: Mound commences production
- Nov 1989: Mound placed on National Priorities List
- Oct. 1990: DOE signs agreement with Environmental Protection Agency on remediation of Mound
- Dec 1992: DOE decides to close Mound
- Sep 1994: Production ceases
- Oct 1994: Mound becomes an Environmental Management Site
- May 1995: Demolition of plutonium processing facility completed
- Oct 1997 BWXTO takes over contract to remediate Mound
- Jan 1998: DOE signs agreement to sell site to the Miamisburg Mound Community Improvement Corporation (MMCIC)
- May 1998: Remediation of Miami-Erie Canal completed
- Feb 1999: First actual property transfer to MMCIC

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Signing of Sales Contract with MMCIC - 1998

DOE AND MMCIC INTERFACES

- **Memorandum Of Agreement Between DOE and MMCIC**
  - **Establishes working relationship between DOE and MMCIC to transition site.**
- **Sales Contract Between DOE and MMCIC**
  - **Legal document for conveyance of DOE properties to MMCIC**
  - **Identifies buildings excluded from transfer**
  - **Currently, transfer of buildings and other structures are under negotiation with the MMCIC**

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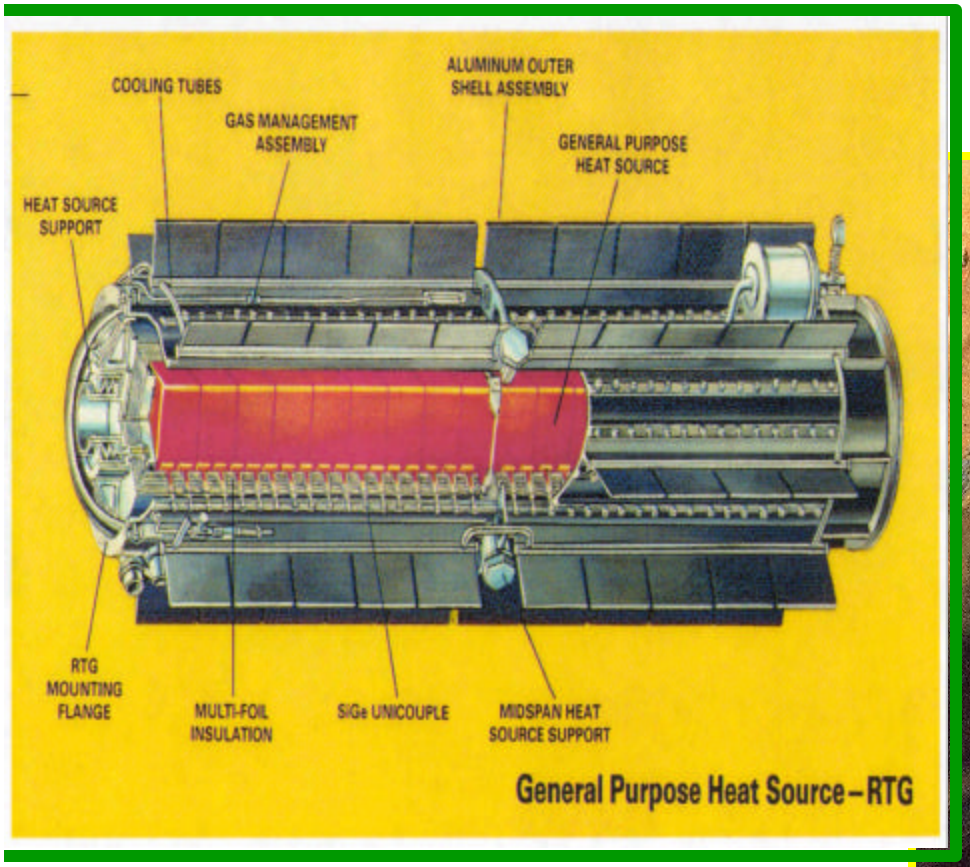
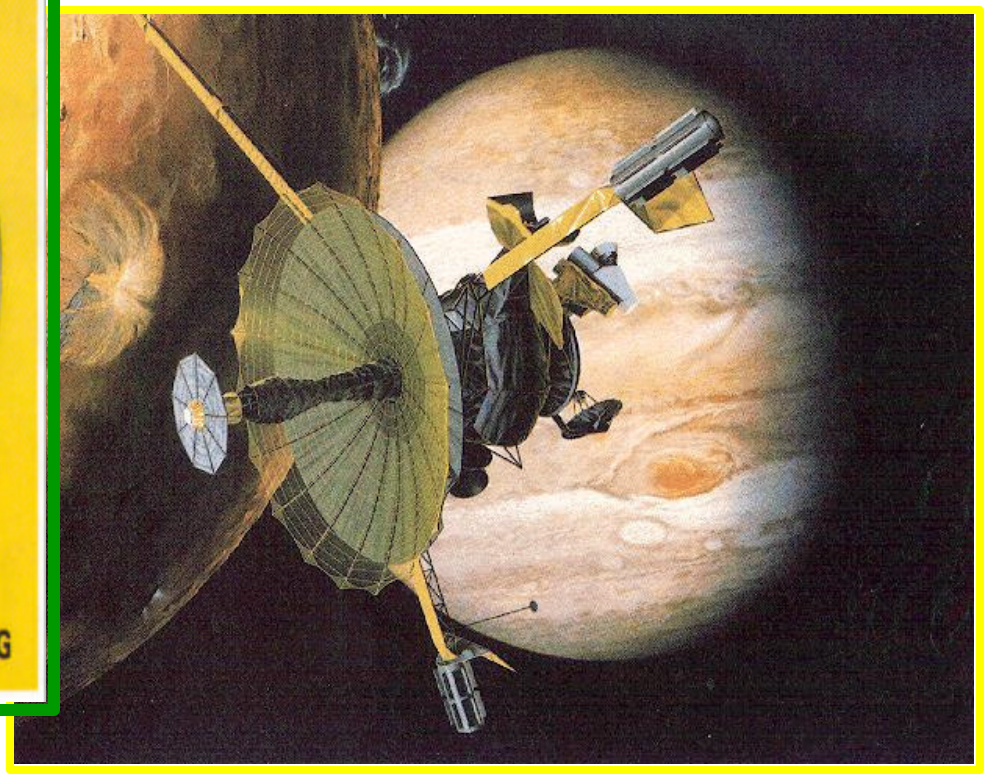
DOE/NUCLEAR ENERGY OVERVIEW

DOE/NUCLEAR ENERGY (NE)-50 ISOTOPE POWER SYSTEMS PROGRAM

- Mission — Provide radioisotope power systems and components for NASA and national security programs for NE-50.
- Historical — Mound has played a role in this program since the late 1950's.
- Current — The current core staffing level supporting current programs and maintenance of capability is 40 employees
- Facilities — Production activities are currently conducted in five buildings: Building 36, Building 37, Building 50, Building 46 and an Administrative Building for a total of 34,900 sq. ft.

RADIOISOTOPE THERMOELECTRIC GENERATORS





SPACECRAFT WITH RTGs

DOE/NE PROGRAM STATUS

- Current program is funded at ~$6M (level of effort)
  - Maintains an operational capability (facilities and personnel)
  - Serves as the DOE/NE heat source lead laboratory
- NE is currently relocating its nuclear material inventory to another DOE site for interim storage. Shipments have been started and will be completed by July 2002
- NE has also issued Notice of Intent (NOI) to prepare Environmental Assessment (EA) to assess impacts related to determining the future location of the NE Heat Source/Radioisotopic Power System (HS/RPS) assembly and test operations
  - Public meeting for Miamisburg is June 20, 2002, 7:00 - 9:00 P.M. at 426 East Central Avenue, Miamisburg.
- The future of the NE Program will be determined following appropriate NEPA review (July-August, 2002)

CURRENT ENVIRONMENTAL RESTORATION CLEAN-UP PROCESS

CURRENT ENVIRONMENTAL RESTORATION PROCESS

- Mound 2000 process has been developed and tested by DOE, USEPA and Ohio EPA to streamline the CERCLA process
- Mound 2000 Process
  - Describes the Potential Release Site (PRS) evaluation process and building disposition process
  - Describes how the intent of CERCLA is satisfied
  - Describes how to transfer property to the MMCIC for economic development and delisting the site from the National Priorities List (NPL)
  - Provides a basis for measuring performance by identifying enforceable milestones under the Federal Facilities Agreement (FFA)

CURRENT ENVIRONMENTAL RESTORATION PROCESS (Cont'd)

- **Mound Risk-Based Remediation**

  - Based on industrial clean-up target at 10E-5 risk level (Sum of all risks)
    - Future Site Worker Model
    - Future Construction Worker Model

  - Primary Contaminants of Concern
    - Pu-238: Clean-up level 55pCi/g
    - Th-232: Clean-up level 3 pCi/g

  - Mound 2000 Work Plan and guideline values documents are available for review on the Web site

CERCLA/MOUND 2000 COMPARISON

TRADITIONAL CERCLA PROCESS

Scoping Document

Remedial Investigation (RI)

Baseline Risk Assessment

Feasibility Study (FS)

Proposed Plan

ROD (Record of Decision)

Remedial Design/Remedial Action (RD/RA)

Remediation as Required

Transfer Document

Property Release

Operation and Maintenance Plan for Deed Restrictions

MOUND 2000 STREAMLINED PROCESS

Scoping Document

PRS Evaluation and Binning

Action Memorandum (Work plan if needed)

Remediation as Required

Residual Risk Evaluation

Proposed Plan

Record of Decision (ROD)

Transfer Document

Property Release

Operation and Maintenance Plan for Deed Restrictions

CURRENT ENVIRONMENTAL RESTORATION PROCESS (Cont'd)

- **Mound 2000 Core Team Meets Monthly**
  - Members include DOE, USEPA and Ohio EPA
  - Technical issues are resolved
  - Binning decisions are made

- **Stakeholder working groups meet regularly**
  - **MOUND ACTION COMMITTEE (MAC)** - meets monthly - composed of interested citizens. Facilitates information exchange and ensures community values are factored into the cleanup plans.
  - **MOUND REUSE COMMITTEE (MRC)** - Meets monthly - made up of local business and community leaders. Members appointed by Miamisburg City Council.

CURRENT ENVIRONMENTAL RESTORATION PROCESS (Cont'd)

The **MRC** is an independent advisory organization that provides informed recommendations and advice to the MMCIC, the City of Miamisburg and other government entities on major issues and decisions related to the site transition activities. The major focus of the MRC is on efforts to reuse, redevelop and commercialize the Mound site property while protecting the environment.

- **PRS-66 Working Group** - Represents MRC - Meets regularly to discuss issues regarding the clean up of PRS-66.
- **Post Closure Stewardship Committee (PCS)** - Chaired by the MMCIC. Members include representatives of the MMCIC, City, regulators, MRC, DOE, BWXTO-meets monthly to review stewardship activities that will need to be carried out after site ownership is transferred.
- Periodic updates to the community - provides status of the cleanup to interested citizens.

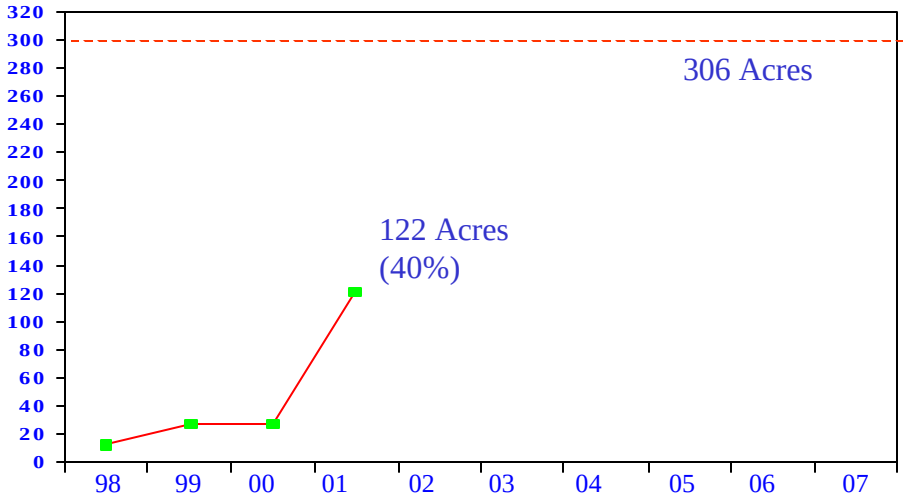
- **The combination of Site Reuse Plan, Mound 2000 Process and industrial clean-up standard allowed the original estimate of time to complete to be reduced by 20 years and $2 Billion.**

ACCOMPLISHMENTS

TO DATE

PROPERTY TRANSFERS

ACRES TRANSFERRED
(Cumulative)



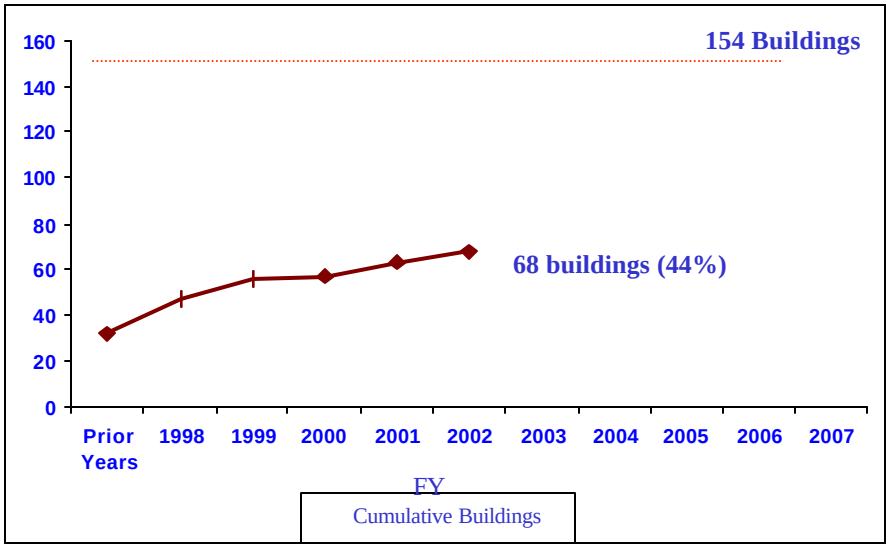
- Near Term Property Transfers
  - By Sep. 30, 2002, 5 additional acres and 2 buildings will have been transferred for a total of 127 acres (41%)
  - By December 2002, 54 additional acres and 10 buildings will have been transferred for a total of 181 acres (59%)

- 122 Acres (40%) have been transferred to the MMCIC

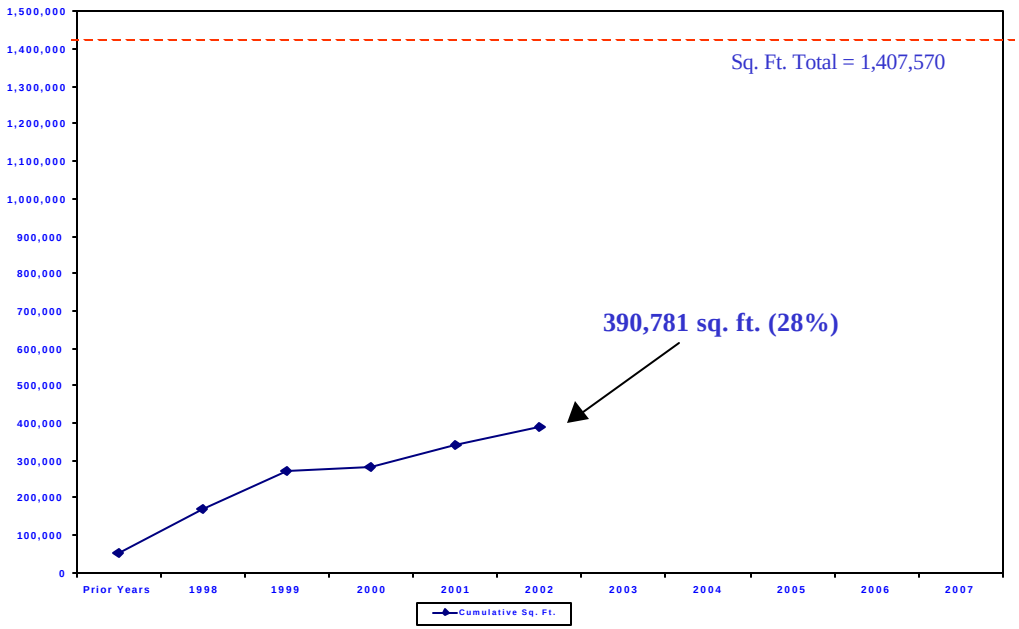
FIRST PARCEL TRANSFER

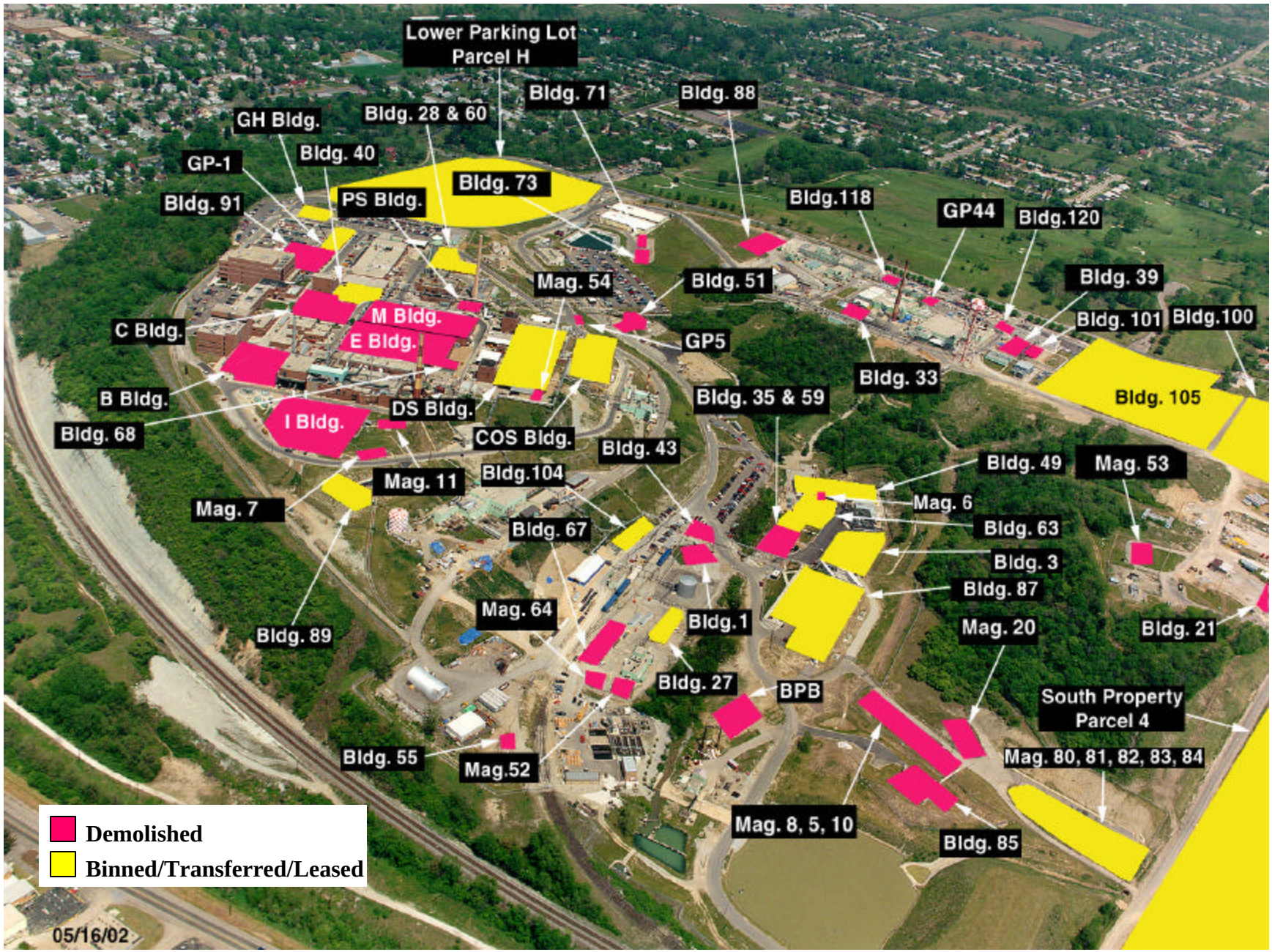
Buildings Removed, Demolished or Transferred Project To Date

- 44% of the buildings have been removed, demolished or transferred.



- 28% of the square footage has been removed, demolished or transferred

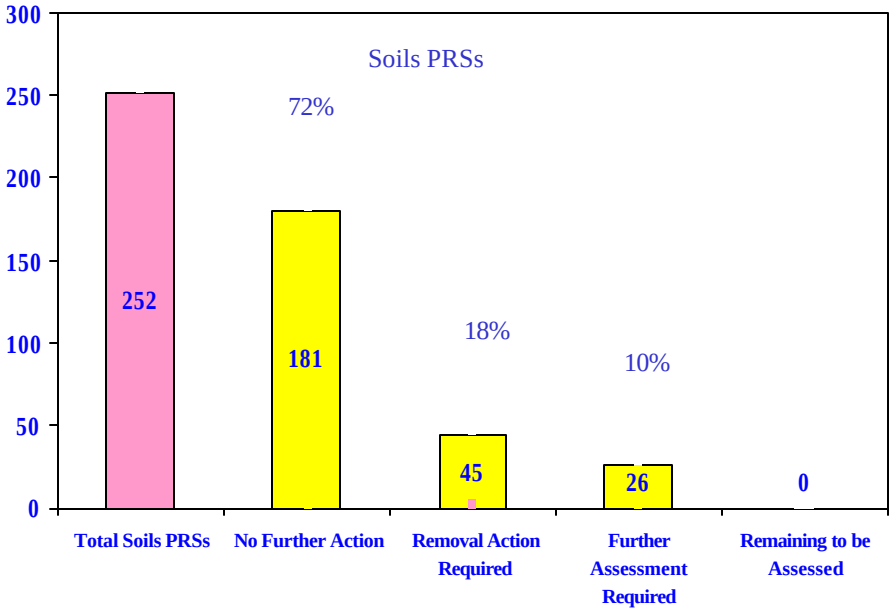




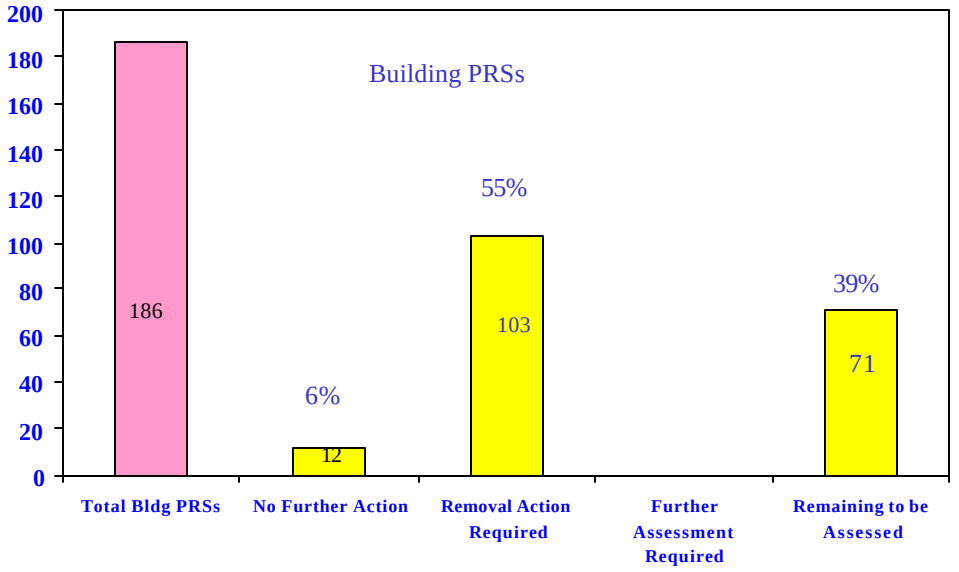
Buildings Removed, Demolished or Transferred (As of 5-16-02)

POTENTIAL RELEASE SITES (PRS)

- 43% of all PRSs have been remediated or binned no further action. 72% of the soil PRSs are complete



- 6% of the building PRSs are complete



SUBCONTRACTING STATUS

- **Subcontract to demolish building 38 and associated stack has been awarded.**
  - Completion in one year
  - Excludes contaminated soils and basic foundation
- **Subcontract for HH building**
  - RFP is being prepared
  - Award is expected by September 2002
- **Subcontract for Buildings WD, 23 and 125**
  - RFP is being prepared
  - Award expected by September 2002

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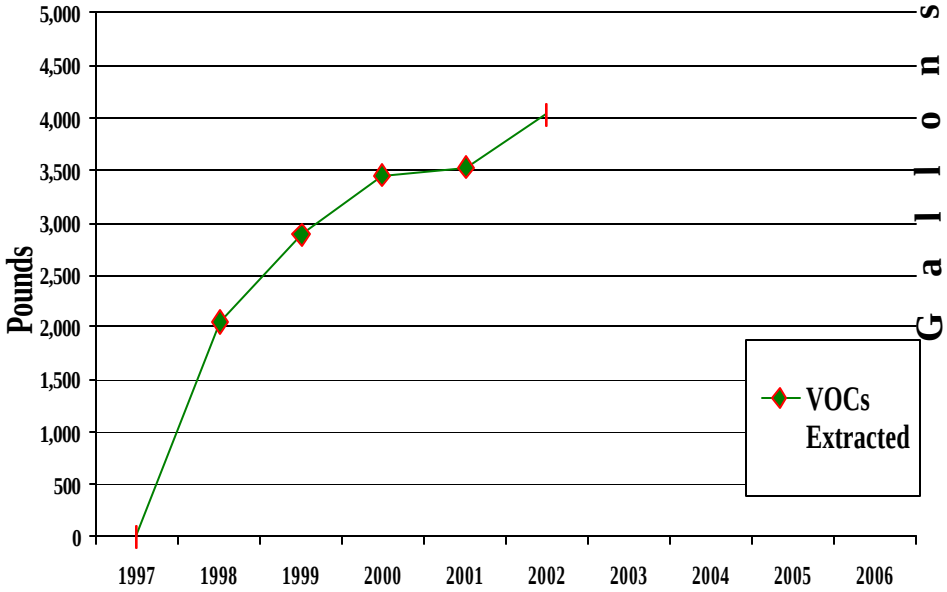
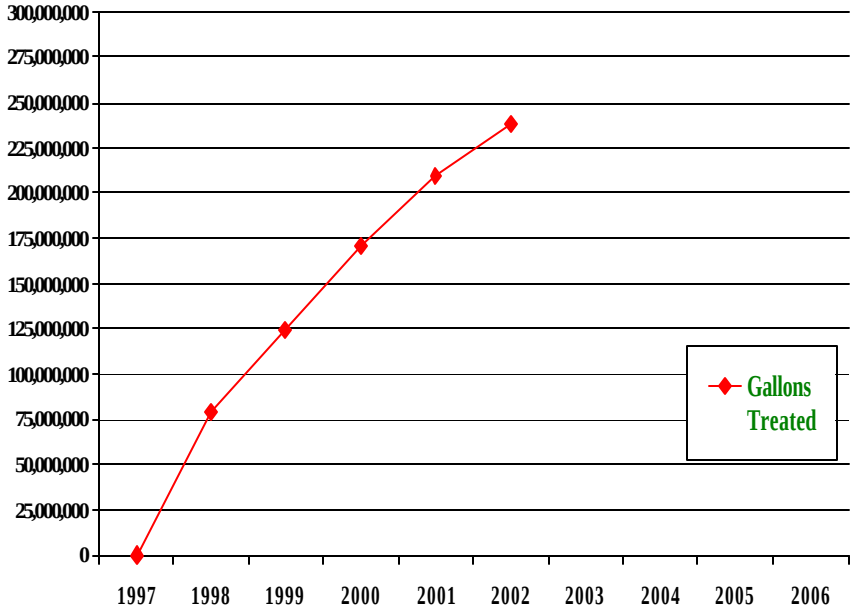
GROUND WATER TREATMENT

VOLATILE ORGANIC COMPOUNDS (VOCs) EXTRACTED AIR SPARGER/SVE/P&T (PTD, May 2002)



CUMULATIVE GROUND WATER TREATED (PTD, May 2002)



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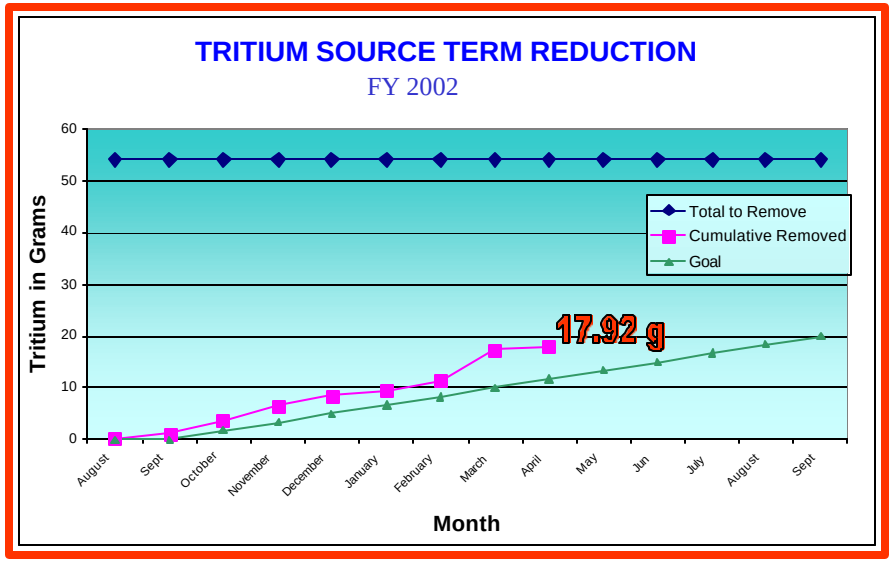
OU-1 LANDFILL

NUCLEAR MATERIAL RISK REDUCTION

Objective

Accelerate removal/reduction of site risk allowing reduced site infrastructure and support costs

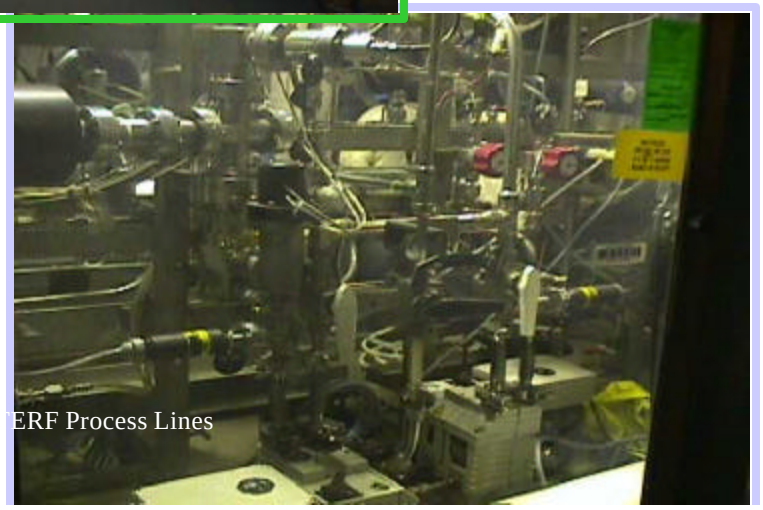


- Approximately 37 grams of process hold-up tritium remains in tritium facilities
- Approximately 300 cu. meters of Trans Uranic (TRU) waste is awaiting shipment off site.
- Other Nuclear Materials Remaining
  - ✓ Normal Uranium (5 kg)
  - ✓ Depleted Uranium (1 kg)
  - ✓ Deuterium (16.5kg)
  - ✓ Californium-252 (387ug)
  - ✓ Pu-238 (0.3g)
- Remaining Nuclear Facilities
  - Cat 3: Buildings 22, 23 and 50
  - Cat 2: SW/R and T Buildings

TRITIUM EMISSIONS REDUCTION FACILITY (TERF)


TERF Control Room

- The TERF system strips tritium from glove box effluents.
- TERF is key to maintaining compliant tritium emissions from the process areas


ERF Process Lines


TERF Gloveboxes

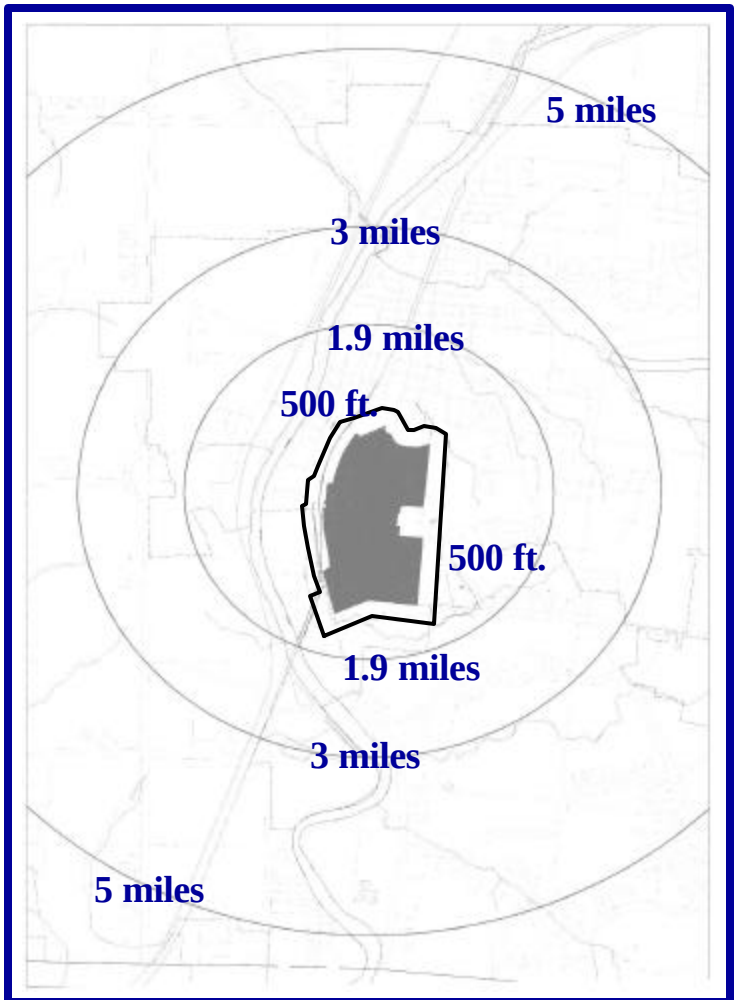
REMAINING SECURITY INTERESTS

- Classified weapon parts (99% Complete)
- Security Limited Areas (85% Complete)
- Classified Safes (62% Complete)
- Classified records and electronic media:
  - Classified paper documents have been transferred to CD-ROM. The next step is to transfer CD-ROM data to a searchable classified record database (6% Complete)

RISK REDUCTION

- As a result of significant source-term reduction, the emergency planning zone was reduced from a 5 mile radius to 500 feet surrounding the site

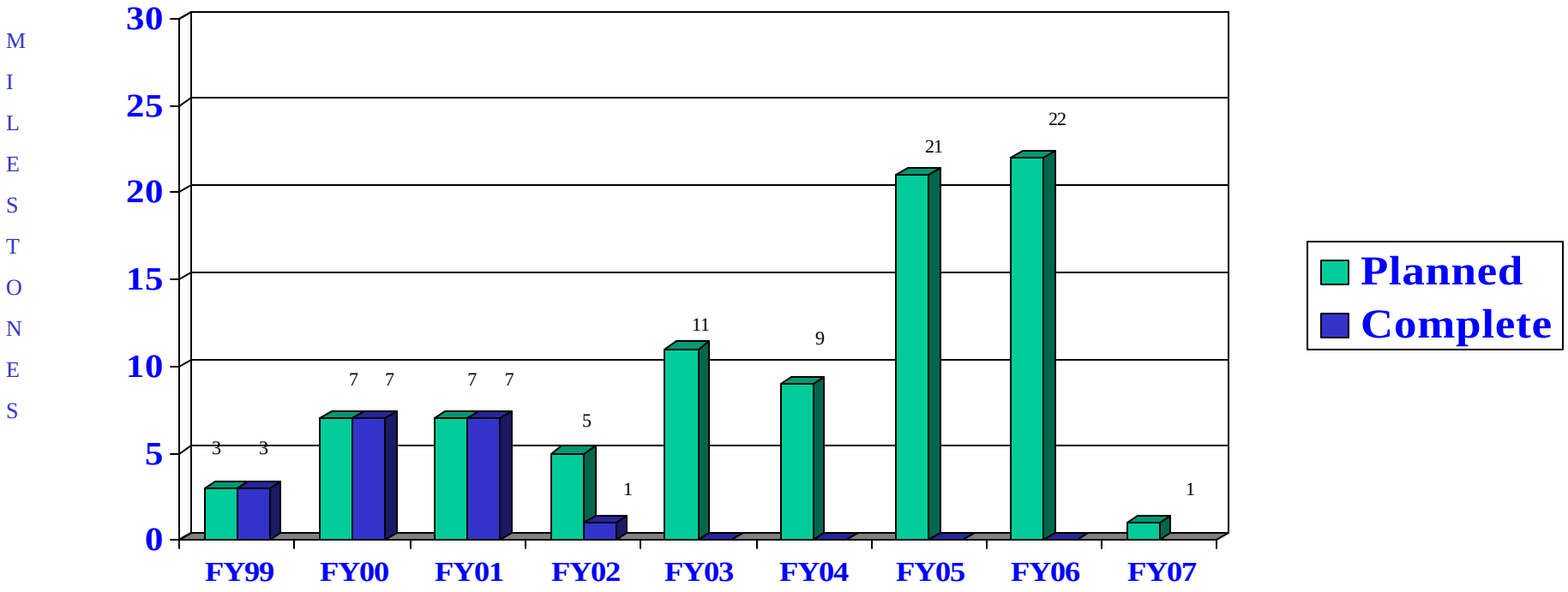
- Further site risk reduction can be achieved by:
  - Shipping TRU Waste off the site
  - Removal of the remaining tritium in process lines
  - Removing tritiated oil and water



FEDERAL FACILITY AGREEMENT

- Approved milestones are in place with the regulators for a 2006 closure
- Proposed changes to the approved milestones were submitted to the regulators on March 28, 2002. The milestones are negotiated annually.
- Milestones are linked to PRS completions, building demolitions, environmental summaries and Records of Decision (RODs)
- Federal Facility Agreement contains provisions for stipulated penalties for non-compliance ($5000 for first week and $10,000 for each additional week)

PROPOSED FFA ENFORCEABLE MILESTONES
FY 2006 EXIT DATE



KEY PROJECT RISKS AND ACTIONS

RISK	CURRENT PLANS/ACTIONS
Contaminated soils under buildings	Early characterization of soils
Contaminated underground lines	Deploy in-situ characterization methodologies to determine extent of contamination
Hillside Tritium Seeps	Demolish SW Building (SW Building is the suspected source term)
Groundwater contamination and migration	Develop sampling plan for monitoring VOCs down-gradient of suspect sources
Rad Emissions during building demolition	Deploy new rad stabilization technologies to minimize emissions

DOE/EM CLEAN-UP FUNDING

Historical Funding

New Budget Authority ($M)	
1997	89.1
1998	87.1
1999	84.2
2000	95.4
2001	87.9
2002	96.0*

* Post Employment Benefits comprise 15-20% of annual funding.

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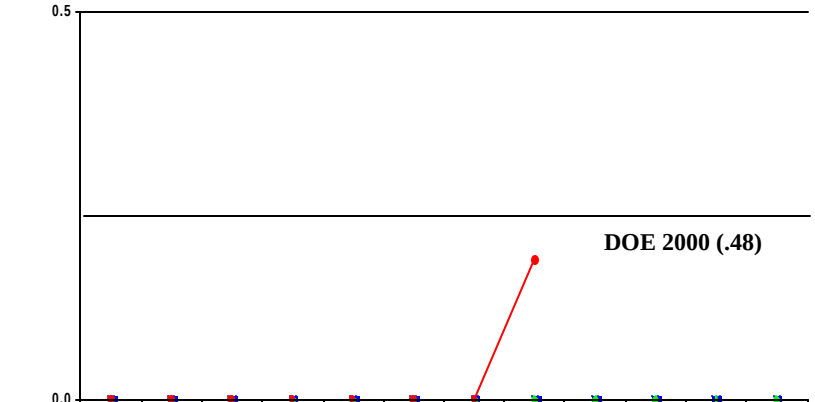
SAFETY PERFORMANCE

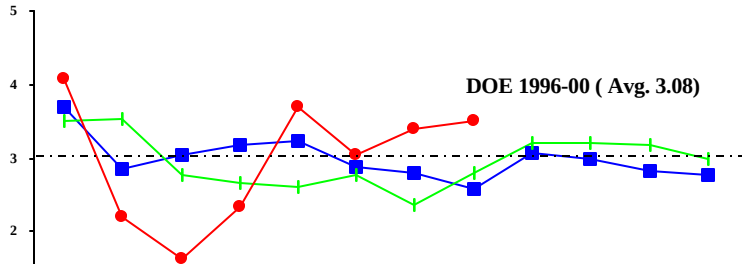
Safe Work Hours: 131,776 as of June 13, 2002

Lost Time/Days Away from Work



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
FY 00	0	0	0	0	0	0	0	0	0	0	0	0
FY 01	0	0	0	0	0	0	0	0	0	0	0	0
FY02	0	0	0	0	0	0	0	0.18				

OSHA Recordables



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
FY 00	3.70	2.85	3.05	3.17	3.23	2.88	2.79	2.58	3.07	2.99	2.82	2.78
FY 01	3.51	3.52	2.77	2.65	2.61	2.76	2.37	2.81	3.21	3.2	3.17	2.98
FY 02	4.08	2.21	1.63	2.33	3.69	3.05	3.4	3.51				

DOE/EM-50 TECHNOLOGY PAST SUCCESSES

- Technology Program has been and is currently available to accelerate schedule and reduce costs for clean-up
- Previous technology deployments have contributed significantly to Mounds schedule and cost reductions, examples:
  - No-Char Solidification has allowed solidification of rad contaminated oils
  - Alpha Water Treatment System has allowed site rad waste treatment facility (WD Bldg) to be taken off line
  - Drum Venting System has allowed venting and analysis of drum gases
  - Concrete Crusher has allowed non rad debris to be crushed and reused
  - Vial Crusher has allowed for disposal of Liquid Scintillation Vials

TECHNOLOGY - CURRENT PRIORITIES

- FY 02 technology program is being modified to focus on site closure and risk reduction

  - Eight technology priorities have been identified

    1. OPEN AIR D&D
       - Stabilize, fixate and contain contamination
    2. INTEGRATED SUBSURFACE CHARACTERIZATION
       - Obtain subsurface access and characterization of radioactive and hazardous contamination
    3. CHARACTERIZATION OF UNDERGROUND PIPING
       - For in-situ characterization techniques
    4. POST CLOSURE STEWARDSHIP
       - Identify technologies to support DOE's post closure monitoring

TECHNOLOGY (Cont'd)

5. MOBIL/MODULAR WASTE SYSTEM

   - Modular system to allow existing sanitary plant to be taken off line.

6. MANAGEMENT OF ELECTRONIC EQUIPMENT FROM RAD AREAS

   - Alternatives to characterize and release electronic equipment from rad areas.

7. REAL TIME Pu-238 MONITORING

   - Real time equipment to measure Pu-238 at less than 55 pCi/g level in Soils.

8. CONE PENETRATION DEPLOYMENT

   - Deploy a unit at Mound

CLOSURE ISSUES

- Examples of Current Pending Issues:
  - Integration of MMCIC Reuse Plan with clean-up plan
  - Escalating cost of legacy medical and pension benefits significantly impacts available funding for clean up
  - Receiver site availability for TRU waste and nuclear materials

MORE INFORMATION

- **MOUND CERCLA Public Reading Room - 305 East Central Avenue, Miamisburg**
- **FOIA Reading Room - Mound Site, Miamisburg**
- **RFP Website: http://www.ohio.doe.gov/oh_seb/details.asp**
- **MMCIC Website: http://www.mound.com**
- **Follow-on site briefings and tours**