

**Project Status Update for DOE Paducah Citizens Advisory Board  
January 12, 2006**

**Project: Depleted Uranium Hexafluoride (DUF<sub>6</sub>) Project Surveillance & Maintenance**

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**Contact Persons:**

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

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**Purpose:** Maintain safe storage of DOE DUF<sub>6</sub> cylinder inventory pending disposition.

**Description:** The Atomic Energy Act, as amended, gives DOE responsibility for the DUF<sub>6</sub> 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 DUF<sub>6</sub>. There are also 182 cylinders of low-enriched UF<sub>6</sub>, about 1,500 cylinders of "normal" UF<sub>6</sub> (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 DUF<sub>6</sub>. 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 UF<sub>6</sub> Cylinders at Paducah (PA-2400)
- Agreed Order DWM-31434-030
- Final Environmental Impact Statement for the Construction and Operation of the DUF<sub>6</sub> Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF<sub>6</sub> 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:** OIG Review of 30A Cylinders

**Recent accomplishments/activities:**

- An agreement with the Bonneville Power Administration (BPA) has been approved to transfer 672 cylinders of DUF<sub>6</sub> to BPA to supply power reactor fuel; a total of 360 cylinders have been transferred through December 2005
- 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
- An agreement with USEC has been approved to "clean up" 743 cylinders of off-spec "normal" UF<sub>6</sub>; a total of 272 cylinders have been transferred through December 2005
- Extensive review of 30A cylinder records in response to the OIG Management Alert and a sampling plan has been developed. Sampling to begin in late January 2006
- Supported DOE in preparation for January 19 Congressional field hearing

**Activity over next 60 days for surveillance/maintenance:**

- Continue transferring cylinders to USEC as per the two previously mentioned agreements.
- Sample 30A cylinders for which records do not clearly show there is no phosgene gas potentially present.

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**January 12, 2006**  
**Project: Depleted Uranium Hexafluoride (DUF<sub>6</sub>) Conversion Facility**

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**Contact Persons:**

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

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**Purpose:** Design, build, and operate the DOE DUF<sub>6</sub> Conversion Facility.

**Description:** The Atomic Energy Act, as amended, gives DOE responsibility for the DUF<sub>6</sub> 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 DUF<sub>6</sub>. DOE selected Uranium Disposition Services LLC to design, build, and operate facilities in Paducah and Portsmouth to convert DUF<sub>6</sub> to a more stable form for disposal or recycling.

The project site occupies approximately 11 acres immediately adjacent to DOE's DUF<sub>6</sub> cylinder storage yards. The completed capital costs for the facility at Paducah are estimated to be ≈ \$91,000,000. The major facilities on the DUF<sub>6</sub> project include the Conversion Building, Administration Building, Warehouse and Maintenance Building, KOH Regeneration Building, and the HF Neutralization 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.

Groundbreaking 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 2007.

**Key Documents for the Conversion Project:**

- Final Environmental Impact Statement for the Construction and Operation of the DUF<sub>6</sub> Conversion Facility at the Paducah Site (DOE/EIS-0359)
- Record of Decision for Construction and Operation of the DUF<sub>6</sub> Conversion Facility
- Paducah Conversion Facility Preliminary Documented Safety Analysis, DUF6-C-G-PSA-001, Rev. F

**Issues:** None

**Recent accomplishments/activities:**

- Ground Modifications for Conversion Building – Work complete November 16, 2005 – all piles placed – subcontractor demobilized
- Conversion Building foundation – under-slab utilities installed, rebar 98% placed, scheduling concrete placement for January 2006
- Warehouse Building – steel received and erected
- Construction prep for offsite rail spur continued
- Place gravel around Conversion Building – 95% complete

**Construction activity scheduled over next 60 days:**

- Award and begin construction of the Administration Building
- Begin construction of offsite rail spur
- Award contract and begin construction of balance of plant foundations S-39
- Fabricate and begin erection of Conversion Building panels and columns
- USEC to begin connection to PGDP utilities
- Complete placement of concrete for Conversion Building foundation

- Begin construction of Power Feed to Facility

**Procurement activity planned next 60 days:**

- Award HVAC package - S-42
- Award Piping/Mechanical Equipment package - S-40
- Award Electrical Distribution and Instrumentation - S-43
- Award process pre-engineered buildings - S-31
- Bid Conversion Building Roof – S-23
- Bid Structural Steel Installation – S-33
- Bid Major Equipment RFPs

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**January 12, 2006**  
**Project: Solid Waste Contained Landfill**

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**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

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**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 existing 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.
- As of January 11, 2006 there has been no indication from KDWM of when the permit modification for the C746-U landfill will be approved.

**Recent accomplishments/activities:**

- Subcontractor for construction of leachate treatment facility (A&K Construction) was issued a suspension of work to minimize costs until KDWM issues permit
- Field portion of the Kentucky Research Consortium for Energy and Environment Holocene Displacement Study completed October 3, 2005
- Ordered prefabricated steel building for C-746-U Leachate Treatment Unit

**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. Kentucky Research Consortium for Energy and Environment Holocene Displacement Study project final report due at the end of January or first week of February.
- Initiate construction of leachate treatment facility within two weeks of reissuance of Permit

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**January 12, 2006**  
**Project: Waste Disposition**

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**Contact Persons:**

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

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**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 (STP) DWM-30039-42

**Issues:**

- None

**Recent accomplishments/activities:**

- Completed repackaging activities for Sewer Sludge (PCB/low level waste) for January shipments to Envirocare
- Continued repackaging activities for waste stored in outside facilities for January shipments to Envirocare and disposal at C-746-U Landfill, as appropriate
- Shipped newly-generated mixed low-level waste for treatment/disposal

**Activity over next 60 days:**

- Complete shipment of UF<sub>4</sub> from Duratek to Envirocare
- Complete disposition of ~ 4,750 containers of Agreed Order “no-longer contains” waste at Envirocare or the C-746-U Landfill, as appropriate
- Ship mixed low-level waste to Perma Fix facilities and Envirocare for treatment/disposal
- Complete disposition of approximately 3,000 containers of Sewer sludge and LLW stored in outside facilities
- Send letter to Kentucky documenting completion of characterization of STP Table 8 waste (milestone 1/31/06) and submit treatment plan for same (milestone 7/1/06)

**Project Status Update for DOE Paducah Citizens Advisory Board  
January 12, 2006**

**Project: Decontamination & Decommissioning (D&D)**

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**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

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**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 blasting fourth fluorine cell
- Removed cold box (tower) and nitrogen tank from C-603 Nitrogen Generating Facility
- Completed D&D of Sector 1
- Shipped three intermodals of debris for disposal

**Activity over next 60 days:**

- Continue packaging of loose materials in C-410 Complex
- Ship asbestos waste to Envirocare of Utah for disposal
- Ship C-411 (Sector 1) demolition debris to Envirocare of Utah for disposal
- Initiate characterization sampling of C-402 Lime House
- Initiate fixative application to exterior stacks
- Package demolition debris for shipment to Envirocare of Utah
- Continue paint removal from breached fluorine cells

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**January 12, 2006**  
**Project: DOE Material Storage Areas (DMSAs)**

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**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

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**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, 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:**

- Removed DMSA boundaries for OS-02, OS-04, and OS-15
- In December, 336 ft<sup>3</sup> was characterized, 7,300 ft<sup>3</sup> was packaged for disposal and 4,700 ft<sup>3</sup> was disposed
- Stored material continues to be characterized, packaged, and disposed

**Activity over next 60 days:**

- Continue disposition of the remaining DMSA OS-15 material
- Continue the sizing, packaging, and disposition of OS-4 and OS-14 rail cars
- Continue characterization of "Priority B" DMSAs under the Agreed Order
- Pursue Kentucky approval for approximately 20 DMSA RCRA Closures

## Project Status Update for DOE Paducah Citizens Advisory Board

January 12, 2006

### Project: Groundwater Operable Unit

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#### **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

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**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 (<sup>99</sup>Tc). 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 (DOE/OR/07-2150&D2/R2); Remedial Design Work Plan (DOE/OR/07-2214&D2); Remedial Design Support Investigation Characterization Plan (DOE/OR/07-2211&D2)
- Site Investigation Report for the Southwest Groundwater Plume (DOE/OR/07-2180&D1)
- Site Investigation Report for the C-746-S&T Landfills (DOE/OR/07-2212&D1)

**Issues:** Discussions with the State of Kentucky and EPA are continuing concerning the use of degradation factors utilized in groundwater modeling to support risk assessment development.

#### **Recent accomplishments:**

- Issued D2 Remedial Design Support Characterization Plan and D2 Remedial Design Work Plan to support development of the C-400 Remedial Action December 2, 2005, and December 29, 2005, respectively.
- Evaluated 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.
- Issued D1 Site Investigation Report for the C-746-S&T Landfills for review on 9/30/05. State of Kentucky comments received on 11/1. USEPA comments received on 12/12/05. Incorporation of comments is underway.

#### **Activity over next 60 days:**

- Issue D2 C-746-S&T Landfill Site Investigation Report
- Issue D1 Land Use Control Implementation Plan for the C-400 Remedial Action
- Continue resolution of TCE degradation factors issue

#### **FFA Milestones:**

- Submit D2 Southwest Plume Site Investigation Report by 2/4/06 and D1 Remedial Action Plan by 3/6/06. (Milestone being modified pending resolution of the degradation factor use in groundwater models.)

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**January 12, 2006**  
**Project: Surface Water Operable Unit (On-Site)**

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**Contact Persons:**

**Bechtel Jacobs Company LLC:** Dave Guyan/Lance Fleming  
**Commonwealth of Kentucky:** Jon Maybriar/Brian Baker  
**U.S. Environmental Protection Agency:** David Williams  
**Citizens Advisory Board:** Jim Smart

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**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:**

- Developed alternate Step 3 storm sewer sampling plan
- Continue data validation

**Activity over next 60 days:**

- Implement alternate Step 3 storm sewer sampling
- Prepare draft Site Investigation/Baseline Risk Assessment Report

**FFA Milestones:**

- Issue Site Investigation/Risk Assessment Report by August 16, 2006
- Issue Removal Notification by October 12, 2006.

**Project Status Update for DOE Paducah Citizens Advisory Board**  
**January 12, 2006**  
**Project: Scrap Metal Removal Project**

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**Contact Persons:**

**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

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**Purpose:** Environmental Cleanup/Waste Disposition

**Description:** About 36,000 tons of scrap metal exists at the PGDP, excluding nickel ingots. This project involves the removal of 26,700 tons of general scrap metal, 2,000 tons of aluminum ingots, and approximately 7,000 tons of classified scrap. The project does not include the recycling or disposal of 9,700 tons of nickel. Note the classified scrap total has been revised downward based on field experience.

**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:**

- 780 tons of scrap metal were shipped by truck in November and December from C-746-D yard to NTS. Since recertification of the waste shipping program by NTS in July 2005, BJC has shipped 2,728 tons of scrap to NTS
- Loaded 205 tons of scrap in northwest yards during November and December
- Transferred WESKEM LLC scrap metal subcontract to Envirocare of Utah LLC in November
- Initiated Envirocare shipments on December 22

**Activity over next 60 days:**

- Continue disposition operations by inspecting, sorting, size-reducing and packaging scrap metal
- Continue shipment of scrap metal to NTS

**Project Status Update for DOE Paducah Citizens Advisory Board  
January 12, 2006  
Project: Burial Grounds Operable Unit**

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**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

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**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 BGOU includes Solid Waste Management Units (SWMUs) 2, 3, 4, 5, 6, 7, 30, and 145.

**Key documents:**

- Scoping Document for the Burial Grounds Operable Unit Remedial Investigation/Feasibility Study at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky.
- Work Plan for the Burial Grounds Operable Unit Remedial Investigation/Feasibility Study at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/OR/07-2179.

**Issues:** None

**Recent accomplishments:**

- BGOU D2 RI/FS Work Plan was completed and distributed to the Commonwealth of Kentucky and the EPA on December 19, 2005

**Activity over next 60 days:**

- Receive regulator approval of the RI/FS Work Plan