

**Project Status Update for Paducah DOE Citizens Advisory Board
September 8, 2005**

Project: Depleted Uranium Hexafluoride (DUF₆) Project Surveillance & Maintenance

Contact Persons:

DOE Site Office: John Sheppard
Uranium Disposition Services: Dick Veazey
Commonwealth of Kentucky:
U.S. Environmental Protection Agency:
Citizens Advisory Board:

Purpose: Maintain safe storage of DOE DUF₆ cylinder inventory pending disposition.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF₆ inventory, which is a by-product from enriching uranium for nuclear fuel. At Paducah, approximately 36,200 cylinders contain approximately 436,400 metric tons of DUF₆. There are also 182 cylinders of low-enriched UF₆, about 1,500 cylinders of "normal" UF₆ (which has not gone through the enrichment process), and 275 empty cylinders. The DOE inventory at Paducah includes the material generated from 1952 until the establishment of USEC in July 1993, and material transferred from USEC to DOE since that time.

Surveillance and maintenance involves safely storing DUF₆. Most of the 60-acre DOE cylinder yard complex now consists of concrete yards, which provide for improved storage and inspection. In recent years, DOE cleaned and painted 3,368 cylinders which had surface corrosion. DOE continually monitors and inspects its cylinder inventory to assure safe storage.

Key Documents for surveillance/maintenance:

- Handling and Inspection of DOE 48-Inch Diameter UF₆ Cylinders at Paducah (PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF₆ Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF₆ Conversion Facility
- Documented Safety Analysis for the DOE Cylinder Yards, BJC/PAD-459
- Technical Safety Requirements for the DOE Cylinder Yards, BJC/PAD-461

Issues: None

Recent accomplishments/activities:

- Cylinder yards transitioned from BJC to UDS on June 27, 2005
- UDS began S&M operations on June 30, 2005
- An agreement with the Bonneville Power Administration (BPA) has been approved to transfer 672 cylinders of DUF₆ to BPA to supply power reactor fuel
- Cylinder yards on the south side of the plant have been reconfigured to a Property Protection Area (PPA). Work in the PPA does not require security clearance; UDS controls access according to a DOE approved security plan.

Activity over next 60 days for surveillance/maintenance:

- An agreement with USEC has been approved to "clean up" 743 cylinders of off-spec "normal" UF₆

**Project Status Update for Paducah DOE Citizens Advisory Board
September 8, 2005
Project: Depleted Uranium Hexafluoride (DUF₆) Conversion Facility**

Contact Persons:

DOE Site Office: John Sheppard
Uranium Disposition Services: Dick Veazey
Commonwealth of Kentucky:
U.S. Environmental Protection Agency:
Citizens Advisory Board:

Purpose: Design, build, and operate the DOE DUF₆ Conversion Facility.

Description: The Atomic Energy Act, as amended, gives DOE responsibility for the DUF₆ inventory, which is a by-product from enriching uranium for nuclear fuel. At Paducah, approximately 36,200 cylinders contain approximately 436,400 metric tons of DUF₆. There are also 182 cylinders of low-enriched UF₆, about 1,500 cylinders of "normal" UF₆ (which has not gone through the enrichment process), and 275 empty cylinders. The DOE inventory at Paducah includes the material generated from 1952 until the establishment of USEC in July 1993, and material transferred from USEC to DOE since that time.

Conversion is expected to begin in 2007. DOE selected Uranium Disposition Services LLC to design, build, and operate facilities in Paducah and Portsmouth to convert DUF₆ to a more stable form for disposal or recycling. Site preparation construction began in July 2004.

Issues: None

Recent accomplishments/activities:

- Site preparation subcontract complete.
- Underground Utilities yard piping subcontract complete.
- Underground Utilities yard electrical subcontract complete.
- Cylinder Yard Fence subcontract complete.
- Construction Trailer Set-up subcontract complete.
- Construction of the Conversion Project warehouse foundation has been started.

Activity over next 60 days for surveillance/maintenance:

- Begin warehouse building construction.
- Award contract and begin construction activities for soil stabilization for conversion building.
- Begin construction of the Administration building.
- Conversion building pre-cast panels being designed.
- Award contract for conversion building foundation.

Project Status Update for Paducah DOE Citizens Advisory Board
September 8, 2005
Project: Solid Waste Contained Landfill

Contact Persons:

Bechtel Jacobs Company LLC: Jim Ehlers/Steve Davis
Commonwealth of Kentucky: Todd Hendricks
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: The 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 (KDWM). 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 non-hazardous soil and debris from environmental cleanup and other DOE projects, protective clothing worn by workers, paper, packaging, and landfill office wastes. No waste classified as hazardous or radioactive is accepted.

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-111R4)
- C-746-U Landfill Solid Waste Disposal Facility Permit Number 073-00045

Issues:

- The Kentucky Division of Waste Management (KDWM) issued a letter of withdrawal on July 6, 2005 for the S, T and U permit modification due to an administrative error. The public comment period had not expired and the permit was issued prematurely. Currently the landfill facility is operating on the exiting permit which expires in 2006. Permit was reissued for public comment on July 11, 2005. Permission to construct Leachate Treatment Facility was withdrawn pending reissuance of the Permit. The comment period closed August 10, 2005. KDWM is addressing comments received.

Recent accomplishments/activities:

- Disposed of 208 tons of waste in August
- Subcontract for construction of leachate treatment facility (A&K Construction) anticipates delivery of leachate treatment unit in early September.

Activity over next 60 days:

- Continue disposal of construction debris and other non-hazardous solid waste streams
- Support the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study
- Initiate construction of leachate treatment facility within two weeks of reissuance of Permit.

Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005
Project: Waste Disposition

Contact Persons:

Bechtel Jacobs Company LLC: Pat Gourieux/Greg Shaia

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: John Russell

Purpose: Waste Disposition

Description: DOE is responsible for disposal and/or recycling of 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, non-hazardous and non-radioactive wastes are disposed of in the DOE Solid Waste Contained Landfill. (*Please see landfill update 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.

Key documents:

- Paducah Waste Acceptance Criteria (BJC/PAD-11, Revision 4)
- Final Environmental Assessment for Proposed Disposition of Waste from the Paducah Site (DOE/EA-1339 and Addendum DOE/EA-1339-A) (FONSI)
- Agreed Order DWM-31434-042
- Site Treatment Plan DWM-30039-42

Issues:

- None

Recent accomplishments/activities:

- Shipment and processing of UF₄ to Duratek/Bear Creek continues
- Shipped 10,853 cubic feet of UF₄ to Duratek/Bear Creek
- Disposed 5400 cubic feet of outside (crushed drums) waste in the C-746-U landfill
- Processing of Agreed Order waste for landfill disposal and shipment to Envirocare continues
- Disposed 3861 cubic feet of Agreed Order waste in the C-746-U landfill
- Shipped 414 cubic feet of Agreed Order waste to Envirocare
- Initiated processing activities for Sewer Sludge (low level waste) for future shipment to Envirocare

Activity over next 60 days:

- Complete shipment of UF₄ to Duratek and Envirocare
- Complete disposition of ~ 4750 containers of Agreed Order “no-longer contains” waste at Envirocare or the C-476-U Landfill, as appropriate
- Ship four trucks of mixed low-level waste to Perma Fix facilities and Envirocare
- Ship tanker of liquid waste to TSCA Incinerator
- Continue disposition of approximately 2000 containers of LLW stored in outside facilities
- Begin shipment of Sewer Sludge waste to Envirocare

**Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005**

Project: Decontamination & Decommissioning (D&D)

Contact Persons:

Bechtel Jacobs Company LLC: Brad Montgomery
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: The D&D project has completed development of Comprehensive Environmental Response, Compensation, and Liability Act regulatory documentation and has initiated actual D&D of the C-410/420 Feed Plant Complex. The current scope of D&D includes infrastructure removal on the C-410/C-420 complex, as well as ongoing surveillance and maintenance of the C-410/C-420 complex and the C-340 Metals Plant complex. Scope also included development of Safety Basis Documentation for the removal of equipment, piping, and stored material from the C-410 Complex. Operations at both complexes ended in 1977.

Key documents (C-410):

- 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

Issues:

- None

Recent accomplishments/activities:

- Continued removal of fluorine cell stands and platforms in Sector 2
- Completed HVAC and electrical installations in boundary control station and installed two of three personal contamination monitors (half body monitors).
- Subcontractor initiated mobilization for C-603 Nitrogen Generating Facility demolition
- Submitted D2 Engineering Evaluation and Cost Analysis (EE/CA) for C-402 Lime House, C-405 Contaminated Items Incinerator, and C-746-A West End Smelter.
- Received approval from the Environmental Protection Agency and the Commonwealth of Kentucky on the EE/CA for C-402 Lime House, C-405 Contaminated Items Incinerator, and C-746-A West End Smelter
- Preparations underway for public comment period
- Initiated electrical isolation and demolition in Zone 64 (C-411 portion of C-410 Complex).

Activity over next 60 days:

- Continue packaging of loose materials in C-410 Complex
- Continue electrical isolation and demolition in Zone 64 (C-411 portion of C-410 Complex)
- Train staff on use of new personal contamination monitors and begin use of C-410 Complex Boundary Control Station
- Disposition material from C-410-A Hydrogen Holder in landfill
- Demolition activities at C-603 Nitrogen Generating Facility

Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005
Project: DOE Material Storage Areas (DMSAs)

Contact Persons:

Bechtel Jacobs Company LLC: Rick Keeling
Commonwealth of Kentucky: Jon Maybriar/Mike Guffey
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: The 160 DMSAs are non-leased areas inside buildings, as well as outdoor areas. DOE accepted the return of the areas that are now the DMSAs, 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 that time, DOE and contractors have been documenting contents, resolving environmental concerns such as draining and disposing of oils from old equipment, and segregating and disposing of wastes.

Key documents:

- PGDP Department of Energy Material Storage Area Characterization/Remediation Plan (BJC/PAD-186/R4), April 2001
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues:

- Increased rigor in characterizing painted items for PCB content has impacted characterization, packaging, and disposal activities. Effort is under way to resolve different requirements and allowances between Kentucky and EPA regulations for solid waste disposal of painted items.

Recent accomplishments/activities:

- Over 1,100 cubic ft. of material was processed for characterization during August
- Over 7,400 cubic ft. after size reduction packaged for disposal in the month of August
- ~5,800 cubic ft. disposed in August after size reduction
- Eleven PG Coolers from DMSA OS-15 have been shipped for disposal; four PG Coolers and One PG Booster await sizing, packaging, and shipment for disposition
- Rail Cars stored in DMSAs OS-04 and OS-14 were removed and transferred to OS-06 for sizing packaging, and disposition in August, emptying DMSAs OS-04 and OS-14.

Activity over next 60 days:

- Continue packaging and disposition of DMSA OS-15 material
- Pursue disposition of OS-4 and OS-14 material
- Pursue boundary removal of OS-02, C-331-04, -07, and -20
- Continue characterization of "Priority B" DMSAs under the Agreed Order

Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005
Project: Groundwater Operable Unit

Contact Persons:

Bechtel Jacobs Company LLC: Bryan Clayton/Lance Fleming

Commonwealth of Kentucky: Jon Maybriar/Todd Mullins

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart

Purpose: Environmental Cleanup

Description: This project addresses environmental remediation of groundwater contamination on a site-wide basis at the Paducah Gaseous Diffusion Plant. The main contaminants of concern are trichloroethylene (TCE) and technetium-99 (⁹⁹Tc). Remedial actions will be designed and implemented after completion and signing of Records of Decision (RODs).

Key documents:

- Feasibility Study of the Groundwater Operable Unit at PGDP (DOE/OR/07-1857)
- Agreed Order DWM-31434-042
- Six-Phase Treatability Report (DOE/OR/07-2113)
- Proposed Remedial Action Plan for the Volatile Organic Compound Contamination at the C-400 Cleaning Building (DOE/OR/07-2114)
- Southwest Plume Site Investigation Workplan (DOE/OR/07-2094)
- S&T Landfill Site Investigation Workplan (DOE/OR/07-2098)
- Record of Decision for Interim Remedial Action for the Groundwater Operable Unit for the Volatile Organic Compound Contamination at the C-400 Cleaning Building at the Paducah Gaseous Diffusion Plant (DOE/OR/07-2150&D2/R2)
- Remedial Design Work Plan for the Interim Remedial Action for the Volatile Organic Compound Contamination at the C-400 Building...(DOE/OR/07-2214&D1)

Issues: Discussions with the State of Kentucky and EPA are continuing concerning the use of biodegradation factors utilized in groundwater modeling to support risk assessment development. The groups are continuing to discuss potential actions to resolve the use of the values.

Recent accomplishments:

- Signed and issued the C-400 Interim Remedial Groundwater Action ROD on August 9, 2005
- Issued the D1 Remedial Design Work Plan to support development of the C-400 Remedial Action design and construction specifications for submission to the State and EPA on August 11, 2005
- Received contract proposals from contractors responding to the Request for Proposal for a remediation contractor to design, build and operate the Electrical Resistance Heating at the C-400 Building.

Activity over next 60 days:

- Submit the C-746-S&T Landfill Site Investigation Report
- Evaluate C-400 contract proposals to implement Interim Remedial Action
- Resolve biodegradation factors use and values applied to groundwater modeling in support of risk assessments evaluating groundwater risk in the Regional Gravel Aquifer.
- Receive comments on D1 RDWP for C-400 Interim Action, revise the document and reissue as a D1 document for approval.

FFA Milestones:

- Submit the D2 Southwest Plume Site Investigation Report by September 7, 2005. (Milestone being modified pending resolution of the biodegradation factor use in groundwater models.)
- Submit the D1 S&T Landfill Site Evaluation Report by September 30, 2005
- Southwest Plume Proposed Remedial Action Plan, due on October 7, also being modified due to groundwater biodegradation factors. DOE has requested an extension to November 6, 2005.

Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005
Project: Surface Water Operable Unit (On-Site)

Contact Persons:

Bechtel Jacobs Company LLC: Dave Guyan/Lance Fleming

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart

Purpose: Environmental Cleanup

Description: The Surface Water Operable Unit (On-Site) Project includes a site investigation to identify hot spots 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 and non-time-critical removal action documentation, as appropriate.

Key documents:

- Sampling and Analysis Plan for Site Investigation and Risk Assessment of the Surface Water Operable Unit (On-Site), DOE/OR/07-2137&D2/R2.

Issues: None

Recent accomplishments:

- Sampling for the SWOU began June 20, 2005
- Planned soil samples from the ditches are 92% completed as of September 2, 2005
- Two months of the three-month-long storm sewer sampling has been completed

Activity over next 60 days:

- Begin contingency soil sampling to further delineate extent of contamination at locations that exceeded the indicator chemicals in NSDD Sections 3, 4 and 5 and at the internal ditches
- Complete the third (final) month of the storm sewer water sampling
- Conduct upgradient storm sewer sampling at one of the four storm sewer discharges that exceeded the indicator chemicals

FFA Milestones:

- Issue Site Investigation/Risk Assessment Report by April 27, 2006
- Issue Removal Notification by June 23, 2006.

**Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005
Project: Scrap Metal Removal Project**

Contact Persons:

DOE Site Office:

Bechtel Jacobs Company LLC: Wes Bass/Chris Marshall/Craig Jones

Commonwealth of Kentucky: Jon Maybriar

U.S. Environmental Protection Agency: David Williams

Citizens Advisory Board: Jim Smart/John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: About 54,000 tons of scrap metal exists at the PGDP. This project involves the removal of 26,700 tons of general scrap metal, 2,000 tons of aluminum ingots, and 15,600 tons of classified material. This project does not include the recycling or disposal of 9,700 tons of nickel.

Key documents:

- Engineering Evaluation and Cost Analysis
- Action Memorandum
- Removal Action Work Plans
- Agreed Order DWM-31434-042
- Documented Safety Analysis (DSA)

Issues: None

Recent accomplishments:

- 1,905 tons of scrap metal were shipped by truck in August from C-746-D yard to NTS
- During August, 156 tons of turnings waste were shipped to Envirocare, completing the turnings shipments. All together, a total of 257 tons of turnings waste were shipped to Envirocare.
- Shipped 44 gondola rail cars carrying a total of 1,530 tons of scrap to Envirocare during August, bringing the total number of rail cars shipped to 60, i.e. 180 sealand containers.

Activity over next 60 days:

- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Complete shipment of cargo containers of scrap metal to Envirocare via rail for disposal
- Continue shipment of scrap metal to NTS
- Initiate pallet removal in C-747-A Scrap Yard.

**Project Status Update for DOE Paducah Citizens Advisory Board
September 8, 2005
Project: Burial Grounds OU**

Contact Persons:

Bechtel Jacobs Company LLC: John Young/Lance Fleming
Commonwealth of Kentucky: Jon Maybriar
U.S. Environmental Protection Agency: David Williams
Citizens Advisory Board: John Russell

Purpose: Environmental Cleanup/Waste Disposition

Description: A Remedial Investigation/Feasibility Study (RI/FS) Scoping Document and the RI/FS Work Plan for the investigation of the Burial Ground Operable Unit (BGOU) at PGDP have been developed. The documents utilize a compilation of sampling information collected on and around the PGDP over the course of the last ten years. The subject of this scoping document is the BGOU (Solid Waste Management Units [SWMUs] 2, 3, 4, 5, 6, 7, 30, and 145).

Key documents:

- D1 Burial Grounds OU Scoping Document
- D1 Burial Grounds RI/FS Work Plan

Issues: None

Recent accomplishments:

- D1 Burial Grounds OU Scoping Document was issued November 2004
- State and EPA comments were discussed in a series of meetings and all comment and concerns will be addressed in the Workplan.
- D1 Workplan was completed and distributed on June 30, 2005

Activity over next 60 days:

- D1 Workplan is in review with the regulators and comments are due September 30, 2005
- Issue Request for Proposals to implement Workplan.