

# **FERNALD**

## **Countdown to Closure**

*December 6, 2005*

**Gary Stegner**

- Introduction

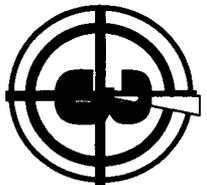
**Johnny Reising**

- Safety

- Project Updates

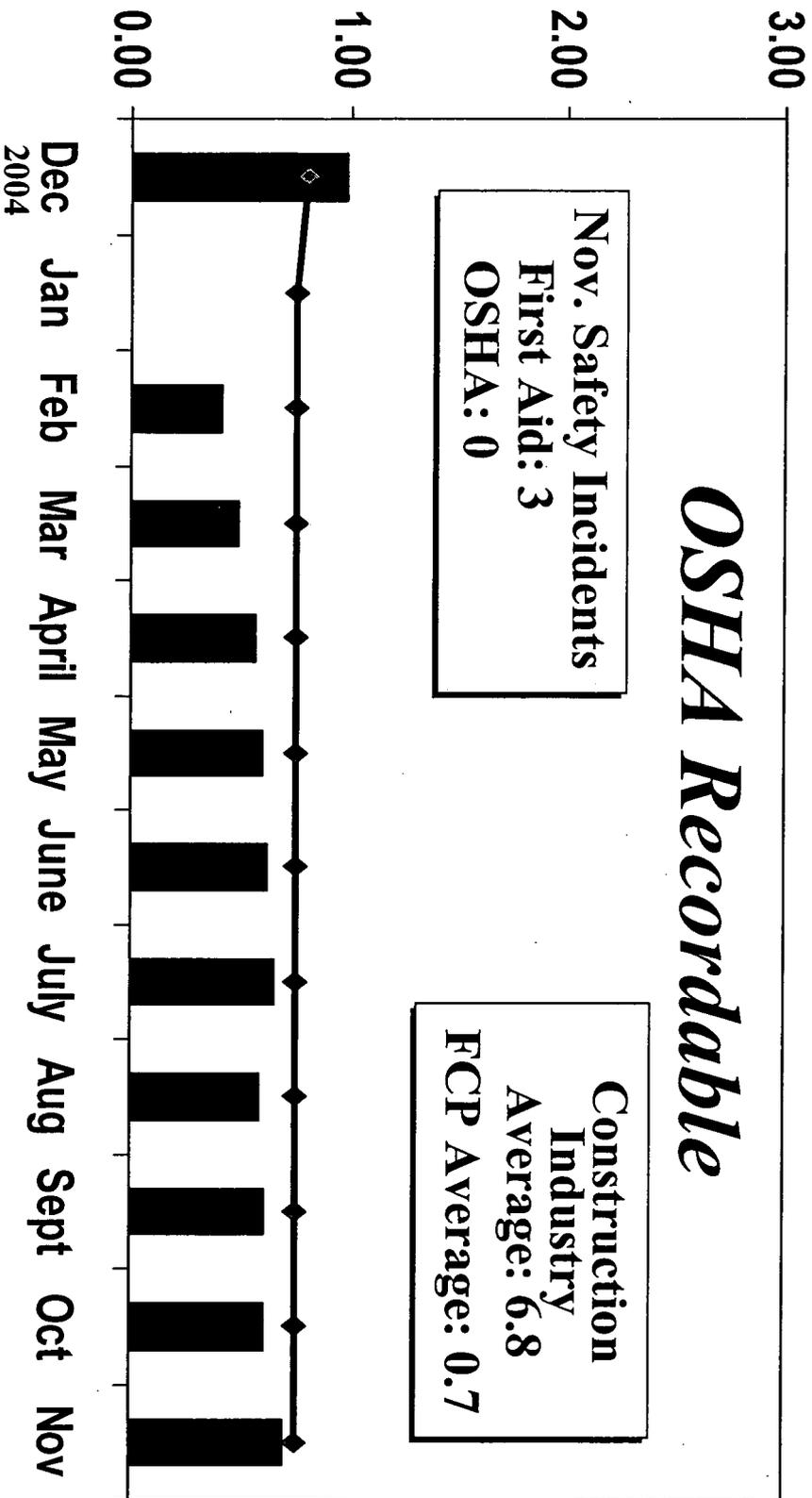
**Jane Powell**

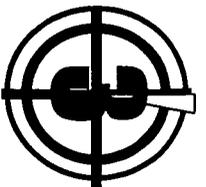
- Legacy Management



# SAFETY INCIDENCE RATES

## Countdown to Closure - Winter 2005





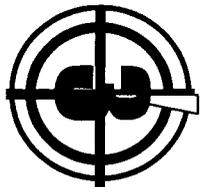
# **SAFETY INCIDENCE RATES**

## **Countdown to Closure - Winter 2005**

	<b>Fluor Fernald Self Perform</b>	<b>Operating Wage</b>	<b>Fluor Fernald &amp; Subcontractors</b>
<b>2002</b>	<b>1.74</b>	<b>2.68</b>	<b>2.06</b>
<b>2003</b>	<b>.69</b>	<b>.63</b>	<b>1.42</b>
<b>2004</b>	<b>.82</b>	<b>.55</b>	<b>.98</b>
<b>2005</b>	<b>.62</b>	<b>.37</b>	<b>.70</b>

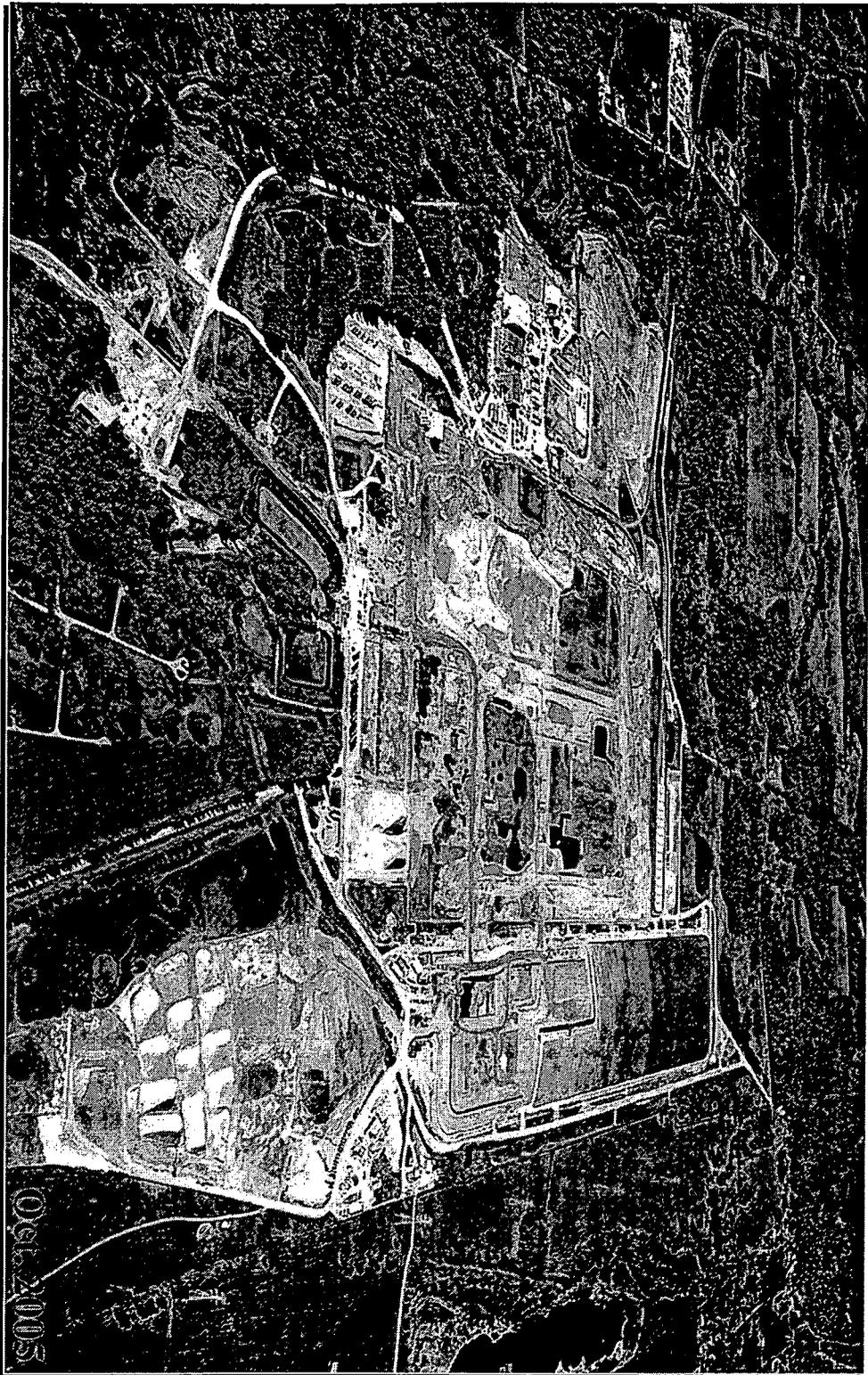
**ACCOUNTABILITY**

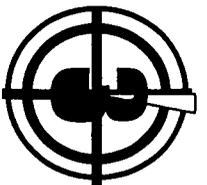
**INCIDENTS**



# FERNALD CLOSURE PROJECT

**Countdown to Closure - Winter 2005**

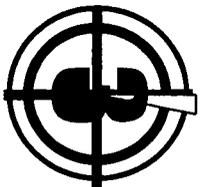




# SPACE MANAGEMENT

## Countdown to Closure - Winter 2005

<b>Action Items</b> <i>(projected completion)</i>	<b>Status</b>	<b>Issues</b>
12/05 – Vacate two Silos trailers and return them to the vendor	Completed 94 personnel relocations Eight trailer relocations on site Removed six trailers from the Silos area	

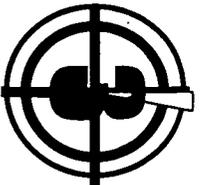


# WASTE PITS

**Countdown to Closure - Winter 2005**



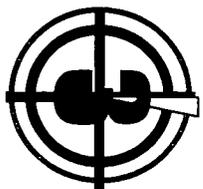
- *Excavated 1 million tons of low-level radioactive waste and transport by rail to Envirocare of Utah*



# WASTE PITS

## Countdown to Closure - Winter 2005

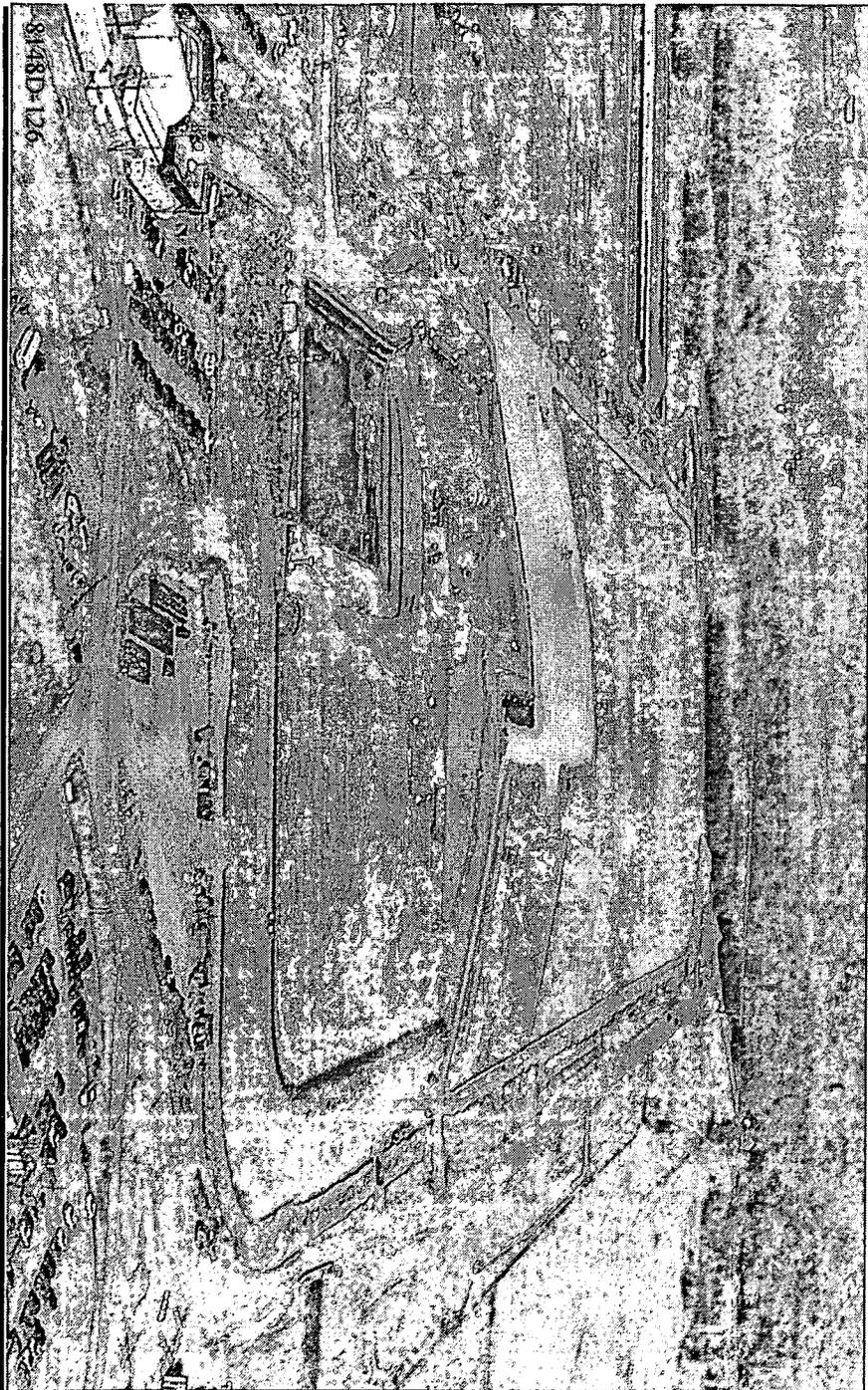
<b>Action Items</b> <i>(projected completion)</i>	<b>Status</b>	<b>Issues</b>
<b>FOOMQUETB</b>		



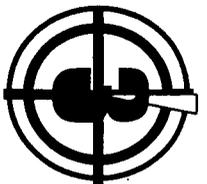
# ON-SITE DISPOSAL FACILITY

---

## Countdown to Closure - Winter 2005



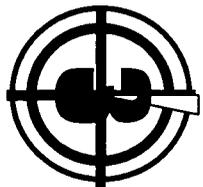
- *Design, construct and operate the 2.9 million cubic yard capacity On-Site Disposal Facility*



# ON-SITE DISPOSAL FACILITY

## Countdown to Closure - Winter 2005

Action Items <i>(projected completion)</i>	Status	Issues
06/06 - Cell 8 cap construction	Cell 1 - Complete Cell 2 - Complete Cell 3 - Complete Cell 4 - Complete Cell 5 - Complete Cell 6 - Complete Cell 7 - 95 percent filled Cell 8 - 60 percent filled  Placed over 2.75 million cubic yards of contaminated soil and debris	Weather



# SOILS

## Countdown to Closure - Winter 2005



- *Remediate and dispose of contaminated soil*
- *Certify site as “clean” and perform restoration*

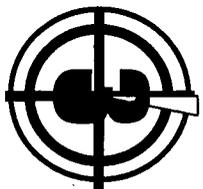


# SOILS

## Countdown to Closure - Winter 2005

<b>Action Items</b> <i>(projected completion)</i>	<b>Status</b>	<b>Issues</b>
<p>12/05 - Waste Pits and treatment facility soil excavation</p> <p>12/05 - Admin. Area excavation</p> <p>01/06 - 20 Unit trains of SP-7 soil Four trains leaving in Dec.</p> <p>05/06 - Silos footprint excavation</p>	<p>On-site soil certification: - 75 percent complete</p> <p>60 acres in certification process - (Bio-Surge Lagoon, Waste Pits 4, 5, and 6)</p>	<p>Uncertainty regarding demolition of Silos Waste Treatment Facilities schedule.</p>

6076



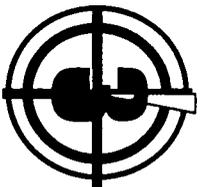
# DECONTAMINATION & DEMOLITION

---

## Countdown to Closure – Winter 2005



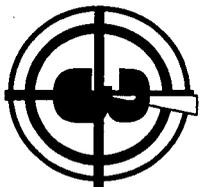
*• Dismantle 259 former production plants, support structures and associated components*



# DECONTAMINATION & DEMOLITION

## Countdown to Closure - Winter 2005

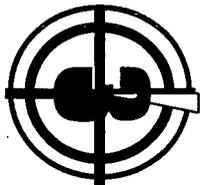
<b>Action Items</b> <i>(projected completion)</i>	<b>Status</b>	<b>Issues</b>
02/06 – Railroad (Phase 1)	Dismantled 218 of 259 buildings	Potential operational delays which could impact follow-on activities.
03/06 - Silo 3 and Treatment Facility demolition	Dismantled 119 of 179 trailers	
05/06 – Silos 1 and 2 facility demolition (Treatment, Radon Control System, Transfer Tank Area)		
05/06 – Railroad (Final phase)		



# DECONTAMINATION & DEMOLITION

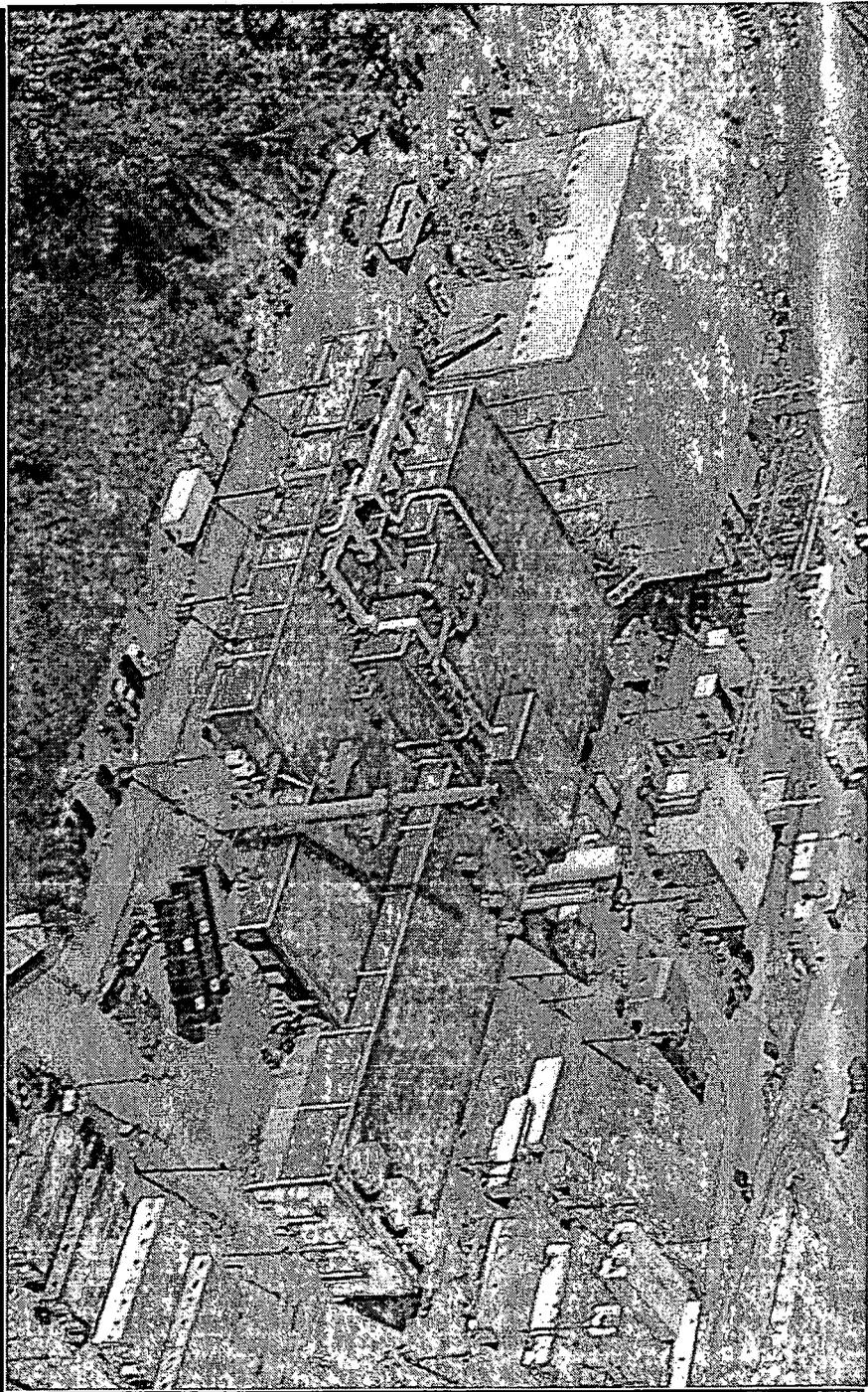
## Countdown to Closure - Winter 2005





# SILOS 1 AND 2

**Countdown to Closure - Winter 2005**



- *Stabilize 8,900 cubic yards of low-level waste, package and ship off site for disposal*

6075



# SILOS 1 AND 2

## Countdown to Closure – Winter 2005

### Action Items *(Projected completion)*

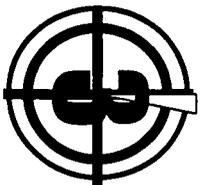
- 02/06 - Treatment operations  
(2,000 est. shipments)
- 05/06 – Facility demolition  
(Treatment, Radon Control  
System, Transfer Tank Area)

### Status

- Started treatment operations  
- 5/19/05
- Started waste shipping  
- 6/6/05
- Current daily production rate:  
Averaging 20 containers
- Weekly shipments:  
Averaging 80-90 trucks
- Filled containers to date (12/5):  
2,213 of 4000
- Shipped containers to date (12/5):  
2,086

### Issues

Potential operational delays which could impact follow-on activities.



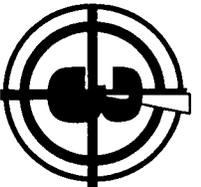
# SILO 3

## Countdown to Closure - Winter 2005



- *Remove 5,100 cubic yards of low-level waste, condition, package and ship off site for disposal*

6075



# SILO 3

## Countdown to Closure - Winter 2005

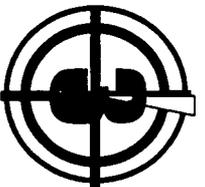
<b>Action Items</b> <i>(projected completion)</i>	<b>Status</b>	<b>Issues</b>
01/06 - Treatment operations (1,800 est. containers)  03/06 - Silo 3 and Treatment Facility demolition	Started treatment operations - 3/25/05  Started waste shipping - 4/12/05  Filled containers to date (12/3): 1,507 of 1,800  Shipped containers to date (12/3): 1,479	Heel waste removal.



# SILO 3

## **Countdown to Closure - Winter 2005**

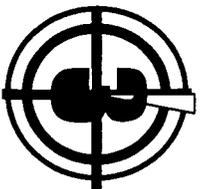
- 1500 bags of waste material have been successfully retrieved and packaged
- Approximately 300 – 350 bags of waste material remain in the silo heel
- Remaining heel consists of three types of material
  - Small quantities of dry powdery material
  - Dry, tightly compacted material
  - Hard, higher moisture content material
- Vacuuming was very successful in retrieving dry, powdery material
- A hole was cut in the east wall and the mechanical excavator was deployed
- Mechanical excavator was moderately successful at retrieving dry compacted material
- Neither vacuum nor mechanical retrieval successfully retrieves hard, higher moisture content material



# SILO 3

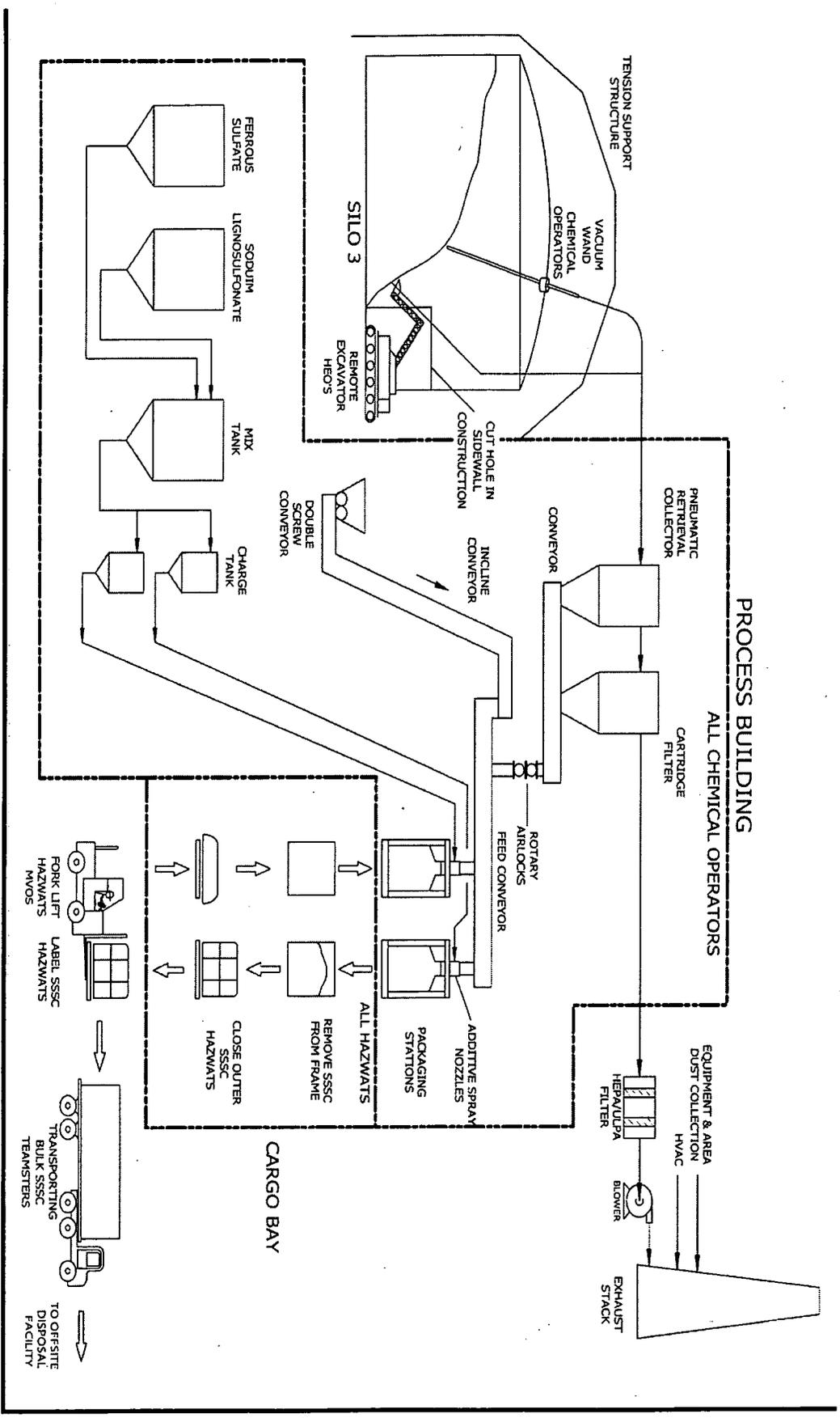
## **Countdown to Closure - Winter 2005**

- New retrieval approach to be utilized when needed for hard, higher moisture content material
  - Manned bobcat with enclosed cab
  - Ventilation system modified to direct flow to Silo / Bobcat work area
  - Breathing air supplied to Bobcat cab
  - Material retrieved with Bobcat and directly loaded into soft-sided bags
  - No moisture addition to material packaged in this manner
  - Same soft-sided bags with new inner liner
  - New liner (double 6-mil poly inner liner) drop tested to IP-2 requirements
  - Filled packages will be shipped in sea land container



# SILO 3

## Countdown to Closure - Winter 2005

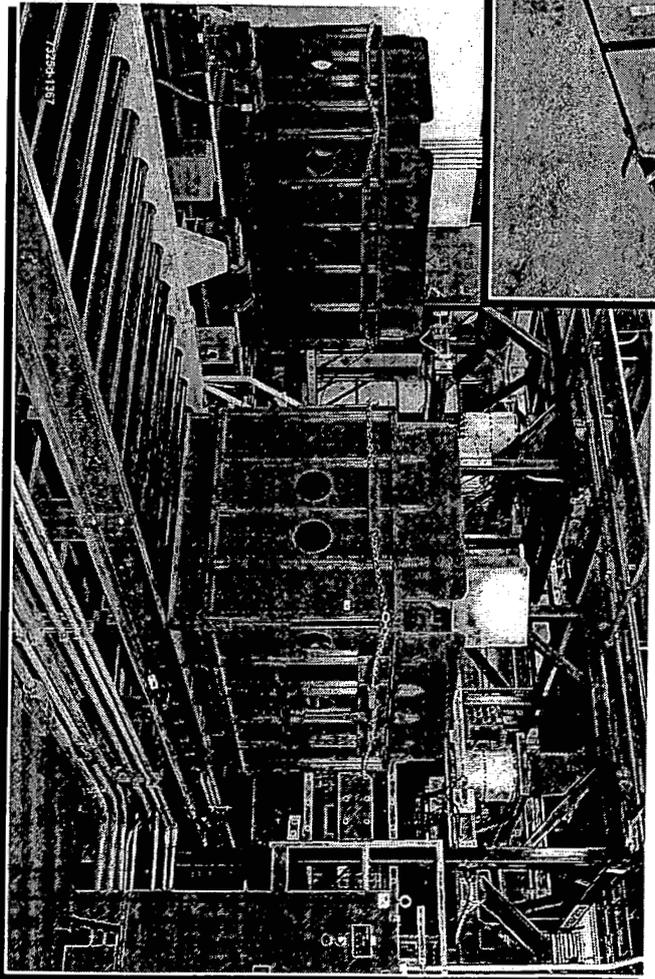
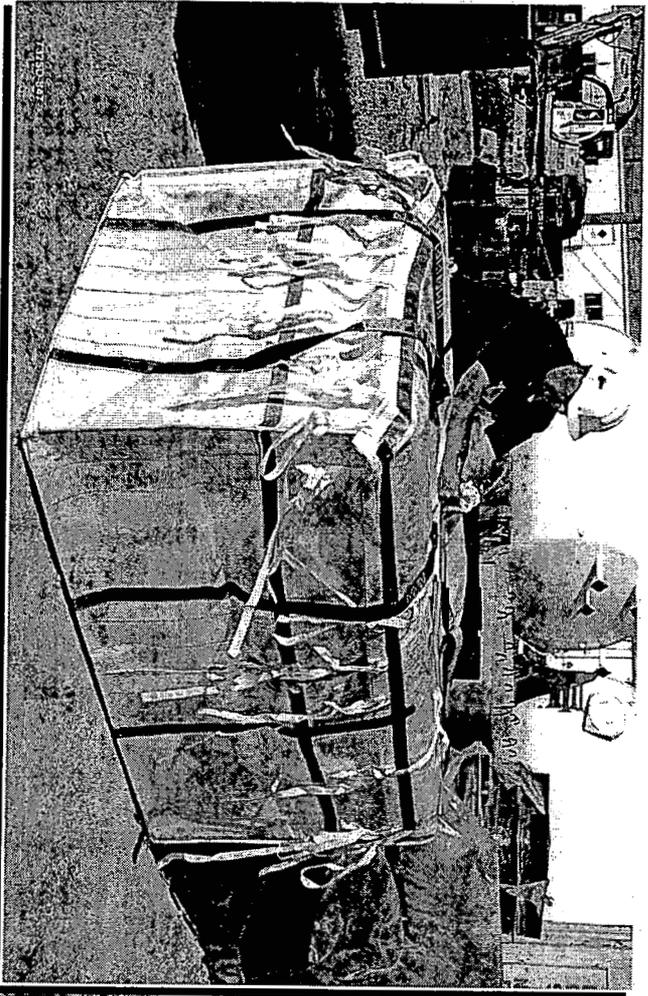


7 6076

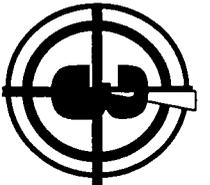


# SILLO 3

## Countdown to Closure - Winter 2005

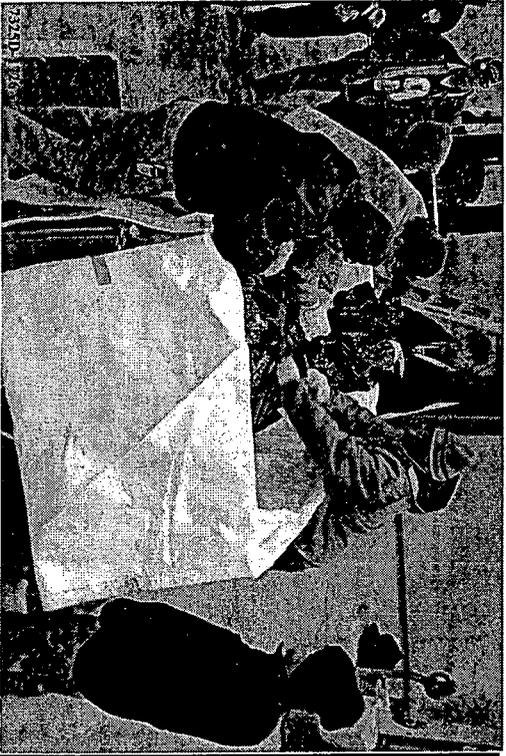
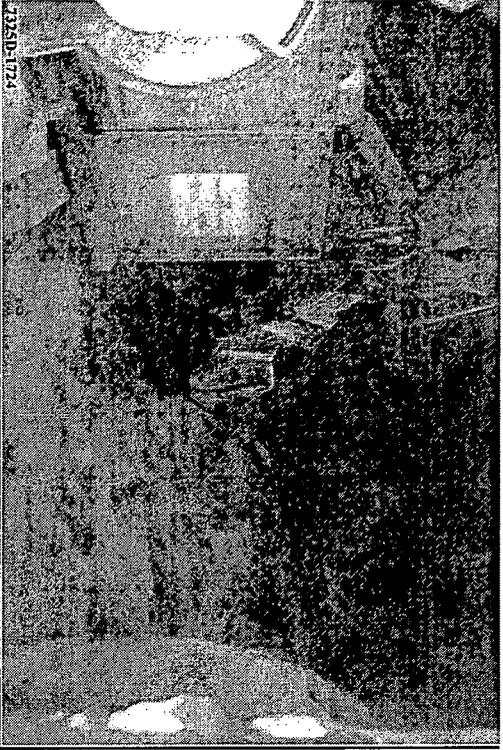


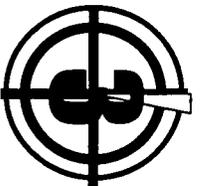
12/05



# SILO 3

## Countdown to Closure - Winter 2005





# RESTORATION

**Countdown to Closure - Winter 2005**



- *Restore or enhance the natural resources on 904 acres affected by plant operations and cleanup*



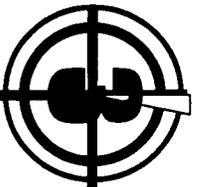
# RESTORATION

## Countdown to Closure - Winter 2005

Action Items <i>(projected completion)</i>
05/06 - Waste Pits area - 30 acres
05/06 - Production area - 130 acres
06/06 - Silos area - 10 acres
06/06 - Borrow and OSDF perimeter area - 190 acres

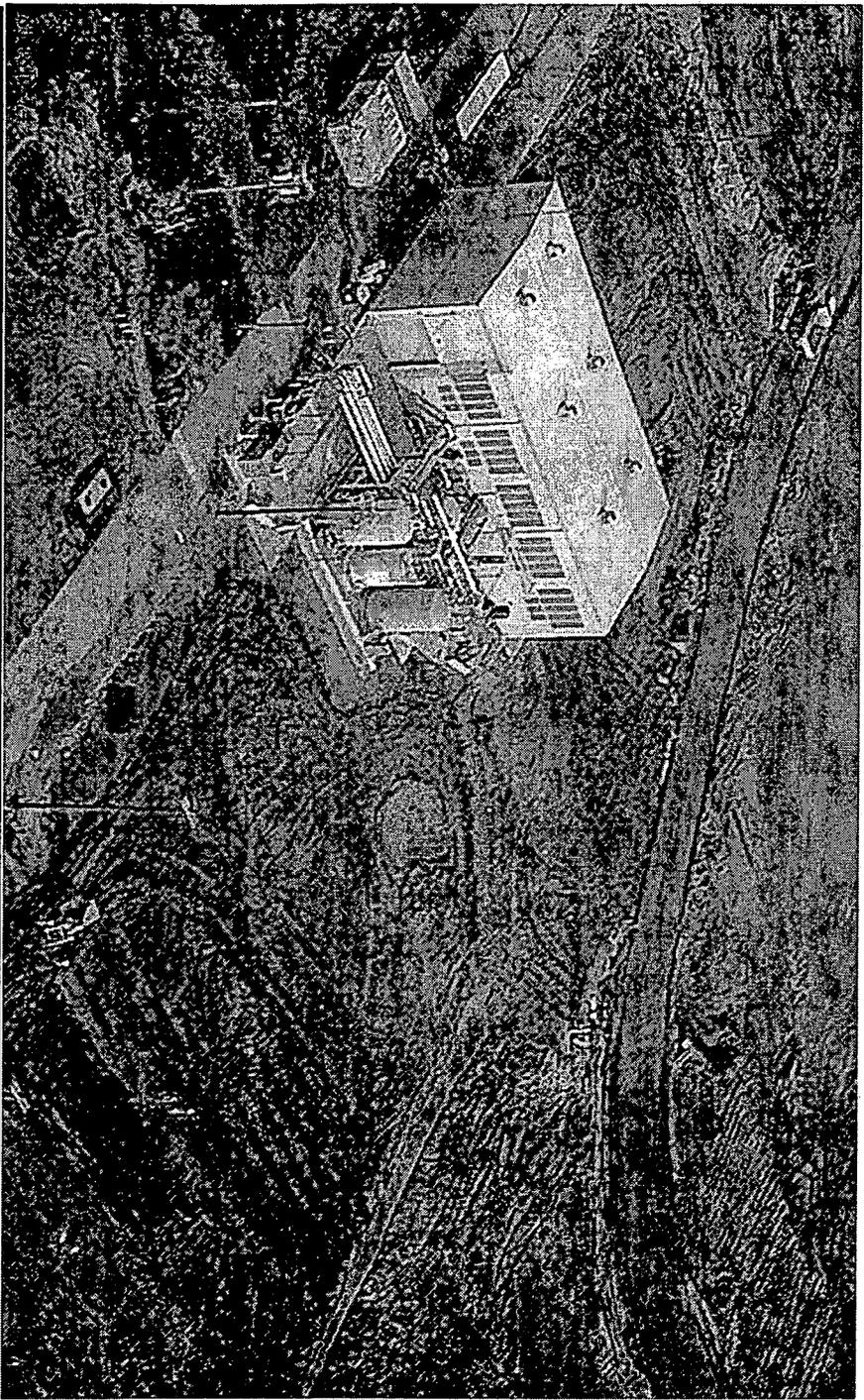
Status
Restored acreage: 520
In progress acreage: 55

Issues
Remaining areas to be restored in the Spring after soil certification is completed.

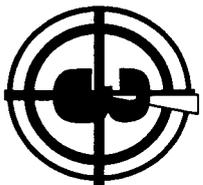


# AQUIFER AND WASTEWATER

**Countdown to Closure - Winter 2005**

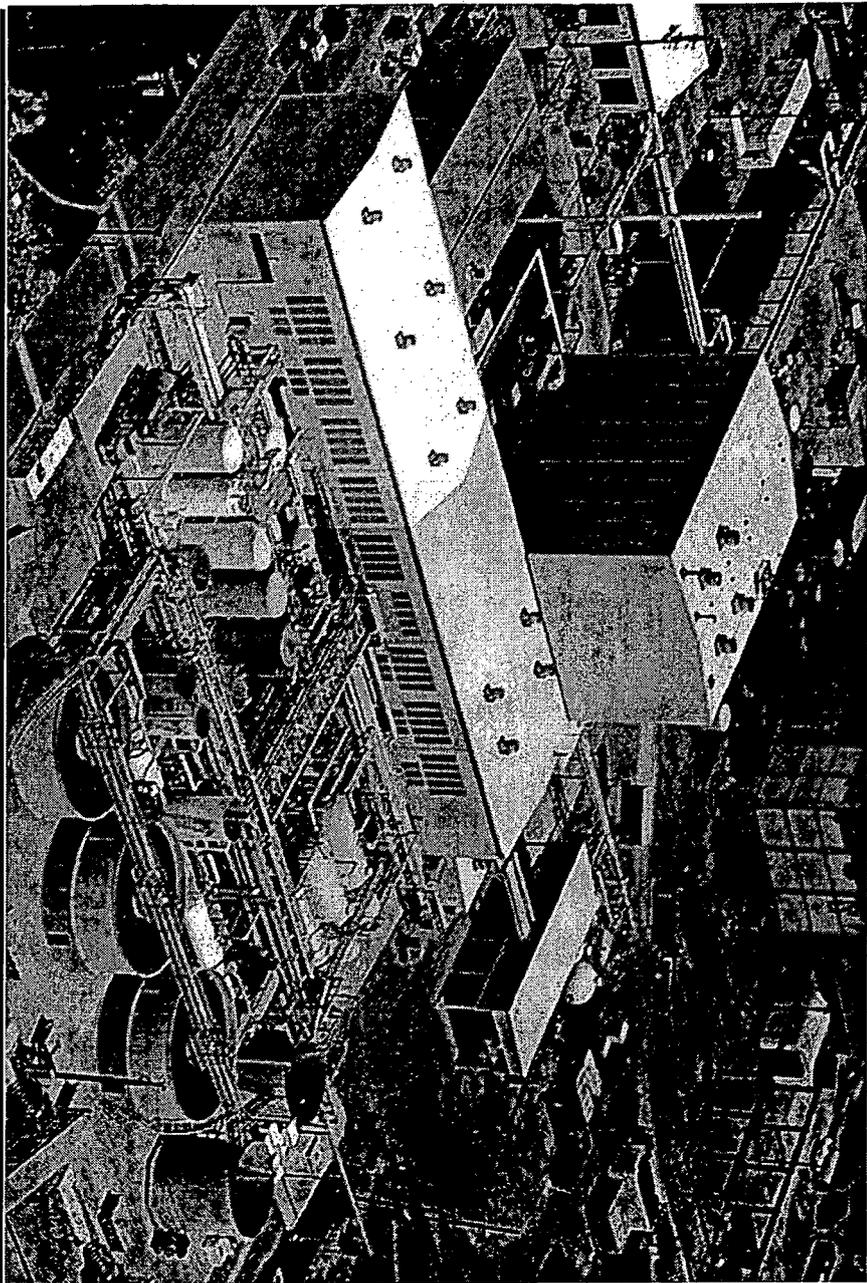


- *Remediate approximately 255 contaminated acres of the Great Miami Aquifer*

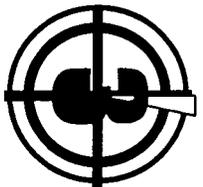


# AQUIFER AND WASTEWATER

**Countdown to Closure - Fall 2005**



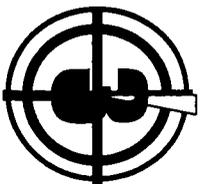
*• Remediate approximately 255 contaminated acres of the Great Miami Aquifer*



# AQUIFER AND WASTEWATER

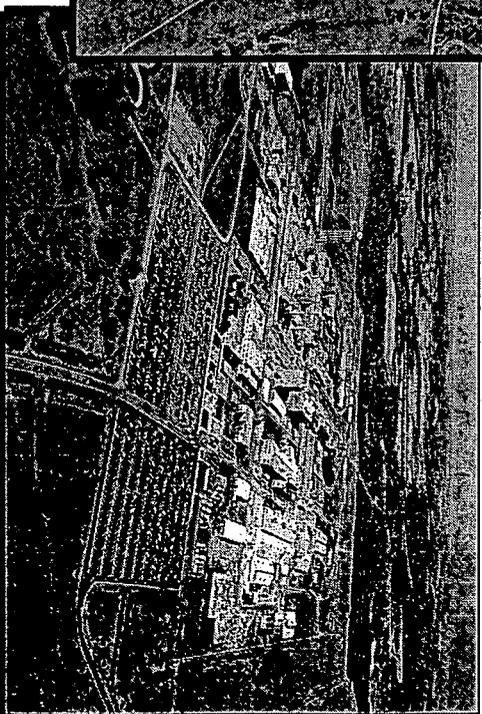
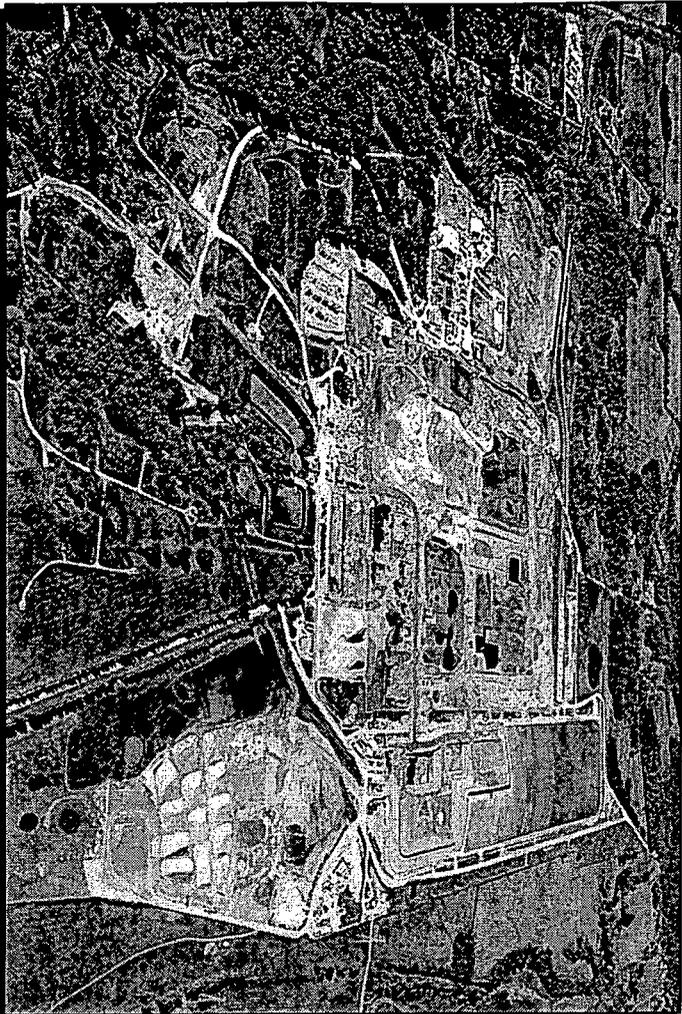
## Countdown to Closure - Winter 2005

<b>Action Items</b> <i>(projected completion)</i>	<b>Status</b>	<b>Issues</b>
12/05 – CAWWT Backwash Basin operational	Extracted more than 18 billion gallons of groundwater	Working with USEPA and OEPa to finalize the design of the Waste Storage Area.
01/06 – Post-Closure Operations and Maintenance Plan to EPA/OEPA	Treated more than 11 billion gallons of water	Working with USEPA and OEPA to determine if/how site drainages can be utilized to enhance clean water infiltration to the aquifer in the South Field and Waste Storage Areas.
01/06 – EPA approval of Aquifer Restoration Infrastructure to be in place at closure  01/06 – Begin construction of remaining above ground aquifer restoration infrastructure (final well field pipelines electrical and well house)	Removed 7,030 pounds of uranium	



# LEGACY MANAGEMENT

**Countdown to Closure - Winter 2005**



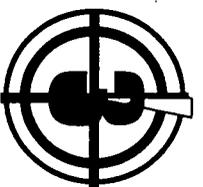
# EM to LM Transition

**Jane Powell,**

DOE-LM Fernald Site Manager

8426.29 12/05

6076



# LEGACY MANAGEMENT

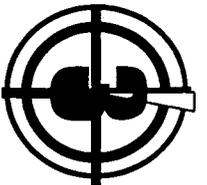
---

**Countdown to Closure - Winter 2005**

## **Mission**

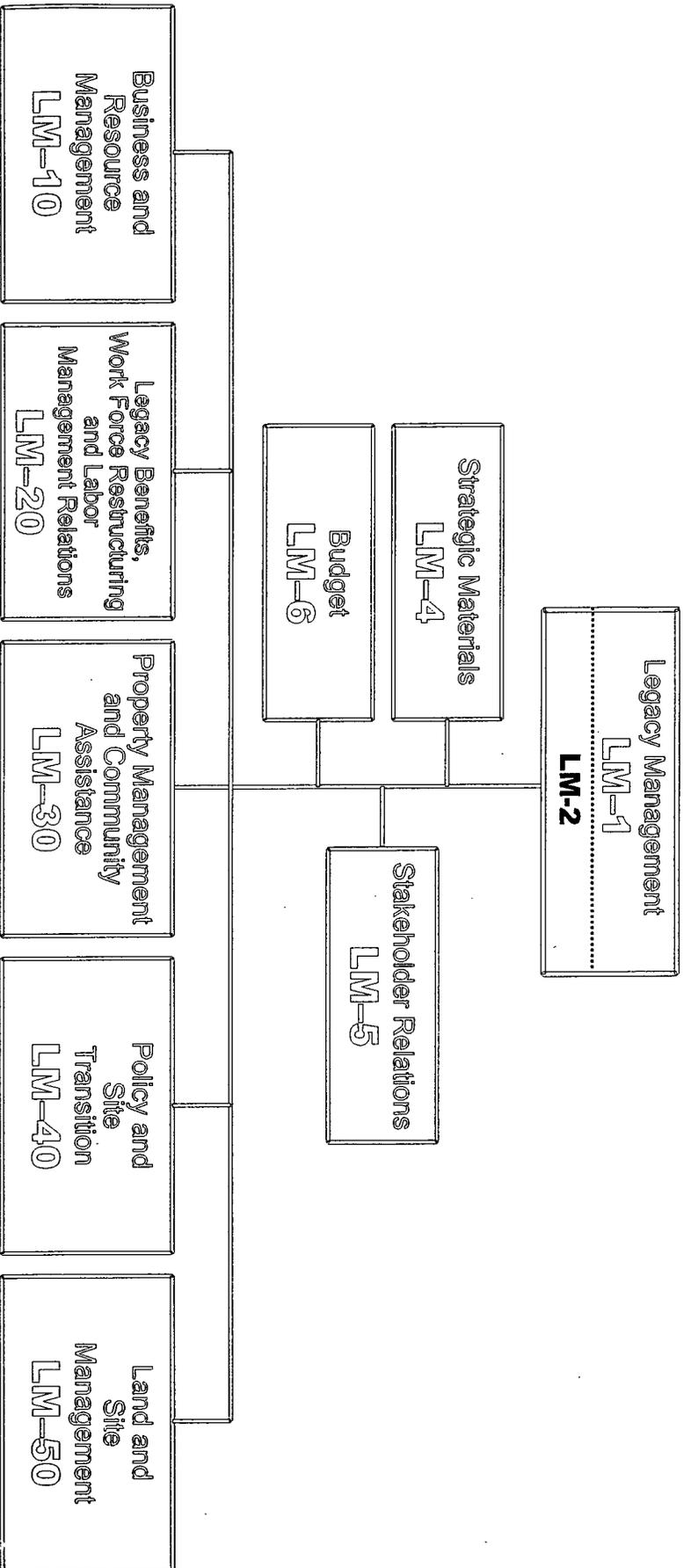
**To manage DOE's post-closure responsibilities and ensure the protection of human health and the environment.**





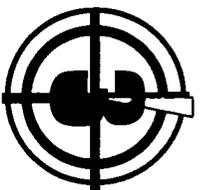
# LEGACY MANAGEMENT

## Countdown to Closure - Winter 2005



**LM-1: Mike Owen, Director**

**LM-2: Dave Geiser, Deputy Director**



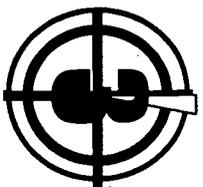
# LEGACY MANAGEMENT

---

**Countdown to Closure - Winter 2005**

## Strategic Goals

- **Protect human health and the environment through effective and efficient long-term surveillance and maintenance.**
  - Implement Legacy Management and Institutional Controls Plan
  - Involve the public in planning and decisions
  - Ensure regulatory requirements are met
- **Preserve, protect, and make legacy records and information accessible.**
  - Maintain records required for legacy management mission
  - Provide public access and retrieval of requested materials



# LEGACY MANAGEMENT

---

## **Countdown to Closure - Winter 2005**

### **Strategic Goals**

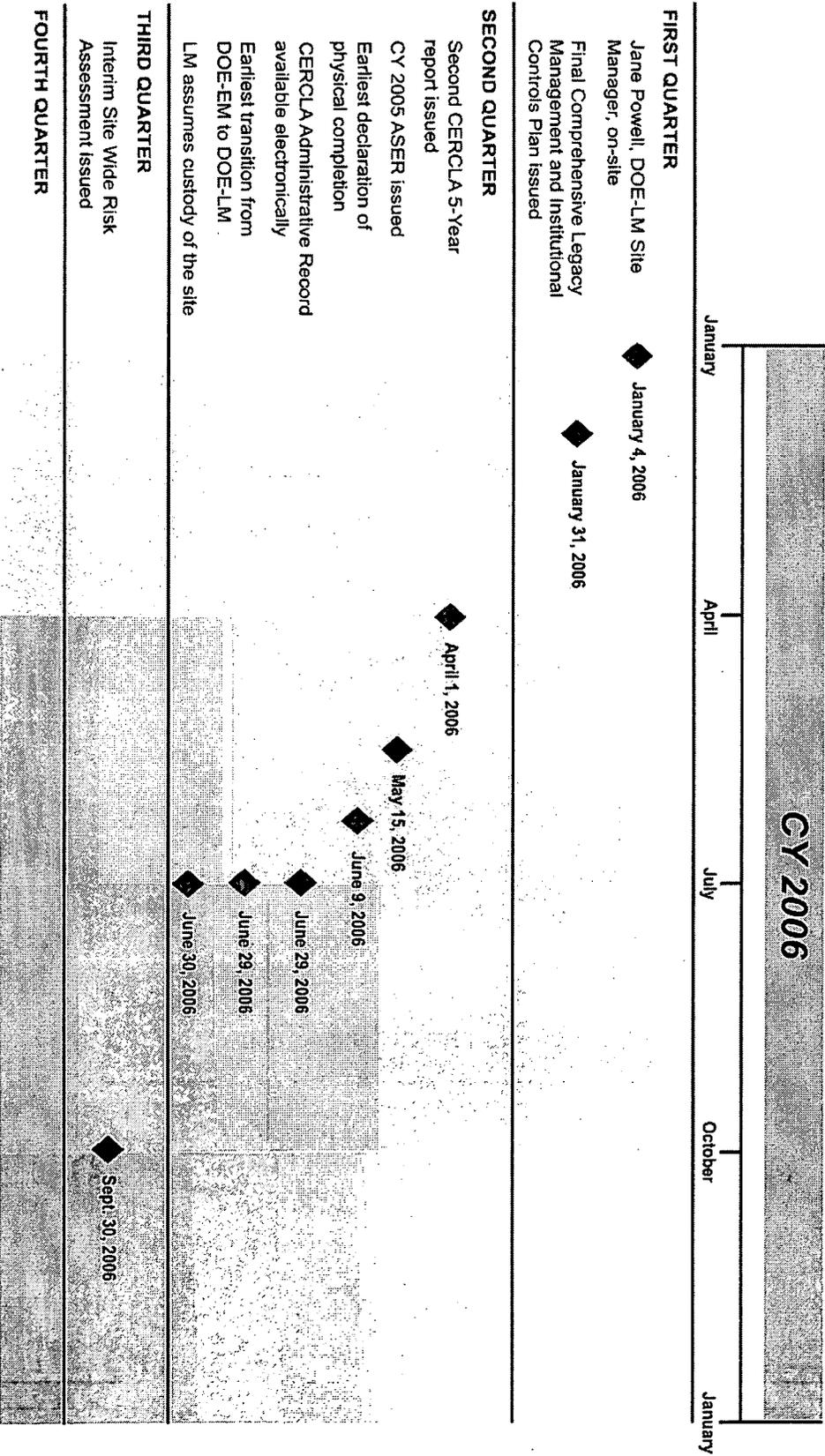
- **Support an effective and efficient work force structure to accomplish department missions and ensure contractor worker pension and medical benefits.**
  - Provide impacted workers with access to information
  - Retain pertinent technical and management expertise
- **Manage legacy land and assets, emphasizing protective real and personal property reuse and disposition.**
  - Promote beneficial reuse of the Fernald site
  - Establish legacy management contractors for ongoing site responsibilities

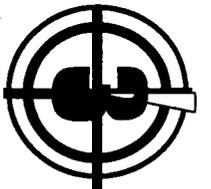


# LEGACY MANAGEMENT

## Countdown to Closure - Winter 2005

### Fernald CY 2006 Timeline





# LEGACY MANAGEMENT

## Countdown to Closure - Winter 2005

### Restoration/Post-Closure Comparisons

	DOE – Environmental Management Restoration Mission - 2005	DOE – Legacy Management Post-Closure Mission - 2007
<b>DOE Oversight</b>	Office of Environmental Management Johnny Reising, Site Manager	Office of Legacy Management Jane Powell, Site Manager
<b>Annual Budget</b>	\$324 Million	\$7-12 Million
<b>Staffing</b>	1,100 employees	20-30 employees
<b>Contractor</b>	Fluor Fernald, Inc.	S.M. Stoller Corp.
<b>Public Access</b>	1,050 acres restricted	150 acres restricted
<b>Public Use</b>	8 acres - Eco Park	900 acres undeveloped park
<b>Cleanup Documents</b>	Five Records of Decision – Four complete	Finish remaining Record of Decision – (Aquifer restoration)
<b>Public Involvement</b>	FCAB – FRESH – FLH – Outreach	ISO – FRESH – FLH – Outreach
<b>Information Access</b>	Off-site PEIC - Website	On-site Multi-Use Education Facility-Website
<b>Public Meetings</b>	FCAB meetings – Quarterly Countdown to Closure meetings	ISO Quarterly meetings and as needed
<b>Regulators</b>	Oversight/Compliance	Same Oversight – reduced meetings

6076

**Countdown to Closure #3**  
**December 6, 2005**

6076

**PLEASE SIGN IN**

**Name:** Sue Walpole

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Gary Stegner

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Jim Colleli

**Affiliation:** Ohio Dept / Health

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Jeff Wagner

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Johnny Reising

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

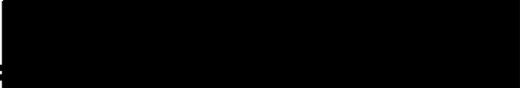
**Countdown to Closure #3**  
**December 6, 2005**

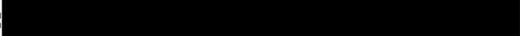
6076

**PLEASE SIGN IN**

**Name:** Marvin + Nancy Poe

**Affiliation:** Township Trustee

**Address:** 

**Phone #:** 

**E-mail address:** \_\_\_\_\_

**Name:** Lisa Crawford

**Affiliation:** PKS&H

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Dennis Carr

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Carl Jacobson

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

**Name:** Frank Benesh

**Affiliation:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_

**E-mail address:** \_\_\_\_\_

# Countdown to Closure #3

6076

## Public Meeting

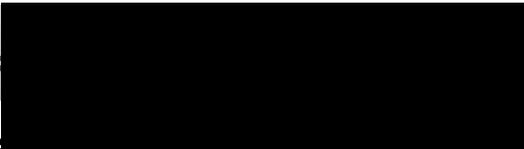
December 6, 2005

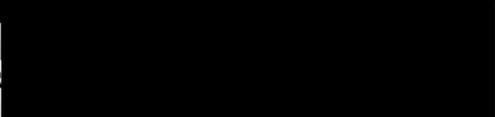
6:30 p.m. Morgan Township Community Center

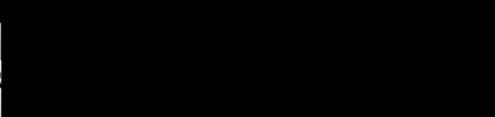
### PLEASE SIGN IN

Name: DICK KASPARSK

Affiliation: LOCAL RESIDENT

Address: 

Phone #: 

E-mail address: 

Name: Michelle Waller

Affiliation: OHIO EPA

Address: \_\_\_\_\_

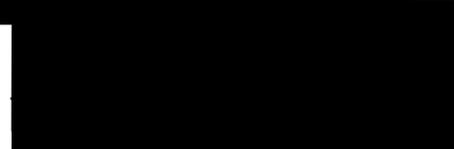
Phone #: \_\_\_\_\_

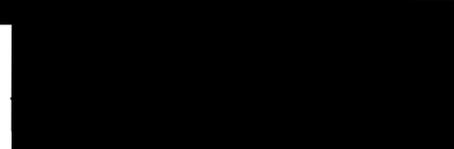
E-mail address: \_\_\_\_\_

Name: PETER STURDEVANT

Affiliation: HAMILTON CO

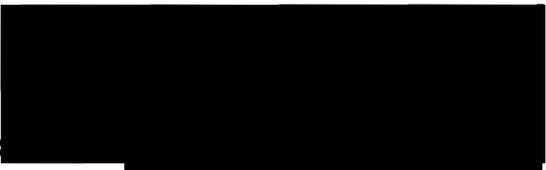
Address: 

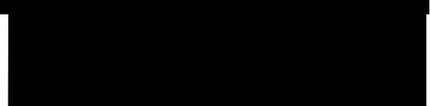
Phone #: 

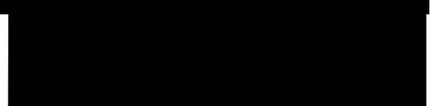
E-mail address: 

Name: CHRIS DOLE

Affiliation: CROSBY TWP.

Address: 

Phone #: 

E-mail address: 

Name: Edwa Yousem

Affiliation: FRESH

Address: \_\_\_\_\_

Phone #: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Name: Jim Innis

Affiliation: Crosby Tp. Hist. Soc./FLH

Address: \_\_\_\_\_

Phone #: \_\_\_\_\_

E-mail address: \_\_\_\_\_



*U.S. Department of Energy  
Ohio Field Office  
Fernald Closure Project*

**Remedial Design Fact Sheet For Operable Unit 4  
Silo 3 Remedial Action – Contingency Packaging  
Approach**

**December 2005**

Overview

This Remedial Design Fact Sheet documents planned contingency actions necessary for completion of the packaging and disposal of Silo 3 material. The contingency approach involves the option for utilizing an alternate retrieval and packaging approach to the pneumatic and mechanical retrieval and packaging approaches outlined in the existing Remedial Design for Silo 3. The alternate approach will be utilized as necessary, in combination with the existing pneumatic and mechanical retrieval and packaging systems, to complete the retrieval, packaging, and offsite disposal of Silo 3 material. The contingency approach consists of:

1. A manned, enclosed cab, front-end loader will be utilized to retrieve material from Silo 3 and load it directly into a disposal container in the excavator room.
2. The direct loading method will preclude the addition of the liquid additive solution used as part of the existing packaging process to reduce the dispersability of the material. As required by the ROD Amendment for Silo 3, the double packaging configuration described below will ensure safe and compliant transportation of the Silo 3 material without the addition of the additive solution.
3. The package will consist of a 96ft<sup>3</sup> double layer, coated woven polypropylene soft-sided package, with a double 6-mil poly liner rather than the sealed 30-mil PVC inner liner. The new soft-sided package configuration has been tested (drop and stacking tests) to verify compliance with Department of Transportation (DOT) IP-2 requirements.

The soft-sided packages will be closed as currently done, loaded into an overpack container (4-8

packaged per overpack), and loaded onto a flatbed truck for transportation to Envirocare.

An alternate package configuration, consisting of a 96ft<sup>3</sup> soft-sided package with a single inner liner, may also potentially be used. These packages would be closed and loaded into an IP-2 certified Sea/Land container for shipment to Envirocare.

Based upon evaluation of the characteristics of the material being encountered in the silo, the existing pneumatic and mechanical retrieval and packaging systems will be continue to be utilized when possible. The contingency approach outlined below is intended for use as a third option for retrieval and packaging of material that does not lend itself to the other two methods. Once the contingency option is implemented, Silo 3 operations management will retrieve and package the remaining Silo 3 material by selecting from the three available methods (pneumatic retrieval, mechanical retrieval, or contingency direct loadout) based upon observation and assessment of the characteristics of the material being encountered in the silo.

Background

More than 1500 containers of Silo 3 material have been successfully retrieved, conditioned, and packaged to date. Based upon observations of the inside of Silo 3 since opening the east wall, up to 350 additional containers are estimated to be required to package the remaining Silo 3 material.

The material encountered adjacent to the east wall of the silo since opening the silo wall has been different in character than the material processed previously, consisting of a combination of a mixture of hard-chunky material and moist, mud-like material. This combination of material has been very difficult to retrieve, leading to problems with plugging of retrieval equipment and significantly increasing the effort, time, and personnel exposures associated with retrieving the material using the existing system.

Basis for the Change

The potential for operational difficulties during retrieval and packaging of Silo 3 material, and resulting potential need for implementing an alternate approach, was recognized during development of the current Silo 3 remedy. The ROD Amendment for Silo 3 specifies that "Under the conditions where the costs

6076

and/or projected worker exposures associated with the application of one or more of the additives become disproportionate to the potential benefits gained...” DOE would implement a contingency approach, such as a double-packaging system, to ensure safe transportation and disposal of the Silo 3 material in lieu of conditioning with the liquid additive mixture.

Based upon the physical characteristics of the material currently being encountered near the bottom of Silo 3, and the impact of these characteristics on the pneumatic and mechanical retrieval systems, the change documented above is necessary to ensure worker safety, minimize personnel exposures, and facilitate timely completion of the Silo 3 remedy, and is consistent with the current remedy for Silo 3.

For additional information concerning this change, please contact Gary Stegner, DOE – Ohio Field Office Public Affairs at (513) 246-0074, or e-mail at [gary.stegner@ohio.doe.gov](mailto:gary.stegner@ohio.doe.gov). This Fact Sheet, and other documentation concerning implementation of the Silo 3 remedy, is available on the Fernald Closure Project web site ([www.fernald.gov](http://www.fernald.gov)) or at the Fernald Closure Project Public Environmental Information Center, 690 East Crescentville Road, Cincinnati Ohio 45246, (513) 648-5051.