Progress at the Paducah Project

Update to the

Paducah Citizens Advisory Board

November 15, 2007

DUF_6 Conversion Facility

- Conversion building structure essentially complete
- Key process equipment installed
- Now working on electrical system, piping, and instrumentation

DUF_6 Conversion Facility

- Construction completion scheduled for February 2008
- Testing and readiness review scheduled to begin in spring 2008
- Introduction of depleted UF_6 scheduled to begin in late 2008/early 2009
- 175 new jobs; operations staff hiring already underway

West End Smelter D&D

- Completed furnace asbestos sampling
  - Verified that demolition will not be affected by presence of asbestos
- Structure demolition to begin in late January

A member of the D&D team stands in front of one of the furnaces.

Inactive Facility D&D - West End Smelter

- Work to be completed before demolition begins includes the following:
  - Interior office removal
  - Removal of two furnaces

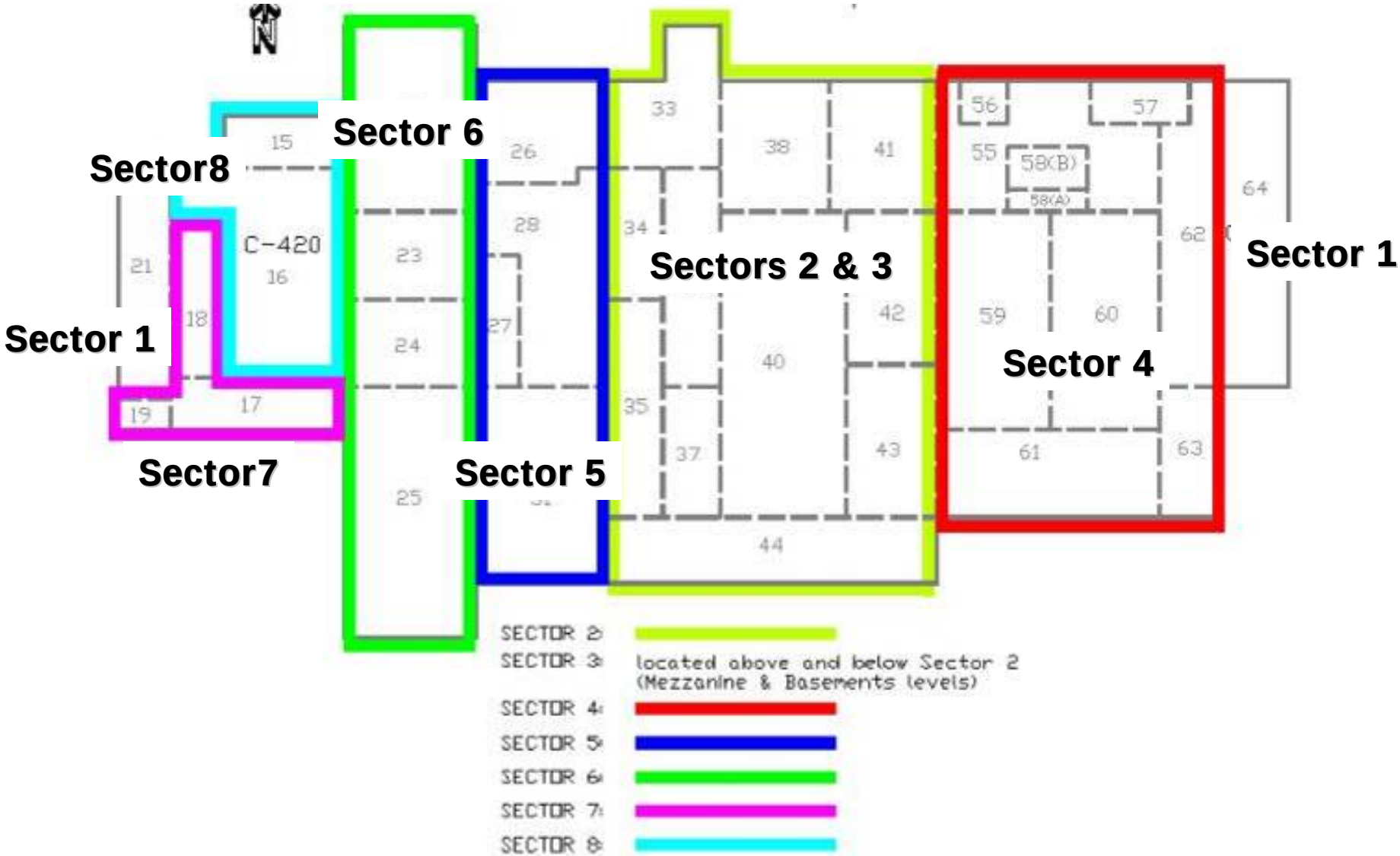
A cutting torch is used to break up one of the furnaces.

C-410 D&D

- Sector 4 asbestos abatement nearly completed
- Now moving into Sector 5
- Shipped for disposal approximately one semi-trailer equivalent of LLW asbestos and bulk product PCB waste

Asbestos removal continues in C-410.

C-410 D&D


Sector8
Sector 6
Sector 1
Sectors 2 & 3
Sector 1
Sector 4
Sector7
Sector 5
C-420
15
26
33
38
41
56
57
55
58(B)
58(A)
64
21
16
23
28
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17
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61
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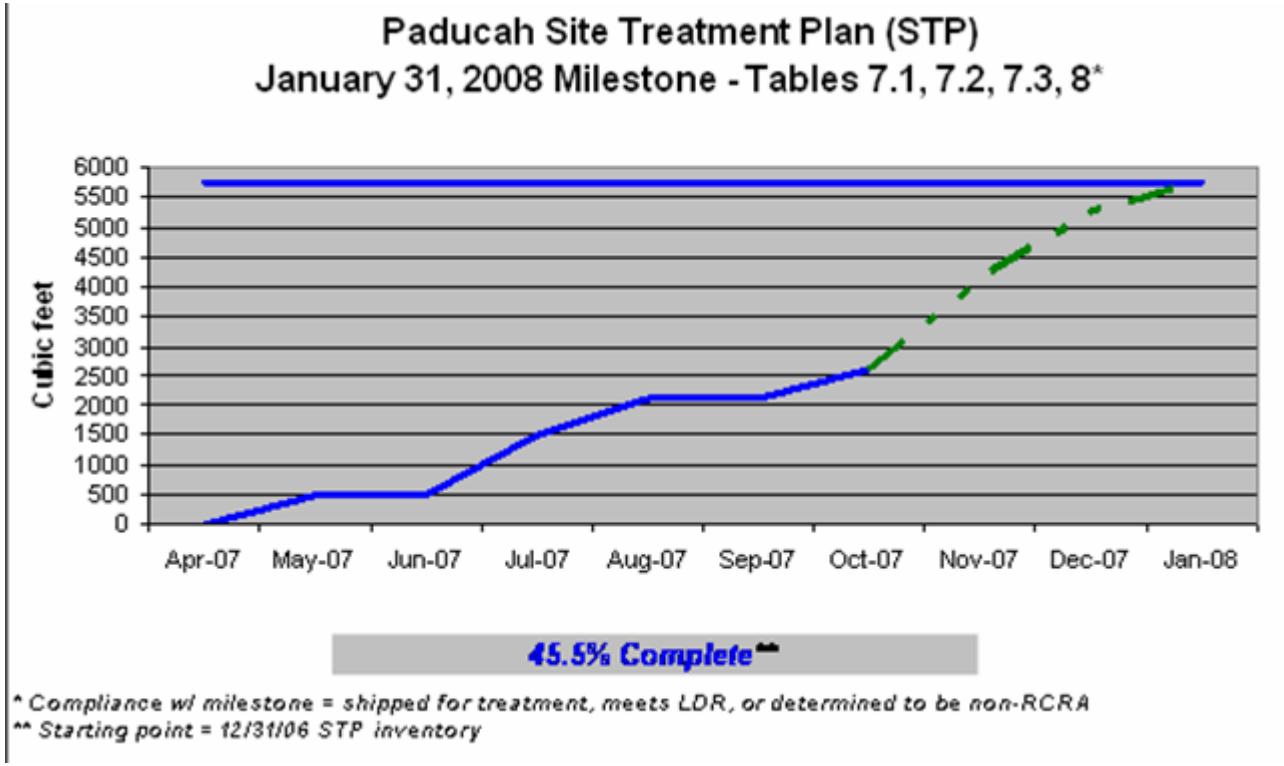
44
SECTOR 2:
SECTOR 3:
located above and below Sector 2
(Mezzanine & Basements levels)
SECTOR 4:
SECTOR 5:
SECTOR 6:
SECTOR 7:
SECTOR 8:

Site Treatment Plan Milestone

- Site Treatment Plan requires wastes to be processed by Jan. 31, 2008
  - 5,745 ft^3 in 390 containers in 12/31/06 inventory



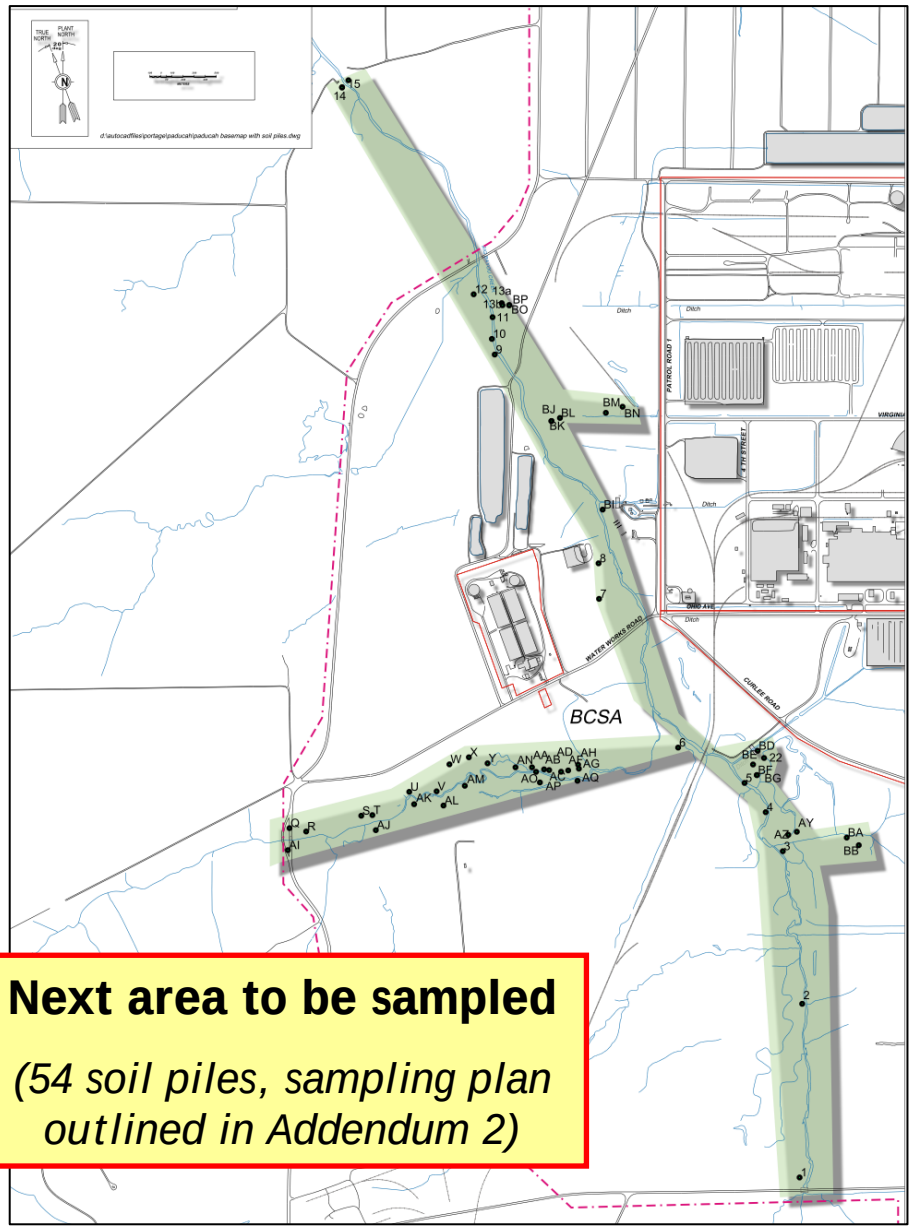
- To meet milestone, hazardous wastes must be treated and/or shipped
- Project is on schedule

Site Treatment Plan Milestone

Above, waste is packed for shipment to a treatment facility; left, waste water that is part of the STP milestone is treated before being discharged.

- Treatment by one or more of the following:
  - Macroencapsulation
  - Thermal treatment
  - Stabilization
  - Carbon filter
  - Chemical oxidation
  - Neutralization
- Waste water treated on-site; remainder shipped to off-site facilities for treatment

Other Project News



Next area to be sampled

(54 soil piles, sampling plan outlined in Addendum 2)

- Site Management Plan
  - 2007 SMP
  - EPA comments for 2008 SMP received 11/2/07
  - DOE requesting 60-day extension to submit 2008 SMP to allow time for more discussion
- Soil/Rubble Area Sampling
  - Awaiting final regulatory approval of Addendum 1-A sampling plan (sampling completed in July)
  - Additional sampling plans will follow approval

Other Project News

- Surface Water EE/CA
  - EPA comments on Site Investigation received 11/5/07
  - D1 EE/CA currently scheduled for submittal to Kentucky and EPA in January 2008
- C-400 90% Design
  - Responding to EPA and Kentucky comments
  - DOE will ask for an extension to revise document; D2 projected for submittal to Kentucky and EPA in February 2008

Lines are run to power the C-400 source reduction.

DOE Portsmouth / Paducah Project Office

PADUCAH GASEOUS DIFFUSION PLANT
CITIZENS ADVISORY BOARD

111 Memorial Drive • Paducah, Kentucky 42001 • (270) 554-3004 • PaducahCAB@bellsouth.net • www.pgdpcab.org

Paducah Gaseous Diffusion Plant Citizens Advisory Board Meeting Minutes
November 15, 2007

The Citizens Advisory Board (CAB) met at the CAB office in Paducah, Kentucky, November 15, 2007, at 6 p.m.

Board members present: John Anderson, Allen Burnett, Judy Clayton, Shirley Lanier, Bobby Lee, John Russell and Jim Smart

Board members absent: Elton Priddy and Don Swearingen

Board Liaisons and related regulatory agency employees: Brian Begley, Mike Clark, Edward Winner, Kentucky Division of Waste Management (KDWM); David Williams, U.S. Environmental Protection Agency (EPA); and John Volpe, Kentucky Radiation Health Branch (RHB)

Deputy Designated Federal Official (DDFO): Reinhard Knerr

DOE Federal Coordinator: Mitch Hicks

U.S. Department of Energy (DOE) related employees: David Ashburn, Rich Bonczek, Russ Boyd, Tracey Brindley, Yvette Cantrell, Kim Crenshaw, Bruce Gardner, Guy Griswold, Jerry Mayes, Steve Manning, Eric Roberts, Scott Smith, Joe Tarantino and Barry Tilden

Public: Dustin Blankenship, Jeremy Mathis, Gary Vander Boegh and Kelly Vaughan

Agenda

Mayes asked for modifications to the proposed November agenda. **The Board approved the agenda as submitted.**

Minutes

Mayes asked for modifications to the draft September minutes. **The Board approved the minutes as submitted.**

Deputy Designated Federal Official Comments

Knerr provided project updates to the Board. The presentation and the monthly project updates are available on the CAB Website at www.pgpdcab.org. Questions and answers (paraphrased) appear below.

Questions/Comments	Answers
Burnett: Is the Surface Water Operable Unit (SWOU) Engineering Evaluation/Cost Analysis (EE/CA) behind schedule?	**Knerr:** The EE/CA is currently scheduled for submittal to Kentucky and EPA in January 2008. It could be submitted in the November or December 2007 timeframe if the Site Investigation/Baseline Risk Assessment is approved by EPA.
Smart: What were EPA and Kentucky's major issues on the C-400 90% Design?	**Brindley:** Issues include installation of additional monitoring wells and enhancement of monitoring during and at the end of the process. Other issues include considering a phased implementation of the Electrical Resistance Heating (ERH) System, when the goal of asymptosis will be met and indicators used to meet the goal.
Burnett: Will the schedule change due to implementation of the comments from the Independent Review Team, Kentucky and EPA?	**Knerr:** The biggest impact on schedule will be the phased implementation. There are three distinct source areas for the C-400 Building. The ERH system will be installed for the two smaller source areas. The electrodes will be installed to demonstrate how the deeper boring electrodes will interact. This will cause a 3-4 month delay and have a $1.7 million cost increase. The benefit is expected to be improved design to treat the larger source area.
Lee: What is the timeline for the first phase of implementation?	**Knerr:** Installation will begin in May 2008 and operations will begin in December 2008. The first phase of installation will stay on schedule. The conceptual plan may change.

Federal Coordinator Comments

The projects updates have been redesigned. Comments and suggestions for improvement are encouraged. The CAB commended DOE and Paducah Remediation Services (PRS) on the new format and document schedule.

Liaison Comments

Kentucky Division of Waste Management

Winner represented the Kentucky Division of Waste Management with the following comments:

- Kentucky has approved the soil pile sampling plan.
- The 2007 Site Management Plan (SMP) has been approved and Kentucky is reviewing the 2008 SMP and the Risk Methods document.
- Kentucky approved the Surface Water Site Investigation/Baseline Risk Assessment (SI/BRA).
- Kentucky continues to work on the necessary steps to receive a "Yes" to the Government Performance Results Act (GPRA) milestone of having human health exposures under control.

U.S. Environment Protection Agency

Williams represented the EPA with the following comments:

- EPA has sent DOE significant comments on the Surface Water SI/BRA.
- The Southwest Plume Site Investigation document is being reviewed by the EPA legal department.
- Comments were sent to DOE on the 2008 SMP.
- EPA wants to ensure that DOE agrees on the understanding and interpretation of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the National Contingency Plan that govern the environmental cleanup at the Paducah facility. EPA has questions on some of the documents that are being reviewed. EPA can no longer allow cleanup standards to be based at the property boundary; it must take place at the source of the contamination. After reviewing past documents, comments were made to help clarify EPA's position. DOE, EPA, and Kentucky will meet the first week of December to discuss the issue.

Regarding EPA's position on required treatment based on contamination levels at the source rather than at the boundary, Burnett asked if the meeting in December is to establish EPA's position or will there be negotiation with Kentucky and DOE. Williams said it is not a negotiation. EPA head legal has established their interpretation of CERCLA and cleanup needs to be attempted at the source. There have been recent legal rulings in which EPA was challenged due to not requiring facilities to cleanup at the source. This has been allowed in the past due to interim and remedial actions. EPA Headquarters has made the decision that

this can no longer be allowed to happen and the feasibility studies for the treatments must be considered at the source.

Radiation Health Branch

Volpe represented the RHB with the following comments:

- The RHB has issued comments to DOE on the body of the Risk Methods document and is now reviewing the appendices.
- The Branch is reviewing several other documents and the language on the signs for the GPRA milestone.
- The Branch is making progress on air monitoring data validations. The 2006 data is complete and the 2007 data is being reviewed.

Action Items

The SWOU EE/CA will be available to the CAB following EPA approval of the SI/BRA.

The C-400 Implementation Plan will be sent to the CAB on November 16.

Lee asked that the Working Session action items be incorporated into the Board meeting action items for review.

Public Comments

Vander Boegh said he had asked for two-foot contour maps for Area of Concern (AOC) 4 of the former Kentucky Ordinance Works (KOW) in past meetings and was told by Bill Murphie, DOE, that the CAB would be informed at this meeting if the requested maps exist and what he could be provided. Knerr said DOE has identified the contour maps and they are currently being reviewed by security. The property on the requested maps in not DOE property and the Kentucky Department of Fish and Wildlife Resources (KDRWR) will be contacted to ensure there are no problems with release of the maps. These maps will be available at the Environmental Information Center once approval from security and KDFWR is received.

Vander Boegh asked how far into the McNairy formation has DOE contamination been found. The C-400 dense nonaqueous-phase liquid (DNAPL) source goes down roughly 100 feet. Vander Boegh alleged that there are DOE documents that state contamination has been found down to 400 feet. Due to the time restraint, Mayes suggested that if Vander Boegh has specific questions, they should be addressed in writing. Winner said he would record Vander Boegh's question as to whether there is any analytical data indicating that DOE has contaminated the groundwater down to the McNairy.

Vander Boegh said the Board had decided at a previous meeting to recommend 500 feet of signage on Big Bayou Creek and Little Bayou Creek. He asked if that was an acceptable standard for fencing out the public to the two most contaminated ditches around the plant.

Winner said 500 feet is acceptable but if contamination is found that justifies fencing, then a fence will be needed.

DOE Findings on Area of Concern 4

Brindley provided a presentation on the DOE sampling at the U.S. Army Corps of Engineers (USACE) AOC 4. The presentation is available on the CAB Website at www.pgpdcab.org. Questions and answers (paraphrased) appear below.

Questions/Comments	Answers
Burnett: Other than the waste generated by the USACE in AOC 4, was any known plant waste found in that area?	**Brindley:** There are no known DOE activities in this area and sampling was conducted to verify this fact.
Russell: What was the waste generating activity by the USACE and when did it occur?	**Brindley:** No known records exist at the site concerning disposal activities, however, the manmade drainage ditches leading to the site could have flushed liquid waste during the operating life of the facility while it was the KOW. These ditches were identified in 1943 from aerial photographs. **Williams:** The USACE has a responsibility for investigation of formally used defense sites.
Lee: What were the levels of the metals in the USACE investigation and the DOE investigation?	**Brindley:** DOE findings were consistent with the USACE Final Radiation Survey Report for the Kentucky Ordinance Works at AOC 4. All of the levels are available in the USACE report at www.specproenv.com/KOW/index.htm. **Clark:** The Kentucky Department of Environmental Protection sampled the same areas as DOE.

Committee Reports

Waste Disposition/Water Quality Committee

- Lee suggested that the CAB should draft a recommendation in support of EPA to require treatment based on contamination levels at the source rather than at the boundary. Lee also asked Knerr to discuss bioremediation in low-level trichloroethylene areas with PRS.
- Russell suggested an update at the December Working Session on the C-746-U Landfill monitoring of the leachate that is being treated.

Long Range Strategy/Stewardship Committee

- The FY07 SMP has been approved. Discussions will continue on the FY08 SMP.

- The Board will discuss potential recommendations later in the meeting.

Executive Committee

- The Executive Committee thought the October Board meeting was repetitious of the September Working Session and is examining meeting content for improvement of future meetings.
- Potential recommendations and the budget were discussed.
- Two Board and one staff member represented the CAB at the Kentucky Research Consortium for Energy and the Environment (KRCEE) Symposium. Several of the presentations can be found on the KRCEE Website. Burnett requested that the link be added to the CAB Website.

Administrative Issues

Motions

- Burnett presented two letters prepared in the Paducah Chairs Meeting. The first letter recommended long term stewardship incorporation into new Environmental Management (EM) projects and legacy waste decisions. The second letter recommended EM Site Specific Advisory Board participation in the EM budget process. **The Board approved adding Burnett's signature to both letters.** Burnett said he was informed by DOE that the Board would receive a form of the Integrated Priorities List. Smart suggested adding a committee to review the EM budget.

- Burnett identified the changes that were incorporated into the Operating Procedures. **The Board approved the Operating Procedures.**

- Burnett presented a recommendation to DOE regarding solicitation for disposition of nickel at the Paducah Gaseous Diffusion Plant (PGDP). After discussion the recommendation was amended to read:
  1. DOE should provide land/facilities on the DOE PGDP reservation for processing the nickel to reduce volumetric contamination or into final product form.
  2. DOE should extend coverage under its authority to possess radioactive materials until the successful bidder can obtain a Nuclear Regulatory Commission (NRC) license (if it does not already have an NRC license).
  3. DOE should heavily weight the solicitation evaluation criteria to encourage nickel processing in the Paducah area.
  4. DOE should include a statement of the potential for processing of additional classified and unclassified material resulting from the future Decontamination and Decommissioning of the Portsmouth and Paducah gaseous diffusion plants.

  The Board approved the modified recommendation.

- The Board discussed a recommendation regarding long term strategy for disposal of recyclable material. After some modification and considerable debate, the Board decided to table the recommendation for further discussion and approval at the January meeting.

- The Board suggested a future recommendation on the Scrap Metal Moratorium.

The meeting adjourned at 8:45 p.m.

DOE Sampling at U.S. Army Corps of Engineers Area of Concern 4

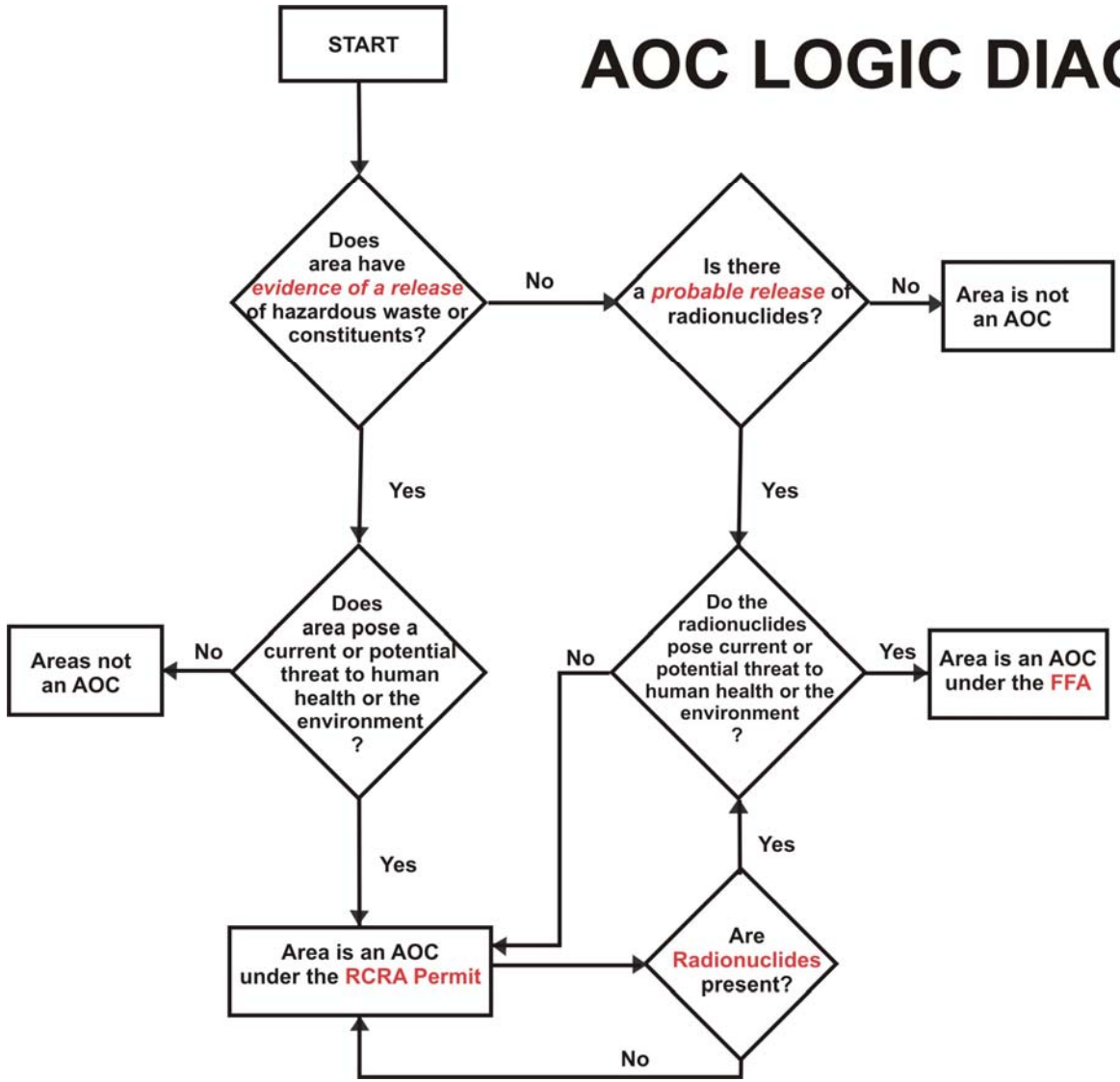
Paducah Citizens Advisory Board

November 15, 2007

Purpose of Presentation

- DOE definition of Area of Concern (AOC)
- Corps of Engineers definition of AOCs
- DOE sampling results from Corps AOC 4

DOE Definition of an Area of Concern (AOC)



Assessment Reports

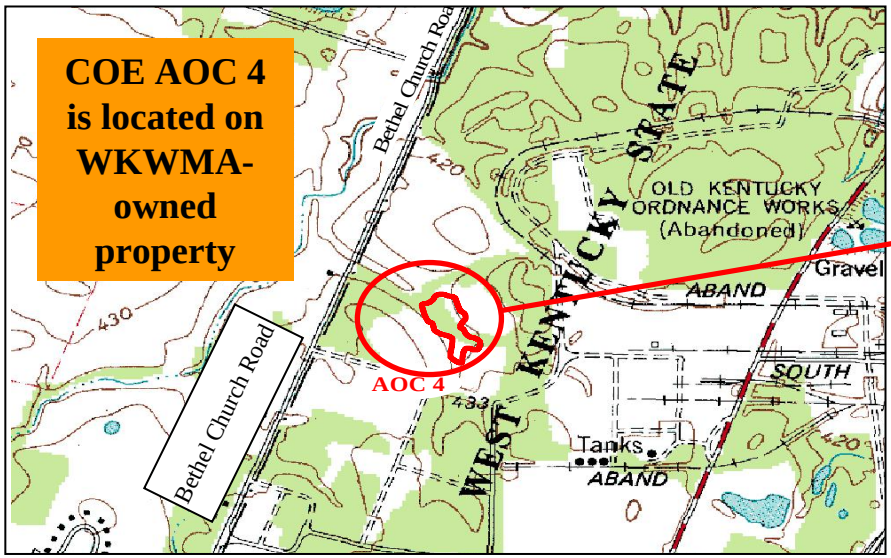
- DOE must maintain a description of each AOC that includes the following:
  - The location and type of the unit
  - The size of the unit
  - Historical information
  - Specification of wastes that have been managed at the unit
  - All available information regarding any release of hazardous wastes or hazardous constituents
  - Results of required sampling

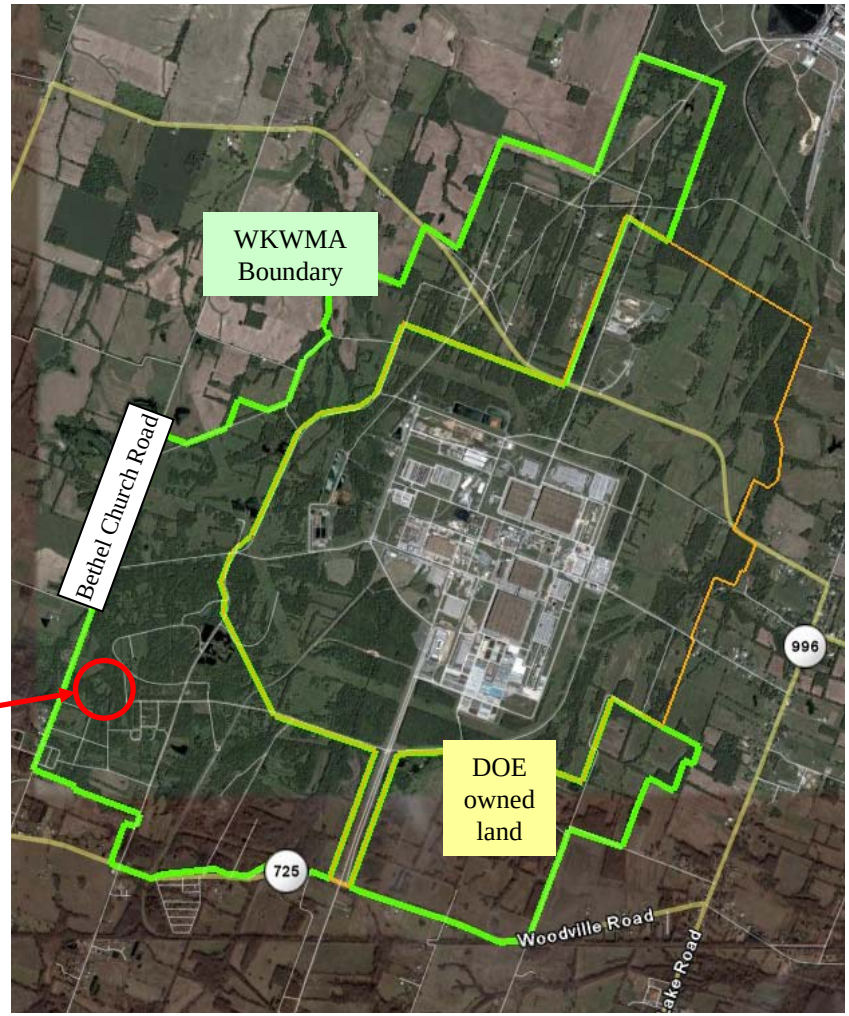
AOCs and the Army Corps of Engineers

- COE definition of an Area of Concern different from DOE definition
- COE definition more geographic, closer to DOE usage of Waste Area Grouping
- COE performed a Remedial Investigation/Feasibility Study of AOC 4 (www.specproenv.com/KOW/index.htm)
- COE held a public meeting in March 2007 to discuss its Proposed Plan for Area of Concern 4
- Record of Decision pending

KOW Background

- Former Kentucky Ordnance Works (TNT manufacturing during WWII) site located to the west and south of PGDP
- Cleanup responsibility of the Army Corps of Engineers (COE)





A map showing DOE-owned property, the WKWMA, and COE AOC 4.

DOE Sampling at COE Area of Concern 4

- In late September 2007, DOE obtained from the Department of Justice coordinates to perform sampling at four locations within the COE's AOC 4
  - Located within two former gravel pits divided by a drainage swale
  - Heavily wooded site of two former gravel pits, covering about 2.5 acres
  - Coal sludge and construction debris was placed in the pits
  - No known DOE activities in this area
  - Sampling conducted to verify this fact

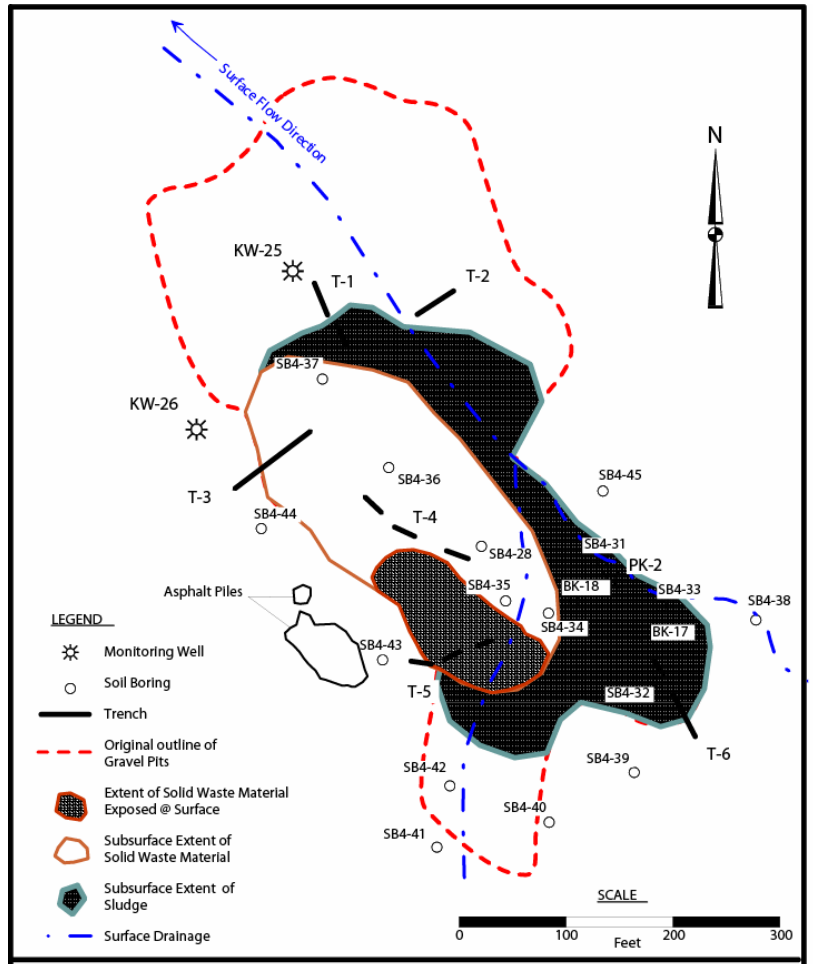
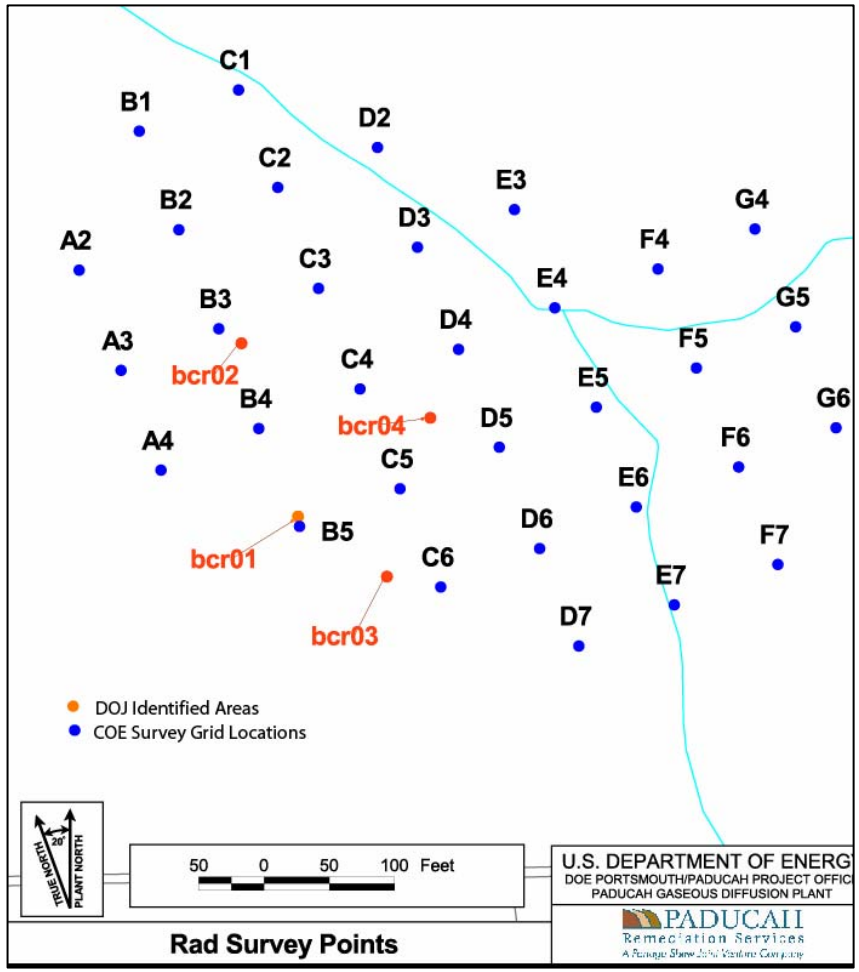


Figure from USACOE Proposed Plan for KOW AOC 4.

DOE Sampling at COE Area of Concern 4

- COE investigation shows metals present, including arsenic, cadmium, chromium, lead, and mercury
- COE performed 40,000+ radiological readings and found no unexpected contamination
  - Uranium and thorium normal in coal and coal residue
- DOE radiological surveys at the four locations shown in red verified COE findings
- Verification samples also taken; results consistent with COE findings
- KDEP personnel accompanied DOE during survey



U.S. Department of Energy

Portsmouth/Paducah Project Office

Paducah Project Updates

Prepared for the PGDP Citizens Advisory Board

November 2007

EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Soils Operable Unit

(November 2007)

Project Scope

The short-term objectives of the Soils Operable Unit include evaluation of newly identified areas of possible contamination and the removal of three inactive facilities where soil contamination is present. These are the facilities:

- C-218 Firing Range
- C-403 Neutralization Pit
- C-410-B Sludge Lagoon

Planning for the three facility removals has begun and the first phase of sampling for the Soil and Rubble Pile areas has been completed.

Long-term, the project includes a Remedial Investigation to identify any soils contaminated with PCBs or radioactivity. That will lead to a 2012 Record of Decision and a Removal Action for contaminated soils above action levels. That action will be completed by 2016.

The C-403 Neutralization Pit is one of three inactive facilities with soil contamination included in the Soils Operable Unit.

Upcoming work

Work planned in next 60 days:

- Issue the D1 Engineering Evaluation/Cost Analysis for the three Inactive Facilities
- Issue the D1 Soils OU Scoping document
- Obtain regulatory approval on the D2/R1 Soil Piles Sample and Analysis Plan (SAP) and Addendum 1-A
- Issue the Addendum 2 within 15 days of receiving regulatory approval of 1-A
- Issue the Rubble Piles SAP within 45 days of receiving approval of Addendum 1-A
- Issue Addendum 1-B within 7 days of Soil Pile I (Addendum 1-A) data approval
- Issue Addendum 1A Site Evaluation Report within 45 days of data approval

Recent Accomplishments

- Completed sampling of Soil Pile I along Little Bayou Creek
- Issued to Kentucky and EPA the D2/R1 Soil Piles SAP and Addendum 1-A for approval`

FFA Milestones

- 4th quarter, 2011 – D1 Removal Decision Document
- 3rd quarter 2012 – D1 Record of Decision
- 09/30/15 – D1 Remedial Action Completion Report

EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

Contacts:
DOE: David Dollins/Rick Bonczek
PRS: Tracey Brindley/Craig Jones/Aric Cowne
Kentucky: Ed Winner
U.S. EPA: David Williams

Next Document Deadline:
Soil Piles Addendum 1-B, Addendum 2, and Rubble Area Sample and Analysis Plan; expected in November 2007, pending approval by EPA of Addendum 1-A

Above, sampling one of the Soil Pile areas along Little Bayou Creek; above right, the C-410B Sludge Pit; below right, the C-218 Firing Range.

Documents Scheduled (D1 versions)

Removal Notification (Feb 07) → EE/CA (Feb '08) → Action Memo (Aug '08) → Removal Action Work Plan (Dec '08) → Removal Action (Apr '09) → Removal Action Completion Report (Apr '10)

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Legacy Waste Disposition

(November 2007)

Project Scope

DOE is responsible for dispositioning and/or recycling legacy wastes (wastes generated at the PGDP prior to establishment of USEC on July 1, 1993); wastes generated from ongoing DOE projects; and a limited amount of waste generated by USEC.

After characterization to assure selection of the appropriate disposition method, nonhazardous and nonradioactive wastes are disposed of in the DOE Solid Waste Contained Landfill. (See C-746-U Landfill fact sheet.)

Hazardous and radioactive wastes are treated, if necessary, and shipped off-site to approved DOE or commercial disposal facilities.

Wastewater (collected from sumps in diked areas in DOE waste storage facilities at PGDP) is treated and discharged in accordance with the Kentucky Pollutant Discharge Elimination System permit.

More than half of the about 572,000 ft^3 of legacy waste once stored at the site has been removed. The project is scheduled to be completed in late 2009.

Liquid wastes are pumped into a tanker truck for off-site treatment and disposal. Part of the waste being shipped is subject to the upcoming Site Treatment Plan (STP) milestone.

Upcoming work

Work planned in next 60 days:

- Prepare waste shipments to be shipped off-site for treatment (stabilization or macroencapsulation) and/or disposal
- Treat and discharge wastewater

Key Documents:

- Paducah Waste Acceptance Criteria (BJC/PAD-11/R4)
- Final Environmental Assessment for Proposed Disposition of Waste from the Paducah Site (DOE/EA-1339)
- Site Treatment Plan DWM-30039-042

EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

Contacts:
DOE: Rob Seifert
PRS: Matt LaBarge / Greg Shaia
Kentucky: Jon Maybriar
U.S. EPA: David Williams

Next Document Deadline:

Site Treatment Plan Quarterly Report, January 30, 2008; status, on schedule

FFA Milestones

• Wastes listed on Site Treatment Plan Tables 7.1, 7.2, 7.3, and 8 must be treated, shipped, or otherwise declared nonhazardous by Jan. 31, 2008; project is on schedule.

Recent Accomplishments

• Shipped 6,027 ft^3 of legacy waste to off-site facilities for treatment and disposal.

Wastes leaving the PGDP site may be shipped in standard semitrailers (above), specialized tanker trucks (below), or other types of truck or rail transportation.

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
C-746-U Contained Landfill

(November 2007)

Project Scope

The C-746-U operating landfill and support facilities are located on 60 acres of DOE property near Ogden Landing Road, operating under a permit from the Kentucky Division of Waste Management.

Landfill disposal operations began in 1997. DOE uses the landfill for disposal of solid waste generated from its operations at the Paducah site.

Examples of wastes accepted include nonhazardous soil and debris from DOE projects, such as protective clothing worn by workers, paper, packaging, and landfill office wastes.

No waste classified as hazardous or radioactive is accepted.

The C-746-U Contained Landfill receives soil and debris produced by operations at the Paducah Gaseous Diffusion Plant.

Key Documents:

- Environmental Assessment for the Construction, Operation, and Closure of the Solid Waste Landfill at the Paducah Gaseous Diffusion Plant (DOE/EA-1046)
- Environmental Assessment on the Implementation of the Authorized Limits Process for Waste Acceptance at the C-746-U Landfill (DOE/EA-1414)
- Waste Acceptance Criteria for the Department of Energy Treatment, Storage, and Disposal Units at the Paducah Gaseous Diffusion Plant (BJC/PAD-11/R4)
- D2 Sampling and Analysis Plan for Site Investigation and Risk Assessment
- D2 SWOU (On-site) Site Investigation and Baseline Risk Assessment Report at the Paducah Gaseous Diffusion Plant
- D1 SWOU Removal Notification (On-Site)
- D1 SWOU Engineering Evaluation/Cost Analysis

Recent Work

Received nearly 180 tons of waste or soil/debris in September and October 2007

Treated more than 24,500 gallons of leachate during September and October 2007

Contacts:
DOE: Jeff Snook
PRS: Paul Corpstein/Matt LaBarge/Paul Gagnon
Kentucky: Todd Hendricks
U.S. EPA: David Williams

EM Environmental Management
safety ❖ performance ❖ cleanup ❖ closure

Portsmouth/ Paducah Project Office

DOE Project Manager - Jeff Snook, (270) 441-6814, jeff.snook@lex.doe.gov

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Groundwater Operable Unit

(November 2007)

Project Scope

This project addresses environmental remediation of groundwater contamination on a sitewide basis at the PGDP.

The main contaminants of concern are trichloroethene (TCE) and technetium-99 (Tc-99). The contaminants are present in three "plumes," the Northeast, Northwest, and Southwest.

Remedial actions will be designed and implemented after completion and signing of Records of Decision (RODs).

Specific projects include these:

- **Northeast and Northwest Plumes Pump and Treat -** Treatment systems that extract contaminated groundwater from the Northwest and Northeast plumes and return it to beneficial use
- **Southwest Plume -** A decision on addressing contamination for the third plume is being developed *(see reverse side for more detail)*
- **C-400 Interim Remedial Action -** In late 2008, operation begins of a system that will significantly reduce the amount of TCE under the surface at the major source of off-site contamination
- **Dissolved-Phase Plumes Remedy -** DOE has begun the process of determining the best long-term solution for off-site contamination

Overhead power lines are run to the area where a treatment system is to begin extracting TCE from beneath the surface and significantly reduce the site's largest source of off-site contamination.

Upcoming Work

Work planned in next 60 days:

- Submission of the D1 Proposed Remedial Action Plan for C-720 and SWMU 1 (Southwest Plume)
- Issue D2/R1 Final Southwest SI Report
- Performing stable carbon isotope sampling analysis to support TCE degradation working group
- Revise the C-400 Remedial Design Report and Remedial Action Work Plans
- Complete construction on the C-400 electrical power feeder

Key Milestones Accomplished

- D2/R1 Redline SW Plume Site Investigation Report
- C-400 90% Design
- D1 Remedial Action Work Plan for C-400

EM Environmental Management

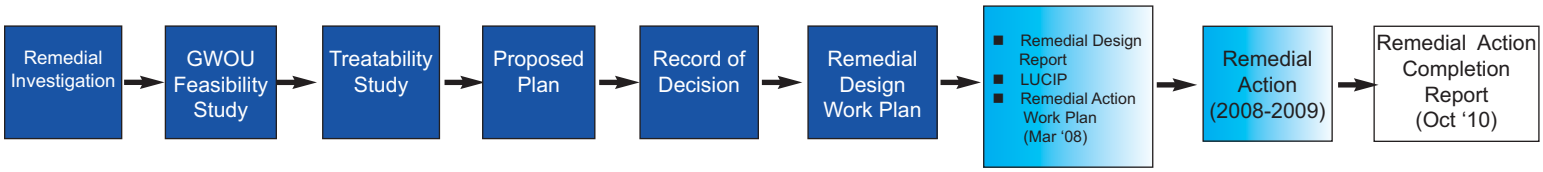
safety ❖ performance ❖ cleanup ❖ closure

Contacts:
DOE: David Dollins
PRS: Mike Clark/Bryan Clayton
Kentucky: Edward Winner
U.S. EPA: David Williams

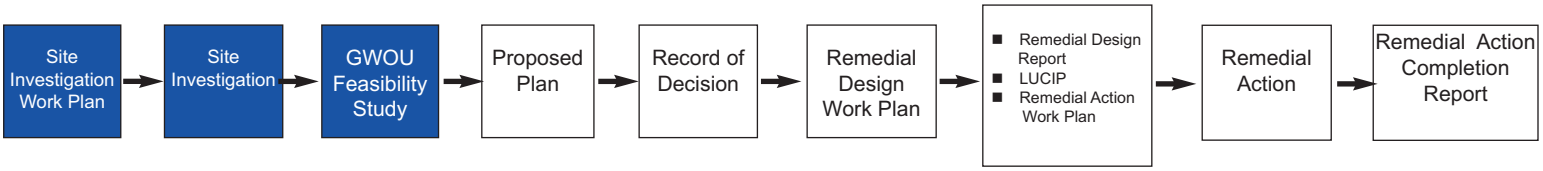
Next Document Deadline:
D2/R1 Southwest Plume Site Investigation Report, due 30 days after comments on D2/R1 redline received from Kentucky and EPA

Power to the C-400 treatment system will be supplied by both aerial and underground transmission lines.

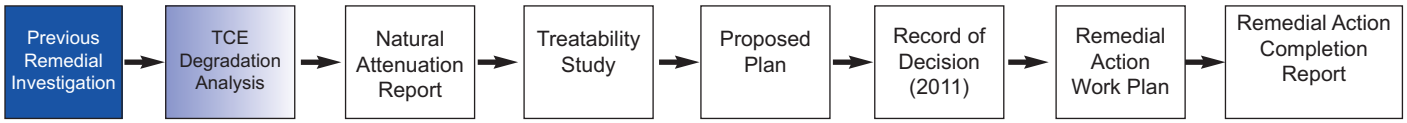
C-400 Documents Scheduled (D1 versions)



Southwest Plume Documents Scheduled



Dissolved-Phase Plume Documents Scheduled



Portsmouth/Paducah Project Office
DOE Project Manager - David Dollins (270) 441-6819, dave.dollins@lex.doe.gov

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
DUF_6 Conversion Facility

(November 2007)

The construction site as it appeared in late October 2007.

Project Scope

This project encompasses two major operations:

1.The design, construction, and operation of a facility to convert depleted uranium hexafluoride to a more stable form.

2. Surveillance and maintenance of about 39,000 cylinders containing DUF_6 now stored on the Paducah site.

The project site occupies approximately 11 acres immediately adjacent to DOE's DUF_6 cylinder storage yards. The completed capital costs for the facility at Paducah are estimated to be approximately $140 million.

The major facilities on the DUF_6 project include the Conversion Building, Administration Building, Warehouse and Maintenance Building,and KOH Regeneration Building.

The project work also includes a railroad connection, rail sidings, load out facilities, roads, storage areas for full and empty cylinders, and all utilities.

Ground breaking occurred in July 2004 and construction has continued since that time.

At the conclusion of construction, all systems will be tested and the plant will undergo an Operational Readiness Review.

The facility is expected to commence conversion operations in late 2008 or early 2009.

Key Documents:

- Handling and Inspection of DOE 48-inch diameter UF_6 Cylinders at Paducah (UDS-C-CYP-2400)
- Paducah DUF_6 Agreed Order, DWM-31434-030
- Final Environmental Impact Statement for the DUF_6 Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation
- Facility Design Description Document (DUF6-UDS-FDD-PADU)
- Safety Evaluation Report for the Safety Management Program Description for the UDS DUF_6 conversion project (SER-UDS-SMP)
- Paducah Conversion Facility Preliminary Documented Safety Analysis, DUF6-C-G-PSA-001, Rev.F
- Documented Safety Analysis for the Cylinder Yards, DUF6-C-G-DSA-002
- Technical Safety Requirements for the Cylinder Yards, UDS-C-TSR-001
- System Requirements Document (DUF6-UDS-SRD-PADU)

EM Environmental Management

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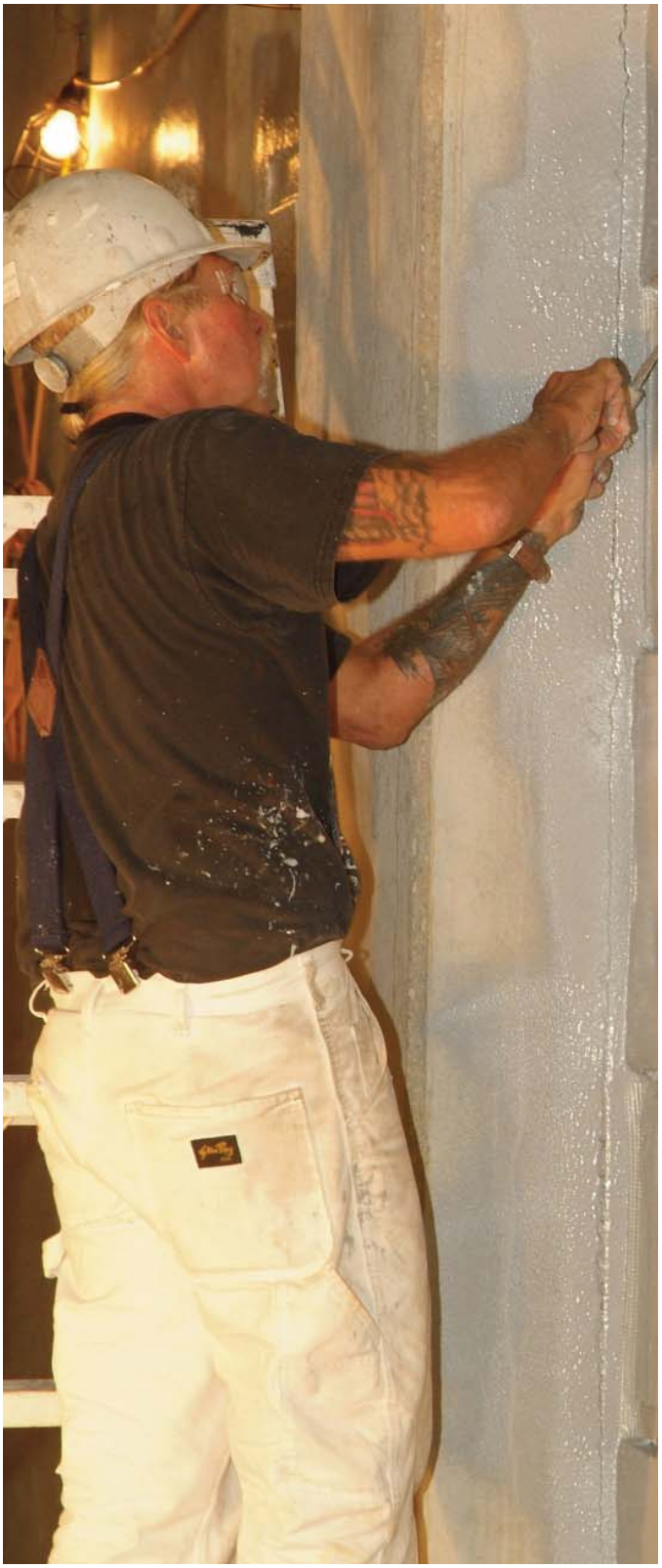

Above, fireproof paint is applied to steel plates on walls inside the Conversion Building; right, a worker digs a trench for a gas line.

Contacts/Operations:
U.S. Department of Energy: John Sheppard
Uranium Disposition Services: Barry Tilden
Contacts/Construction:
DOE Site Office: John Sheppard
Uranium Disposition Services: Guy Griswold

Construction Status

- Conversion facility structure essentially complete.
- Key equipment has been installed.
- Administration Building and Warehouse Building completed and occupied.
- Conversion plant physical completion scheduled for February 2008.
- Testing and readiness review scheduled to begin in spring 2008.

- Depleted UF_6 scheduled to be introduced into the system beginning in late 2008/early 2009.
- Hiring of operations staff already has begun; the facility will employ 175 people when operations begin.

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
DOE Material Storage Areas

(November 2007)

Project Scope

The 160 DMSAs are nonleased areas inside buildings, as well as outdoor areas. DOE accepted the return of the areas, and the material and equipment they contained, from USEC on December 31, 1996, to facilitate NRC certification of the gaseous diffusion plants.

At that time, most of the contents needed detailed inventory, characterization, and disposition.

Since then, DOE and its contractors have been documenting contents, resolving environmental concerns such as draining and disposing of oils from old equipment, and segregating and disposing of wastes.

The DMSAs initially contained more than 800,000 ft^3 of material that needed characterization and about 600,000 ft^3 of material that needed dispositioning.

A worker labels asbestos samples.

Upcoming Work

Work planned in next 60 days:

- Characterization/packaging in C-335, C-400, C-337
- Ship fissile material for disposal
- Begin shipping process motors for disposal
- Begin shipping waste by rail

FFA Milestones

Complete characterization of Priority "C" DMSAs by 9/30/09

Key Milestones Accomplished

Completed characterization of all Priority "A" DMSAs by 9/30/2004

Completed characterization of all Priority "B" DMSAs by 9/30/2006

Key Documents:

- 2003 Agreed Order (File Nos. DEM-31434-042, DAQ-31740-030, DOW 26141-042)
- Agreed Order Closure Plan for DOE Material Storage Areas at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky

Characterization -- 90 percent complete	

Disposition --	69 percent complete

EM Environmental Management

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Contacts:
DOE: Jeff Snook
PRS: John Samples
Kentucky: Leo Williamson
U.S. EPA: David Williams

Next Document Deadline:
Closure Plan for DMSA 331-05, 12/26/07; status, on schedule

Waste material from a DMSA is loaded for shipment to a disposal facility.

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Waste Disposal Options

(November 2007)

Project Scope

DOE is evaluating waste management options for the disposition of wastes generated at PGDP from CERCLA actions during site cleanup and D&D activities.

The intent of this evaluation will be to support a comprehensive sitewide decision for the disposition of hazardous, radioactive and mixed waste resulting from CERCLA actions at PGDP.

Waste disposition action alternatives that will be evaluated in the RI/FS are expected to include off-site and on-site disposal and combinations of these alternatives.

The waste disposition options will be considered by following the Remedial Investigation/Feasibility Study (RI/FS) evaluation and decision documentation process required by CERCLA.

DOE will seek early public input in the evaluation process.

Background

An estimated 3.7 million yd^3 of waste will be generated during CERCLA cleanup actions from the OUs and D&D activities. In order to more effectively manage these wastes, a sitewide waste management strategy is being examined to determine a reliable protective solution for the disposition of those wastes.

The CERCLA RI/FS process will be used to identify and evaluate waste management alternatives. By following the CERCLA decision and documentation process, documents prepared after the scoping document will include an RI/FS work plan, RI/FS report, Proposed Plan, and Record of Decision (ROD).

Key Milestones Accomplished

- Completed a waste volume assessment for environmental restoration projects and D&D activities
- Presented a project overview for the CAB on October 18, 2007
- Began developing a Community Involvement Plan

Upcoming Work

Work planned in next 60 days:

- Submit a D1 Scoping Document to Kentucky, the U.S.EPA and the PGDP Citizens Advisory Board on November 28, 2007

Contacts:
DOE: Jeff Snook
PRS: Fraser Johnstone
Kentucky: Mike Guffey
U.S. EPA: David Williams

Next Document Deadline:
Scoping Document for CERCLA Waste Disposition Alternatives Evaluation RI/FS, November 28, 2007; Status – On schedule

Documents Scheduled (D1 versions)

Scoping Document (Nov '07) → RI/FS Work Plan (May '08) → RI/FS Report (May '09) → Proposed Plan (Dec '09) → Record of Decision (Aug '10)

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Portsmouth/ Paducah Project Office
DOE Project Manager - Jeff Snook, (270) 441-6814, jeff.snook@lex.doe.gov

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Inactive Facility D&D

(November 2007)

Project Scope

The scope of this project includes decontamination and decommissioning of inactive PGDP facilities that have no reuse potential. To date, 20 facilities have been designated for removal and 10 of those have been removed.

Major projects within the scope of the D&D project include the following:

- Infrastructure (piping, equipment, and material) removal and demolition of the C-410/C-411/C-420 Feed Plant Complex (ongoing)
- Infrastructure removal and demolition of the C-340 Metals Plant (planned)
- Surveillance and Maintenance of the C-340 Metals Reduction Facility (ongoing)
- Demolition of Inactive Facilities, including the C-746-A West End Smelter (ongoing); the C-342 Ammonia Facility (planned for 2008); and the C-611-M and N Sanitary Water Storage Tanks (planned for 2009)

Workers in respirators remove asbestos from inside the C-410 Complex.

Current Status - West End Smelter Removal

The C-746-A West End Smelter was built as a storage facility in the early 1950s. Two furnaces later were added for smelting metals, including gold, nickel, and aluminum. The facility continued operation through the 1970s.

Loose material and debris has been removed from the structure and furnace doors weighing up to two tons each have been removed.

Prior to the start of structural demolition, which is scheduled to begin in late December 2007, additional work must be completed.

- Two large furnaces must be removed *(see reverse side of this fact sheet for a photo)*
- Removal of an old interior office
- Repair a sprinkler system that now runs through the Smelter and serves an adjacent operating facility

FFA Milestones

Complete C-340 Metals Plant, C-410/C-411/C-420 Feed Plant, and Inactive Facilities Demolition by September 30, 2017

Key Milestones Accomplished

- Removed C-410 HF Tank Farm
- Removed Hydrogen Holder Tank
- Removed C-603 Nitrogen Complex
- Removed C-402 Lime House
- Removed C-405 Incinerator

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Current Status - C-410 Complex D&D

The C-410 Feed Plant Complex consists of nine facilities covering nearly 200,000 ft^2. It was built in 1955 to convert reactor returns from other DOE facilities to uranium hexafluoride. The facility, which is contaminated with various radionuclides, operated until 1977.

D&D work involves three phases that must be completed before structural demolition can begin. These phases overlap. The phases are as follows:

1. **Removal of pipes, wiring, loose equipment, and debris -** Work continues to dispose of loose material once stored inside the facility.

2. **Asbestos abatement -** More than five miles of asbestos insulation was used inside the complex. Removal work is underway and will be completed in 2009.

3. **Removal of installed equipment and potentially hazardous chemical residue inside the old process equipment -** This phase will begin in 2008.

Building demolition is scheduled to begin by 2012.

A member of the D&D team stands in front of one of two furnaces in the West End Smelter, which is scheduled for demolition in late 2007.

Key Documents:

- Engineering Evaluation/Cost Analysis (EE/CA)
- Action Memorandum
- Removal Action Work Plan (RAWP)
- Cultural Resources Assessment of C-410 Complex
- Agreed Order DWM-31434-042
- Removal Action Report (C-402)
- Documented Safety Analysis and Technical Safety Requirements (C-410)

Contacts:
DOE: Rob Seifert
PRS: Don Ulrich/Brad Montgomery
Kentucky: Brian Begley
U.S. EPA: David Williams

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Burial Grounds Operable Unit

(November 2007)

Project Scope

The scope for the Burial Grounds Operable Unit (BGOU) includes a Remedial Investigation, Feasibility Study, baseline risk assessment, evaluation of remedial alternatives, remedy selection, and implementation of actions, as necessary, for protection of human health and the environment.

The material in the burial grounds includes hazardous radioactive and pyropohoric wastes.

For a list of the burial grounds included in the unit, see the map on the reverse side.

The C-404 Burial Ground began as a holding pond, then became a low-level waste disposal area.

Key Milestones Accomplished

- Remedial Investigation sample borings completed, May 18, 2007
- Remedial Investigation/Feasibility Study (RI/FS) Work Plan

Background:

An RI/FS Scoping Document and Work Plan have been developed utilizing information collected on and around the PGDP over the course of the last 10 years. The BGOU includes Solid Waste Management Units (SWMUs) 2, 3, 4, 5, 6, 7, 30, and 145. Sample borings performed under the RI/FS Work Plan are complete.

Upcoming Work

Work planned in next 60 days:

- Complete draft of RI Report for DOE review

Documents Scheduled (D1 versions)

RI/FS Work Plan → Remedial Investigation → RI Report (Jul '08) → Feasibility Study (Feb '09) → Proposed Plan (Sep '09) → Record of Decision (Aug '11) → Remedial Action (April '19) → Remedial Action Completion Report (Jan '20)

EM Environmental Management

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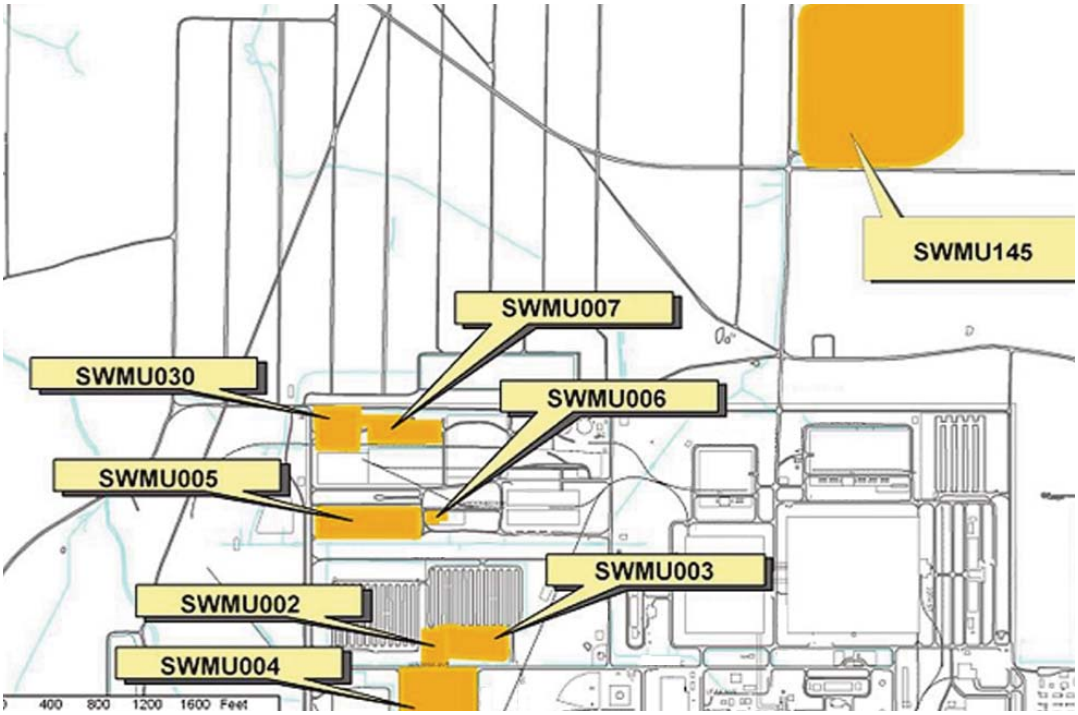
Contacts:
DOE: Jeff Snook
PRS: Tracey Brindley/Karen Holland
Kentucky: Mike Guffey/Brian Begley
U.S. EPA: David Williams

Next Document Deadline:
Remedial Investigation Report for the Burial Grounds Operable Unit, D1 due 7/25/08; status, on schedule.

The C-404 Burial Ground as it appears today.



This map shows the Solid Waste Management Units included in the BGOU.

U.S. Department of Energy
Portsmouth/Paducah Project Office
Paducah Project Update
Surface Water Operable Unit

(November 2007)

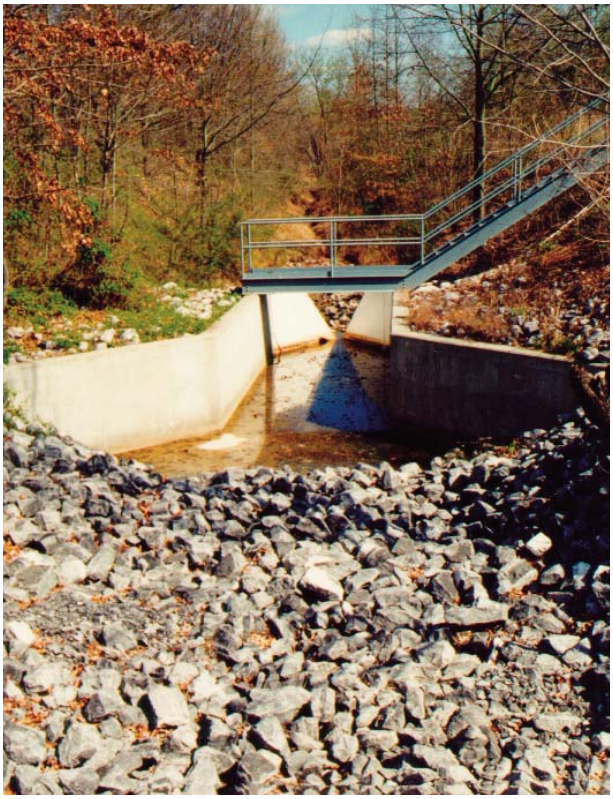
Project Scope

The Surface Water Operable Unit (On-Site) Project includes a site investigation to identify contamination zones posing unacceptable risks in ditches and outfalls, including Sections 3, 4, and 5 of the North-South Diversion Ditch.

The site investigation scope also includes an evaluation of whether additional sediment control measures are needed, as well as actions for potential legacy releases associated with the storm sewer system.

The results of the site investigation will be documented in a Site Investigation/Baseline Risk Assessment Report followed by non-time-critical removal action documentation, an EE/CA, Action Memorandum, and Removal Action Work Plan.

Project deadlines are specified in the Federal Facility Agreement (FFA), which is an agreement among DOE, Kentucky, and the U.S. Environmental Protection Agency that controls cleanup at the Paducah site.



Outfall 11, located on the east side of the plant, is one of the areas where DOE is evaluating an action to remove "hot spots."

Upcoming work

Work planned in next 60 days:

- Issue D1 (On-site) EE/CA to EPA and Kentucky
- Obtain regulatory approval of the SWOU Site Investigation/Baseline Risk Assessment

FFA Milestones

A request is pending to extend the regulatory milestone for the Action Memo to June 2008 and the Removal Action Work Plan to October 2008.

Key Milestones Accomplished

Issued the D2/R1 Site Investigation/Baseline Risk Assessment to Kentucky and EPA for approval, July 30, 2007.

Background/Key Documents:

- D2 Sampling and Analysis Plan for Site Investigation and Risk Assessment
- D2 SWOU (On-site) Site Investigation and Baseline Risk Assessment Report at the Paducah Gaseous Diffusion Plant
- D1 SWOU Removal Notification (On-Site)
- D1 SWOU Engineering Evaluation/Cost Analysis

EM Environmental Management

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Contacts:
DOE: David Dollins
PRS: Tracey Brindley/Craig Jones/Jana White
Kentucky: Ed Winner
U.S. EPA: David Williams

Next Document Deadline:
D1 Engineering Evaluation/Cost Analysis, January 11, 2008; status, on schedule.

Included in the scope of the "hot spot" evaluation is Section 4 of the North-South Diversion Ditch. The photo shows the portion of the ditch along the west side of the access road to the C-746-U Landfill.

Documents Scheduled (D1 versions)

SI Work Plan → Site Investigation → SI/RA Report → EE/CA (Jan '08) → Action Memo (Jun '08) → Removal Action Work Plan (Oct '08) → Removal Action (Mar '09) → Removal Action Completion Report (May '10)