

Non-Defense Environmental Services

Proposed Appropriation Language

For Department of Energy expenses, necessary for non-defense environmental services activities conducted as a result of nuclear energy research and development activities that indirectly support the accelerated cleanup and closure mission at environmental management sites as well as new work scope transferred to the Environmental Management program, including the purchase, construction, and acquisition of plant and capital equipment and other necessary expenses, \$292,121,000, to remain available until expended.

Note.—A regular 2003 appropriation for this account had not been enacted at the time the budget was prepared; therefore, this account is operating under a continuing resolution (P.L. 107–229, as amended). The amounts included for 2003 in this budget reflect the Administration’s 2003 policy proposals.

Explanation of Change

This appropriation reflects EM’s new budget structure to support the budget planning and execution of the accelerated risk reduction and cleanup initiative. The new budget structure focuses resources on risk reduction and closure and clearly delineates how resources will be utilized. (i.e., for direct cleanup activities or for other activities only indirectly related to cleanup activities). In the FY 2004 budget, this appropriation consolidates funding for non-defense related environmental services activities that indirectly support the accelerated cleanup and closure mission.

Non-Defense Environmental Services

Program Mission

The mission of the non-defense environmental services appropriation is to support non-defense related activities that indirectly support the primary EM mission of accelerated risk reduction and closure. The account also funds non-defense service activities performed by the EM program in support of other Department goals and objectives. Functions and activities funded by this appropriation are listed below.

Community and Regulatory Support activities that are integral to EM's ability to conduct cleanup at our sites (e.g., Agreements in Principle with state regulators and tribal nations, Site Specific Advisory Boards, etc.).

Environmental Cleanup Project activities to support transfer of additional contaminated excess facilities to EM program from other Departmental programs for surveillance and maintenance and eventual decontamination and decommissioning (e.g., the Fast Flux Test Facility at the Hanford Site).

Non-Closure Environmental activities that indirectly support the Environmental Management accelerated cleanup and closure mission and services provided by EM in support of other Departmental missions and objectives. This includes the environmental management responsibilities at the nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and East Tennessee Technology Park in Oak Ridge, Tennessee and the design and construction of two depleted hexafluoride conversion facilities.

The FY 2004 Request for the Non-Defense Environmental Services appropriation is \$292,121,000, an increase of \$119,151,000, from the comparable FY 2003 Request of \$172,970,000.

Program Strategic Performance Goals

EM is aggressively transitioning from a program based on risk management and containment to one focused on accelerated risk reduction and cleanup. Performance measurement is integral to the success of the EM program in achieving its accelerated risk reduction and cleanup objectives. EM's Program Strategic Performance Goals which reflects the new EM focus on accelerated risk reduction and cleanup are:

1. Complete geographic site cleanup at 89 of the 114 cleanup sites by the end of FY 2006. Continue cleanup at the remaining sites, including the five largest sites, scheduled for completion in the Post 2006 timeframe.

Performance Indicators:

- Number of geographic sites completed;
- Number of release sites remediated;
- Number of nuclear facilities completed;
- Number of radioactive facilities completed;

- Number of industrial facility completed;
 - Number of material access areas eliminated.
2. Safely and expeditiously dispose of waste generated during past and current DOE activities. Continue shipment of transuranic waste for disposal at the Waste Isolation Pilot Plant.

Performance Indicators:

- Liquid waste eliminated (millions of gallons);
 - Number of liquid tanks closed;
 - Canisters of high-level waste packaged for final disposition;
 - Transuranic waste shipped for disposal at Waste Isolation Pilot Plant (m³);
 - Low-level waste/mixed low-level waste disposed (m³).
3. Stabilize nuclear material and spent nuclear fuel by producing safer chemical and/or physical forms of the material, and reduce the level of potential risk to personnel from radiation exposure and to the environment from contamination.

Performance Indicators:

- Certified DOE storage/treatment/disposal 3013 containers (or equivalent) of plutonium metal or oxide packaged ready for long-term storage;
- Certified containers of enriched uranium packaged ready for long-term storage;
- Plutonium or uranium residues packaged for disposition (kg of bulk material);
- Spent Nuclear Fuel packaged for final disposition (metric tonnes of heavy metal);
- Depleted and other Uranium packaged for disposition (metric tonnes).

Annual Performance Results and Targets ^a

	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate
Non-Defense Environmental Services			
Plutonium Metal or Oxide Packaged for Long-Term Storage - Number of Containers	0	0	32
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	0	0	1

^a This chart provides a consistent set of performance measures for the EM program. The more detailed project-level justification provides a description of significant activities for each project including project-specific milestones, as applicable.

Funding Profile

(dollars in thousands)

	FY 2002 Comparable Appropriation	FY 2003 Request	FY 2004 Request	\$ Change	% Change
Non-Defense Environmental Services					
Non-Closure Environmental Activities . . .	106,359	133,791	247,245	113,454	84.8%
Community and Regulatory Support	5,442	3,079	1,034	-2,045	-66.4%
Environmental Cleanup Projects	36,439	36,100	43,842	7,742	21.4%
Total, Non-Defense Environmental Services	148,240	172,970	292,121	119,151	68.9%

Public Law Authorization:

- Public Law 95-91, "Department of Energy Organization Act (1977)"
- Public Law 103-62, "Government Performance and Results Act of 1993"
- Public Law 106-377, "The Energy and Water Development Appropriations Act, 2001"
- Public Law 106-398, "National Defense Authorization Act for Fiscal Year 2001"
- Public Law 107-66, "The Energy and Water Development Appropriations Act, 2002"

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Chicago					
Brookhaven National Laboratory	200	345	659	314	91.0%
Oak Ridge					
East Tennessee Technology Park	8,462	16,381	12,394	-3,987	-24.3%
Paducah					
Paducah Gaseous Diffusion Plant	15,370	20,953	50,082	29,129	139.0%
Portsmouth					
Portsmouth Gaseous Diffusion Plant	85,043	97,323	183,605	86,282	88.7%
Richland					
Hanford Site	36,439	36,100	43,842	7,742	21.4%
Various Locations					
Albuquerque Operations Office	2,500	1,848	1,500	-348	-18.8%
Oakland Operations Office	226	20	39	19	95.0%
Total, Various Locations	2,726	1,868	1,539	-329	-17.6%
Total, Non-Defense Environmental Services . .	148,240	172,970	292,121	119,151	68.9%

Non-Closure Environmental Activities

Mission Supporting Goals and Measures

The Non-Defense Environmental Services, Non-Closure Environmental Activities, funds ongoing activities that indirectly support the Environmental Management accelerated cleanup and closure mission and services provided by EM in support of other Departmental missions and objectives. This includes environmental management responsibilities at the nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and East Tennessee Technology Park in Oak Ridge, Tennessee and the design and construction of two depleted hexafluoride conversion facilities. Also included are activities related to the recovery and disposal of non-defense radioactive sealed sources.

Subprogram Goals

Since submittal of the FY 2003 Congressional Budget, EM has made substantial progress towards defining the accelerating risk reduction and cleanup strategies at each of its sites. Letters of Intent have been signed with many of our state and Environmental Protection Agency regulatory authorities. These Letters of Intent lay the foundation to move forward with the implementation of EM's accelerated risk reduction and cleanup strategies. Using the Letters of Intent as a basis, Performance Management Plans were then developed. These Performance Management Plans articulate the strategies, key milestones, and commitments that demonstrate sites are accelerating risk reduction and cleanup. From the Performance Management Plans, resource loaded project baselines will be developed that EM will use to manage and track risk reduction and real cleanup progress at its sites.

Performance Indicators

Performance measurement is integral to the success of the EM program in achieving its accelerated risk reduction and cleanup goals. Performance measurement of the EM program consists of "corporate" measures that provide a comprehensive programmatic perspective on progress as well as site and project-specific milestones which are used to demonstrate whether a project and site are on track to achieve its agreed to expectations and schedule. In October 2002, the Assistant Secretary for Environmental Management established a new set of corporate performance measures for the program. The corporate measures are quantitative and focus on the completion of sites, the interim steps necessary to complete sites, and the accomplishment of risk-reduction activities. These new measures, which are under strict EM Headquarters change control, will enable EM to comprehensively track progress against its accelerated risk reduction and closure objectives. In addition, these corporate measures are tracked in the context of the life-cycle total necessary to complete each site as well as the EM program as a whole.

Environmental Management is currently in the process of establishing site resource-loaded baselines which are expected to be completed during FY 2003. The establishment of these site baselines will enable the program to more meaningfully monitor and evaluate actual performance against the new accelerated baselines. Environmental Management believes significant strides have been made in its ability to monitor and demonstrate performance through the establishment of new corporate measures, implementation of a strict configuration management system, and the expected completion of new accelerated site baselines in FY 2003. Environmental Management acknowledges that the program needs to continue to improve upon the progress made to date to further develop project management techniques and associated cost and schedule performance measures. This will enable EM to demonstrate more clearly performance in meeting the program goals of accelerated risk reduction and site cleanup, thereby reducing life-cycle costs.

The EM corporate performance measures are:

- Number of Containers of Plutonium Metal/Oxide Stabilized and Packaged for Long-Term Storage;
- Kilograms of Enriched Uranium Stabilized and Packaged for Long-Term Storage;
- Number of Material Access Areas Eliminated;
- Kilograms Bulk of Plutonium Residues Stabilized, Packaged and Disposed;
- Cubic Meters of Transuranic Waste Stabilized, Packaged and Disposed;
- Kilograms of Depleted Uranium Packaged and Disposed ;
- Metric Tonnes of Spent Nuclear Fuel Packaged for Disposal;
- Canisters of High-Level Waste Processed, Packaged, and Disposed;
- Gallons of Liquid Waste Stabilized and Disposed;
- Number of Liquid Waste Tanks Closed;
- Number of EM Geographic Sites Eliminated;
- Cubic Meters of Low-Level/Low-Level Mixed Waste Packaged and Disposed;
- Number of Nuclear Buildings/Facilities Deactivated, Decommissioned, Demolished, or Transferred;
- Number of Radioactive Buildings/Facilities Deactivated, Decommissioned, Dismantled, or Transferred;
- Number of Industrial Buildings/Facilities Deactivated, Decommissioned, Dismantled, or Transferred; and
- Number of Release Sites Evaluated, Remediated, and Closed Out.

The corporate measures will be complemented by project-specific measures consistent with the site Performance Management Plans and Letters of Intent. Those project-specific measures are typically milestones that signify that project and site progress is sufficient to meet established schedules. Detailed performance measure and milestone information can be found in the site details that follow this program overview.

Annual Performance Results and Targets ^a

	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate
There are no quantifiable corporate performance measures associated with this account.			

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Oak Ridge					
East Tennessee Technology Park	8,462	16,381	12,394	-3,987	-24.3%
Paducah					
Paducah Gaseous Diffusion Plant	10,354	18,239	49,746	31,507	172.7%
Portsmouth					
Portsmouth Gaseous Diffusion Plant	85,043	97,323	183,605	86,282	88.7%
Various Locations					
Albuquerque Operations Office	2,500	1,848	1,500	-348	-18.8%
Total, Non-Defense Environmental Services, Non-Closure Environmental Activities	106,359	133,791	247,245	113,454	84.8%

Funding Schedule

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
OR-0011Y/Nuclear Material Stabilization and Disposition-East Tennessee Technology Park Uranium Facilities Management	8,462	16,381	12,394	-3,987	-24.3%
PA-0011/Nuclear Material Stabilization and Disposition-Paducah Uranium Facilities Management	5,354	12,760	4,267	-8,493	-66.6%
PA-0011X/Nuclear Material Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	5,000	5,000	45,000	40,000	800.0%
PA-0101/Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense)	0	479	479	0	0.0%

^a This chart provides a consistent set of performance measures for the EM program. The more detailed project-level justification provides a description of significant activities for each project including project-specific milestones, as applicable.

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
PO-0011/Nuclear Material Stabilization and Disposition-Portsmouth Other Uranium Facilities Management	9,563	10,950	16,523	5,573	50.9%
PO-0011X/Nuclear Material Stabilization and Disposition-Depleted Uranium Hexafluoride Conversion	5,000	5,000	45,000	40,000	800.0%
PO-0041/Nuclear Facility Decontamination and Decommissioning-Portsmouth Gaseous Centrifuge Experimental Process	0	0	20,000	20,000	>999.9%
PO-0101/Portsmouth Cold Standby	70,480	81,373	102,082	20,709	25.4%
VL-FAO-0100-N/Nuclear Material Stewardship (Non-Defense)	2,500	1,848	1,500	-348	-18.8%
Total, Non-Defense Environmental Services, Non-Closure Environmental Activities	106,359	133,791	247,245	113,454	84.8%

Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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OR-0011Y / Nuclear Materials Stabilization and Disposition - East Tennessee Technology Park Uranium Facilities Management (life-cycle estimate \$84,261K)

8,462 16,381 12,394

This PBS scope reduces the environmental and safety concerns associated with approximately 6,800 uranium hexafluoride cylinders and provides a portion of site infrastructure services at the East Tennessee Technology Park. The surveillance and maintenance activities to manage the uranium hexafluoride cylinders include cylinder inspections, cylinder yard environmental and radiological monitoring, routine re-stacking and relocation of cylinders to place them in an improved storage condition, preventive and corrective maintenance, inspection and maintenance of six cylinder storage yards and cylinder handling equipment, disposition of legacy cylinder debris/waste until its final disposition, disposal of empty cylinders, and support for the report to Congress on Environment, Safety and Health.

The Oak Ridge Performance Management Plan defines the end-state as removal of East Tennessee Technology Park cylinders to the Portsmouth or Paducah depleted uranium hexafluoride conversion facility by September 2007. Site infrastructure services includes fire protection, utility services, environmental, safety, and health programs, real property management, power operations and maintenance, and capital improvements and repairs. (Former PBS OR-4M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of East Tennessee Technology Park.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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- Maintain approximately 6,800 uranium hexafluoride cylinders in a safe condition, maintain six cylinder yards, support site infrastructure, facilitate shipment of cylinders to Portsmouth, support the three site annual report to congress on environmental, safety, and health, and preparation of safety authorization basis documentation.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
Depleted and Other Uranium Packaged for Disposition (mt)	0	0	0	0	56,988	0%
Enriched Uranium Packaged for Long-Term Storage (Number of Containers)	0	0	0	0	673	0%
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ This project maintained the uranium hexafluoride cylinders in a safe condition, conducted inspections, performed engineering development work necessary to sustain, optimize and enhance the cylinder storage and maintenance, initiated National Environmental Policy Act activities for shipping cylinders from East Tennessee Technology Park to Portsmouth or Paducah for final disposition, supported site infrastructure, and continued to upgrade safety analysis reports to bring them into compliance with current requirements (FY 2002). ■ Disposed of 477 empty uranium hexafluoride cylinders at the Nevada Test Site and recoated 279 cylinders (FY 2002). ■ Begin shipment of 500 uranium hexafluoride cylinders to Portsmouth, Ohio and ship 500 empty cylinders to the Nevada Test Site (September 2003). ■ Ship 500 uranium hexafluoride cylinders to Portsmouth, Ohio and ship 650 empty cylinders to the Nevada Test Site (September 2004). ■ Continue to maintain about 5,800 uranium hexafluoride cylinders and six cylinder yards (September 2004). 						

PA-0011 / Nuclear Materials Stabilization and Disposition - Paducah Uranium Facilities Management (life-cycle estimate \$77,218K)

5,354 12,760 4,267

This PBS scope performs surveillance and maintenance of fifteen inactive facilities, manages uranium hexafluoride cylinders, provides support for the report to Congress on environmental, safety, and health, and manages legacy polychlorinated biphenyl contamination. Surveillance and maintenance of inactive facilities prevents significant deterioration of the buildings and/or support systems until the decommissioning, decontamination, and demolition is complete and avoids exposure to unsafe conditions for personnel requiring access for compliance inspections, housekeeping assessments, corrective maintenance, fire protection, security, and/or emergency response.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Safe storage of approximately 39,000 uranium hexafluoride cylinders is maintained by a cylinder inspection program. Activities include: recording and monitoring physical condition and defects of the cylinders; 1) a radiological monitoring re-stacking and relocating cylinders to improve cylinder storage conditions, 2) preventive and corrective maintenance on the cylinders, eleven cylinder yards, and cylinder handling equipment, and 3) configuration control of the cylinder inventory. Management of the uranium hexafluoride cylinders will continue until October 2006 when turnover to the depleted uranium hexafluoride conversion facility operator occurs. This assumes that the conversion facility will start operations in FY 2007.

Another activity covered by this PBS scope includes management of polychlorinated biphenyls. Gaskets impregnated with polychlorinated biphenyl were used in the ventilation duct systems of the Paducah Gaseous Diffusion Plant, and operations have resulted in leakage of polychlorinated biphenyl contaminated lubrication oils used in motor and compressor bearings. The polychlorinated biphenyl project includes activities related to and maintaining compliance with the Toxic Substances Control Act (40 CFR 761), Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992, as well as DOE Orders and other applicable requirements. Polychlorinated biphenyl activities include inspections of transformers, checks of spill sites, inspection, repair, and maintenance of troughs and collection systems, cleanup of spills, sampling and analysis of spills and equipment, and compliance reporting. The compliance measures of the Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992 have varied completion requirement dates. The measures having the latest completion dates are the removal of gaskets, ducts and hydraulics systems which must be complete between the facility decommissioning date and ten years after that date. The completion of polychlorinated biphenyl storage issues must be by 2016 or within ten years of starting storage. Periodic polychlorinated biphenyl air sampling in the process buildings must continue until one year after the facility is shut down. (Former PBS OR-5M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Paducah.

- Maintain safe and compliant surveillance and maintenance of fifteen inactive facilities and approximately 39,000 uranium hexafluoride cylinders.
- Relocate 3,300 cylinders from gravel yards to improved storage on new concrete yards.
- Inspect and maintain the polychlorinated biphenyl collection and containment system, consisting of over 16,000 troughs throughout 6,400,000 square feet of floor space of the Paducah Gaseous Diffusion Plant.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
Enriched Uranium Packaged for Long-Term Storage (Number of Containers)	0	0	0	0	182	0%
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ Maintained safe and compliant surveillance and maintenance of fifteen inactive facilities and approximately 39,000 uranium hexafluoride cylinders and eleven cylinder storage yards (FY 2002). ■ Inspected and maintained the polychlorinated biphenyl collection and containment system, consisting of over 16,000 troughs throughout 6,400,000 square feet of floor space of the Paducah Gaseous Diffusion Plant (FY 2002). ■ Complete construction of the C-745-K (North/South) and M cylinder yards (FY 2002). ■ Continue to maintain approximately 39,000 uranium hexafluoride cylinders in a safe condition and eleven cylinder yards (September 2003/September 2004) ■ Accept 400 depleted uranium hexafluoride cylinders from the United States Enrichment Corporation (September 2003) ■ Design and construct a new cylinder storage yard (September 2004) 						

PA-0011X / Nuclear Materials Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion (life-cycle estimate \$1,216,278K)

5,000 5,000 45,000

Approximately 700,000 metric tonnes of depleted uranium hexafluoride are stored in 60,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites and at the East Tennessee Technology Park. This PBS scope will design, permit, build, and operate for five years one depleted uranium hexafluoride conversion facility, at the Paducah Gaseous Diffusion Plant site. The facility will convert depleted uranium hexafluoride into a more stable form, a depleted uranium oxide (U₃O₈), suitable for reuse or disposition. The U₃O₈ will be disposed of at Envirocare, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will be crushed and sent to disposal or reuse.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile which should take an additional 20 years. The conversion facility operator will assume responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders one year prior to operation which is scheduled in FY 2007. The conversion facilities will undergo decontamination and decommissioning around 2030 after all depleted uranium hexafluoride has been converted. (Former PBS OR-9C3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Paducah.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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- In FY 2004 this project will start final design, start procurement of long lead items, start construction on the conversion facilities, and transition the surveillance and maintenance of the cylinder yards to the operating contractor.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
Depleted and Other Uranium Packaged for Disposition (mt)	0	0	0	0	453,312	0%
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ In FY 2002 the conversion contract was signed on August 29, 2002 (FY 2002). ■ Start depleted uranium hexafluoride conversion facilities Preliminary Design (June 2003). ■ Start depleted uranium hexafluoride conversion facilities final design (November 2003). ■ Prepare a limited advanced preliminary construction package for depleted uranium hexafluoride facilities site work (January 2004). 						

PA-0101 / Paducah Contract / Post-Closure Liabilities /

Administration (Non-Defense) (life-cycle estimate \$4,357K) 0 479 479

This PBS scope supports legacy documents and litigation issues, record searches performed for DOE and the Department of Justice investigations/studies, pending litigation, Freedom of Information Act requests, and information requests from both state and federal regulatory and elected officials are performed. (Former PBS OR-5M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Paducah.

- Search 7,000 documents for ongoing lawsuits.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ Met required obligations to former Paducah Gaseous Diffusion Plant work force (FY 2002/FY 2003). ■ Searched 10,722 documents (FY 2002). 						

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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**PO-0011 / Nuclear Materials Stabilization and Disposition-
Portsmouth Other Uranium Facilities Management (life-cycle
estimate \$117,413K) 9,563 10,950 16,523**

This PBS scope manages the Highly Enriched Uranium Program, performs surveillance and maintenance on the former Uranium Program facilities, management of approximately 19,000 uranium hexafluoride cylinders, and manages legacy polychlorinated biphenyl contamination. The Highly Enriched Uranium Program activities will continue until a decision is made to place Highly Enriched Uranium process building X-326 into the decontamination and decommissioning program, currently estimated to be beyond 2010. The Highly Enriched Uranium Program stores, ships, treats, and disposes of filter and incinerator ashes; disposes of the remaining highly enriched uranium materials (i.e. oils, acids, and alumina) stored in X-326 L-Cage; provides interim storage of highly enriched uranium materials at the Nuclear Fuel Service facility; performs engineering design, special equipment procurement, construction, and safety/regulatory reviews of small-scale highly enriched uranium-uranium hexafluoride for the Oxide Conversion Facility at Nuclear Fuel Service facility; performs surveillance and maintenance on the 158 permanently shut down cells in X-326; and operates Enriched Uranium-DOE Materials Storage Area-12. Surveillance and maintenance of DOE leased and non-leased facilities, two cylinder yards, inventories of Special Nuclear Materials, and technical support to cold standby activities are performed.

Management of depleted uranium hexafluoride cylinders will continue until October 2006, when turnover to the depleted uranium hexafluoride conversion facility operator occurs. Another activity covered by this PBS scope includes management of polychlorinated biphenyls. Gaskets impregnated with polychlorinated biphenyl were used in the ventilation duct systems of the Portsmouth Gaseous Diffusion Plant, and operations have resulted in leakage of polychlorinated biphenyl contaminated lubrication oils used in motor and compressor bearings. The polychlorinated biphenyl project includes activities related to and maintaining compliance with the Toxic Substances Control Act (40 CFR 761), Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992, as well as DOE Orders and other applicable requirements. Polychlorinated biphenyl activities include inspections of transformers, checks of spill sites, inspection, repair, and maintenance of troughs and collection systems, cleanup of spills, sampling and analysis of spills and equipment, and compliance reporting.

The compliance measures of the Uranium Enrichment Toxic Substances Control Act Federal Facilities Compliance Agreement of 1992 have varied completion requirement dates. The measures having the latest completion dates are the removal of gaskets, ducts and hydraulics systems which must be complete between the facility decommissioning date and ten years after that date. The completion of polychlorinated biphenyl storage issues must be by 2016 or within ten years of starting storage. Periodic polychlorinated biphenyl air sampling in the process buildings must continue until one year after the facility is shut down. (Former PBS OR-6M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Portsmouth.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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- Maintain the approximately 19,000 uranium hexafluoride cylinders in safe, compliant, and secure conditions while awaiting start of operation of the facility to convert uranium hexafluoride into a more stable form (U₃O₈) for disposal.
- Obtain agreement from the State of Ohio to begin to receive the uranium hexafluoride cylinders from the East Tennessee Technology Park in support of the accelerated closure of East Tennessee Technology Park and to stage for conversion.
- □ Inspect and maintain the polychlorinated biphenyl collection and containment system.
- □ Manage the Highly Enriched Uranium Program.
- □ Continue safe, compliant, and secure conditions at inactive facilities.
- Provide technical support to maintain Portsmouth Gaseous Diffusion Plant in cold standby condition.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
Enriched Uranium Packaged for Long-Term Storage (Number of Containers)	0	0	0	0	1,450	0%
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ Maintained safe, compliant, and secure conditions at inactive facilities and approximately 19,000 uranium hexafluoride cylinders for two cylinder yards (FY 2002). ■ Inspected and maintained the polychlorinated biphenyl collection and containment system (FY 2002). ■ □ Managed the Highly Enriched Uranium Program (FY 2002). ■ Awarded subcontract for the disposition of highly enriched uranium in storage at Nuclear Fuel Service (FY 2002). ■ Complete characterization of highly enriched uranium at Nuclear Fuel Service (September 2003). ■ Continue to maintain approximately 19,000 uranium hexafluoride cylinders in a safe condition (September 2003). ■ Begin to receive 500 uranium hexafluoride cylinders from the East Tennessee Technology Park (September 2004). ■ Continue to maintain existing and additional uranium hexafluoride cylinders received from East Tennessee Technology Park (~19,500) in a safe condition (September 2004). 						

PO-0011X / Nuclear Materials Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion (life-cycle estimate \$1,216,277K)

5,000 5,000 45,000

Approximately 700,000 metric tonnes of depleted uranium hexafluoride are stored in 60,000 cylinders at the Paducah and Portsmouth Gaseous Diffusion Plant sites and at the East Tennessee Technology

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Park. This PBS scope will design, permit, build, and operate for five years one depleted uranium hexafluoride conversion facility, at the Portsmouth Gaseous Diffusion Plant site. The facility will convert depleted uranium hexafluoride into a more stable form, a depleted uranium oxide (U₃O₈), suitable for reuse or disposition. The U₃O₈ will be disposed of at Envirocare, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will be crushed and sent to disposal or reuse. The PBS scope also includes transportation of approximately 6,000 cylinders from East Tennessee Technology Park to the Portsmouth Gaseous Diffusion Plant for conversion.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile which should take an additional 20 years. The conversion facility operator will assume responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders one year prior to operation which is scheduled in FY 2007. The conversion facilities will undergo decontamination and decommissioning around 2030 after all depleted uranium hexafluoride has been converted. (Former PBS OR-9C3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Portsmouth.

- In FY 2004 this project will start final design, start procurement of long lead items, start construction on the conversion facilities, gain approval of the Department of Transportation exemption for East Tennessee Technology Park cylinder shipments, design the overpack for American National Standards Institute non-compliant cylinders, and transition the surveillance and maintenance of the cylinder yards.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
Depleted and Other Uranium Packaged for Disposition (mt)	0	0	0	0	205,567	0%
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ In FY 2002 the conversion contract was signed on August 29, 2002 (FY 2002). ■ Start Depleted Uranium Hexafluoride Conversion Facilities Preliminary Design (June 2003). ■ Start depleted uranium hexafluoride conversion facilities final design (November 2003). ■ Prepare a limited advanced preliminary construction package for depleted uranium hexafluoride facilities site work (January 2004). 						

PO-0041 / Nuclear Facility Decontamination and Decommissioning - Portsmouth Gaseous Centrifuge

Experimental Process (life-cycle estimate TBD) 0 0 20,000

This PBS scope accelerates cleanup of the Gaseous Centrifuge Experimental Process facilities for use by the United States Enrichment Corporation in the development of an advanced uranium enrichment process. On December 4, 2002, the United States Enrichment Corporation announced that it will site its

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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lead cascade centrifuge uranium test facility at the Portsmouth site. This announcement was based on the June 17, 2002, agreement between DOE and the United States Enrichment Corporation where DOE committed to work with the United States Enrichment Corporation in its development and deployment of an advanced centrifuge uranium enrichment plant by 2010-2011. Part of this commitment involves the cleanup of the Gas Centrifuge Enrichment Plant facilities at Portsmouth.

The Gas Centrifuge Enrichment Plant cleanup program is expected to cover a period from FY 2004 through FY 2007, and include cleanout of process building X-3001, modification of the area around the heating plant boiler in process building X-3002, Resource Conservation and Recovery Act closure of recycle/assembly building X-7725, facility repairs and modifications to XT-847 (warehouse for future Resource Conservation and Recovery Act permitted storage area and office space for waste management operations), facility repairs and modifications to X-7721 (maintenance, stores and training building), relocation of DOE operations, and project management and support. (Former PBS OR-6M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Portsmouth.

- Begin cleanup and equipment removal in process buildings X-3001 and X-3002, including environmental documentation.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■□ Complete necessary environmental documentation sufficient to begin cleanup and equipment removal (September 2004). 						

PO-0101 / Portsmouth Cold Standby (life-cycle estimate

\$352,885K) 70,480 81,373 102,082

The department decided on March 1, 2001, to place Portsmouth Gaseous Diffusion Plant in cold standby after the United States Enrichment Corporation decided to cease the production of enriched uranium at the plant. This PBS scope maintains the inactive gaseous diffusion plant equipment in cold standby so that operations can be restarted within eighteen to twenty-four months, if necessary.

Activities include purging the cascade process equipment of uranium hexafluoride, buffering with dry air, maintaining the freon inventory, performs removal of uranium deposits from systems and equipment, and the heating of several buildings on the site to prevent damage from freezing in winter. It is assumed in FY 2004 the government will continue to operate the shipping and transfer facilities to remove technicium-99 from contaminated uranium enriched inventory.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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The Portsmouth plant will be taken out of the cold standby state and transitioned to decontamination and decommissioning pending the successful development of new technology for enriching uranium. The current plan is for the United States Enrichment Corporation to have an Advanced Centrifuge Facility built and ready to operate by 2010-2011. The plant is currently being maintained in Cold Standby status under a contract with the United States Enrichment Corporation. (Former PBS OR-6M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Portsmouth.

- This project will maintain the inactive Portsmouth Gaseous Diffusion Plant in cold standby so that operations can be restarted within eighteen to twenty-four months.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ Completed design of heating system and purchased portable electric heaters to prevent damage from freezing (FY 2002). ■ Maintained capability to restart operations (FY 2002). ■ Maintained approximately 4.5 million pounds freon inventory (FY 2002). ■ Sampled 151 cells to determine moisture content of the buffer gas (FY 2002). ■ A total of 1,977 pounds of uranium hexafluoride was recovered (FY 2002). ■ Continue to remove uranium deposits from cells (September 2003). ■ Continue to maintain capability to restart operation (September 2003/September 2004). 						

VL-FAO-0100-N / Nuclear Material Stewardship

(Non-Defense) (life-cycle estimate \$15,579K) 2,500 1,848 1,500

The purpose of the Off-site Source Recovery Project at Los Alamos National Laboratory is to remove excess radioactive sealed sources from the non-DOE sector throughout the United States. These materials have been identified as a risk to public health and safety. Public Law 99-240 makes DOE responsible for the recovery and safe storage of approximately 18,000 excess sources until they can be permanently disposed of by DOE. This PBS scope covers activities required to recover and store domestic radioactive sealed sources lacking a disposition path. This activity was directed to accelerate the recovery of the existing backlog. Congress appropriated \$10 million in the FY 2002 emergency supplemental appropriations and mandated the project to complete retrieval of over 5,000 radioactive sealed sources by March 2004. The funds were provided through the National Nuclear Security Administration, Defense Nuclear Nonproliferation Program.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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The end-state of this activity is the maintenance of all sealed sources collected by the Department under this authority in a safe and cost effective manner until disposal or other disposition, as appropriate, can be achieved by the Environmental Management Program. It is anticipated that these activities can be achieved by the end of FY 2010. (Former PBS AL-032)

In FY 2004, the following activities are planned.

- □ Continue to store previously recovered radioactive sealed sources.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ □ To date, the project has recovered 5,000 sources to Los Alamos. These have been consolidated into 276 drums of transuranic waste stored with no disposal path. The project will continue to store the transuranic waste from prior year recoveries (FY 2002). ■ □ Maintain safe and secure storage of sealed sources (September 2003). ■ □ Maintain safe and secure storage of sealed sources (September 2004). 						

Total, Non-Defense Environmental Services, Non-Closure Environmental Activities	106,359	133,791	247,245
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Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

OR-0011Y / Nuclear Materials Stabilization and Disposition - East Tennessee Technology Park Uranium Facilities Management

- The decreased funding is because the uranium hexafluoride cylinders shipments to Portsmouth were started in FY 2003 in support of closure and fewer cylinders require less maintenance in FY 2004 -3,987

PA-0011 / Nuclear Materials Stabilization and Disposition - Paducah Uranium Facilities Management

- □ Funding is less in FY 2004 because of completion of yard construction in FY 2003 . -8,493

FY 2004 vs. FY 2003 (\$000)

PA-0011X / Nuclear Materials Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion

- Increase is due to awarding the contract in August 2002 to design, construct and operate a conversion facility; start and complete design, initiate long-lead procurements and begin construction 40,000

PO-0011 / Nuclear Materials Stabilization and Disposition - Portsmouth Other Uranium Facilities Management

- The funding needed in FY 2004 has been increased to construct a new storage pad for receipt and storage of East Tennessee Technology Park depleted uranium hexafluoride cylinders being shipped in accordance with the Oak Ridge Performance Management Plan 5,573

PO-0011X / Nuclear Materials Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion

- Increase is due to awarding the contract in August 2002 to design, construct and operate a conversion facility; start and complete design, initiate long-lead procurements and begin construction 40,000

PO-0041 / Nuclear Facility Decontamination and Decommissioning - Portsmouth Gaseous Centrifuge Experimental Process

- Recent announcement that Portsmouth will be the location for the deployment of Advanced Enrichment Technology Demonstration requires that these facilities be made ready for the deployment contractor (United States Enrichment Corporation). This is a newly funded project in FY 2004 20,000

PO-0101 / Portsmouth Cold Standby

- The funding for Portsmouth Cold Standby has increased to support United States Enrichment Corporation follow-up agreements signed by the Department in FY 2002, which cover the costs of removing technetium-99 from the United States Enrichment Corporation uranium inventory and severance costs for shipping and transfer facility employees. 20,709

VL-FAO-0100-N / Nuclear Material Stewardship (Non-Defense)

- Decrease reflects the availability of prior year funds appropriated to the National Nuclear Security Administration -348

Total Funding Change, Non-Defense Environmental Services, Non-Closure Environmental Activities 113,454

Community and Regulatory Support

Mission Supporting Goals and Measures

The Non-Defense Environmental Services, Community and Regulatory Support account funds activities that are not directly related to on-the-ground cleanup results but are none the less are integral to EM's ability to conduct cleanup at our sites (e.g., agreements in principle with state regulators and tribal nations, site specific advisory boards, etc.). These important activities must be maintained at an appropriate level to ensure that maximum funding is directed to real cleanup while also supporting the necessary level of stakeholder participation.

Subprogram Goals

The primary goal of the activities in this account is to promote active involvement in the EM planning and decision-making processes. More specifically, the objective is to provide state, tribal and local governments and other interested stakeholders with opportunities for meaningful involvement in managing the cleanup and closure of the Nation's former nuclear weapons complex. The principal means by which this goal is accomplished is through EM Site-Specific Advisory Boards and Agreements in Principle with certain state regulatory agencies who are responsible for oversight of EM cleanup activities and through grants and cooperative agreements with other organizations such as the National Governors' Association, the National Association of Attorneys General, and the National Conference of State Legislatures.

Performance Indicators

While the activities funded by this account are integral to EM's ability to successfully complete its accelerated risk reduction and closure mission, because they are not directly related to "on-the-ground" cleanup activities, they do not lend themselves to measurement by mission completion performance indicators.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Liability Act cleanup activities, as identified in the Brookhaven National Laboratory Performance Management Plan (August 2002), are to be completed. (Former PBS CH-BRNLRA)

In FY 2004, the following activities are planned to support the accelerated cleanup of Brookhaven.

- In FY 2004, the New York State Department of Environmental Conservation will continue to ensure that the impacts to public health, welfare, or the environment associated with past and present activities at the Site are thoroughly investigated and appropriate Remedial Action(s) are taken as necessary to protect the public health, welfare, or the environment.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> ■ Provides involvement in the initiation, development, selection and enforcement of Remedial Actions to be undertaken at Brookhaven National Laboratory, including review of all applicable data, and the development of studies, reports and action plans, and oversees implementation of the selected Removal Actions, Operable Units and Remedial Actions, and the continued operation and maintenance of the implemented Remedial Action(s) (FY 2002/FY 2003/FY 2004). 						

PA-0100 / Paducah Community and Regulatory Support

(Non-Defense) (life-cycle estimate \$ 27,842K) 5,016 2,714 336

This PBS supports the Agreement-in-Principle grant to the Commonwealth of Kentucky to provide independent oversight of the environmental programs at the Paducah Gaseous Diffusion Plant. The State provides independent surface water, groundwater, air and other environmental monitoring at Paducah. These funds are not used by the State to provide regulatory oversight. The funds in this Non-Defense account apply to civilian activities not directly related to the operation of the gaseous diffusion plants. Other civilian activities directly related to operation of the gaseous diffusion plants are covered under the uranium enrichment decontamination and decommissioning fund. (Former PBS OR-5M3)

In FY 2004, the following activities are planned to support the accelerated cleanup of Paducah.

- Provide financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> There are no milestones associated with this PBS. 						

VL-FOO-0100-N / Oakland Community and Regulatory

Support (Non-Defense) (life-cycle estimate \$ 2,472K) 226 20 39

This project provides funding for grants to the Regional Water Quality Control Board and California Department of Toxic Substances Control Board to provide oversight of the Resource Conservation and Recovery Act and Comprehensive Environmental Response, Compensation, and Liability Act programs at the Laboratory for Environmental Health-Related Research to Indian Nations for grants supporting tribal universities and colleges activities related to environmental cleanup. (Former PBS OK-040)

In FY 2004, the following activities are planned to support the accelerated cleanup of Oakland.

- Continue State regulatory oversight of legacy waste management and environmental restoration activities at the Laboratory for Environmental Health-Related Research.
- Continue State review of data and documentation associated with environmental cleanup at the Laboratory for Environmental Health-Related Research site.

Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
No metrics associated with this PBS						
Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)						
<ul style="list-style-type: none"> Grants are paid annually to the State of California regulatory agencies (as specified in the Federal Facility Agreement) for participation and oversight of the cleanup programs (FY 2002/FY 2003/FY 2004). 						

Total, Non-Defense Environmental Services, Community and Regulatory Support	5,442	3,079	1,034
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Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

CH-BRNL-0100 / Brookhaven Community and Regulatory Support

- Increase in funding supports oversight for accelerated groundwater, sediment, and soil remediation activities in FY 2004 314

PA-0100 / Paducah Community and Regulatory Support (Non-Defense)

- Realignment of activities within the program results in a proportional reduction in funding for this PBS -2,378

VL-FOO-0100-N / Oakland Community Regulatory Support (Non-Defense)

- Slight increase in funding for completion of evaluations by regulators of implemented remedial action systems 19

Total Funding Change, Non-Defense Environmental Services, Community and Regulatory Support	-2,045
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Environmental Cleanup Projects

Mission Supporting Goals and Measures

The Non-Defense Environmental Services, Environmental Cleanup Projects account provides funds to support the transfer of additional contaminated excess facilities to the EM program from other Departmental programs for surveillance and maintenance and eventual decontamination and decommissioning (e.g., Fast Flux Test Facility at the Hanford Site beginning in FY 2004). These transfers constitute new work scope for the EM program. Existing EM-owned excess facilities have been placed within the appropriate accounts under the Site Acceleration Completion appropriation.

Subprogram Goals

Transfer of additional contaminated excess facilities in the EM program from other Departmental programs is the primary focus and objective of activities funded by this account. These transfers represent new scope for the EM program. EM will conduct surveillance and maintenance of the facilities and eventually the facilities will under go decontamination and decommissioning.

Since submittal of the FY 2003 Congressional Budget, EM has made substantial progress towards defining the accelerating risk reduction and cleanup strategies at each of its sites. Letters of Intent have been signed with many of our state and Environmental Protection Agency regulatory authorities. These Letters of Intent lay the foundation to move forward with the implementation of EM's accelerated risk reduction and cleanup strategies. Using the Letters of Intent as a basis, Performance Management Plans were then developed. These Performance Management Plans articulate the strategies, key milestones, and commitments that demonstrate sites are accelerating risk reduction and cleanup. From the Performance Management Plans, resource loaded project baselines will be developed that EM will use to manage and track risk reduction and real cleanup progress at its sites. These baselines are expected to be completed during FY 2003.

Performance Indicators

Performance measurement is integral to the success of the EM program in achieving its accelerated risk reduction and cleanup goals. Performance measurement of the EM program consists of "corporate" measures that provide a comprehensive programmatic perspective on progress as well as site and project-specific milestones which are used to demonstrate whether a project and site are on track to achieve its agreed to expectations and schedule. In October 2002, the Assistant Secretary for Environmental Management established a new set of corporate performance measures for the program. The corporate measures are quantitative and focus on the completion of sites, the interim steps necessary to complete sites, and the accomplishment of risk-reduction activities. These new measures, which are under strict EM Headquarters change control, will enable EM to comprehensively track progress against its accelerated risk reduction and closure objectives. In addition, these corporate measures are tracked in the context of the life-cycle total necessary to complete each site as well as the EM program as a whole.

Environmental Management is currently in the process of establishing site resource-loaded baselines which are expected to be completed during FY 2003. The establishment of these site baselines will enable the program to more meaningfully monitor and evaluate actual performance against the new accelerated baselines. Environmental Management believes significant strides have been made in its ability to monitor and demonstrate performance through the establishment of new corporate measures, implementation of a strict configuration management system, and the expected completion of new accelerated site baselines in FY 2003. Environmental Management acknowledges that the program needs to continue to improve upon the progress made to date to further develop project management techniques and associated cost and schedule performance measures. This will enable EM to demonstrate more clearly performance in meeting the program goals of accelerated risk reduction and site cleanup, thereby reducing life-cycle costs.

The EM corporate performance measures are:

- Number of Containers of Plutonium Metal/Oxide Stabilized and Packaged for Long-Term Storage;
- Kilograms of Enriched Uranium Stabilized and Packaged for Long-Term Storage;
- Number of Material Access Areas Eliminated;
- Kilograms Bulk of Plutonium Residues Stabilized, Packaged and Disposed;
- Cubic Meters of Transuranic Waste Stabilized, Packaged and Disposed;
- Kilograms of Depleted Uranium Packaged and Disposed;
- Metric Tonnes of Spent Nuclear Fuel Packaged for Disposal;
- Canisters of High-Level Waste Processed, Packaged, and Disposed;
- Gallons of Liquid Waste Stabilized and Disposed;
- Number of Liquid Waste Tanks Closed;
- Number of EM Geographic Sites Eliminated;
- Cubic Meters of Low-Level/Low-Level Mixed Waste Packaged and Disposed;
- Number of Nuclear Buildings/Facilities Deactivated, Decommissioned, Demolished, or Transferred;
- Number of Radioactive Buildings/Facilities Deactivated, Decommissioned, Dismantled, or Transferred;
- Number of Industrial Buildings/Facilities Deactivated, Decommissioned, Dismantled, or Transferred; and
- Number of Release Sites Evaluated, Remediated, and Closed Out.

The corporate measures will be complemented by project-specific measures consistent with the site Performance Management Plans and Letters of Intent. Those project-specific measures are typically milestones that signify that project and site progress is sufficient to meet established schedules. Detailed performance measure and milestone information can be found in the site details that follow this program overview.

Annual Performance Results and Targets ^a

	FY 2002 Actuals	FY 2003 Estimate	FY 2004 Estimate
Environmental Cleanup Projects			
Plutonium Metal or Oxide Packaged for Long-Term Storage - Number of Containers	0	0	32
Spent Nuclear Fuel Packaged for Final Disposition (MTHM)	0	0	1

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
Richland					
Hanford Site	36,439	36,100	43,842	7,742	21.4%
Total, Non-Defense Environmental Services, Environmental Cleanup Projects	36,439	36,100	43,842	7,742	21.4%

Funding by Site

(dollars in thousands)

	FY 2002	FY 2003	FY 2004	\$ Change	% Change
RL-0042/Nuclear Facility Decontamination and Decommissioning-Fast Flux Test Facility	36,439	36,100	43,842	7,742	21.4%
Total, Non-Defense Environmental Services, Environmental Cleanup Projects	36,439	36,100	43,842	7,742	21.4%

Detailed Program Justification

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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RL-0042 / Nuclear Facility Decontamination and Decommissioning - Fast Flux Test Facility (life-cycle estimate \$1,258,309K)	36,439	36,100	43,842
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A Record of Decision, issued January 26, 2001, established that the Fast Flux Test Facility would be permanently deactivated, and a subsequent decision made by the Secretary of Energy on

^a This chart provides a consistent set of performance measures for the EM program. The more detailed project-level justification provides a description of significant activities for each project including project-specific milestones, as applicable.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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December 19, 2001, concluded that the Fast Flux Test Facility will be permanently closed. This PBS will deactivate and decommission the Fast Flux Test Facility: a 400-megawatt (thermal) liquid-metal (sodium) cooled fast neutron flux nuclear test reactor and forty-nine support buildings and structures arranged around the central reactor containment building. The deactivation activities consist of: reactor defueling; washing, dry packaging, storage (in storage casks), and disposition of 408 reactor fuel assemblies; the draining and disposition of 195,000 gallons of sodium in operating plant systems and 65,000 gallons of sodium in the Sodium Storage Facility; and the shutdown of 73 plant auxiliary systems. The final facility disposition activity is typically decommissioning where the facility will be taken to its ultimate end-state through decontamination and/or dismantlement to demolition or entombment.

The Fast Flux Test Facility containment building, including the defueled reactor vessel, will be entombed or demolished as agreed upon with the regulators through the Comprehensive Environmental Response, Compensation, and Liability Act process. All other support structures will be demolished to three feet below grade. The reactor defueling has been completed and 126 fuel assemblies (31%) have been washed and packaged in storage casks. The deactivation is expected to be completed by the end of FY 2009 and the decommissioning to be completed by around 2015.

On November 8, 2002, a legal action was filed in federal court to halt the sodium drain activity. A subsequent court order has directed DOE to maintain the status quo of the Fast Flux Test Facility until March 12, 2003. Some deactivation steps have been completed, but the majority of the activities remain on hold pending final outcome of the court case. This PBS is new in FY 2004, and there is no prior PBS in which it was funded.

In FY 2004, the following activities associated with combined deactivation and decommissioning are planned, based on resolving the court order by March 31, 2003.

- Complete washing and packaging of one metric tonne heavy metal of Fast Flux Test Facility reactor fuel for disposition by December 31, 2003.
- Award the contract by December 31, 2003, for 27 additional custom-fabricated dry storage casks required to complete the disposition of reactor fuel.
- Continue to drain sodium from various plant systems with an objective of draining 50% of all the sodium by September 30, 2004, and complete preparation, including installation of special hardware, for starting more complex sodium drain activities.
- Shut down plant auxiliary systems associated with the plant's sodium system, as appropriate.
- Obtain Nuclear Regulatory Commission Certification of Compliance for a shipping cask to facilitate reactor fuel disposition, and complete the Comprehensive Environmental Response, Compensation and Liability Act actions to reach agreement on the end-state of the project by March 31, 2004.

(dollars in thousands)

FY 2002	FY 2003	FY 2004
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Metrics	FY 2002	FY 2003	FY 2004	Cumulative Complete FY 2004	Life-cycle Quantity	FY 2004 % Complete
Pu Metal/Oxide Packaged for Long-Term Storage (Number of Containers)	0	0	32	32	32	100%
SNF Packaged for Final Disposition (MTHM)	0	0	1	1	7	14%
Radioactive Facility Completions (Number of Facilities)	0	0	0	0	23	0%

Key Accomplishments (FY 2002) / Planned Milestones (FY 2003/FY 2004)

- The Fast Flux Test Facility and its support systems/structures were safely maintained on standby mode (FY 2002).
- Completed the modifications and repairs of certain in-plant equipment that will be needed to expedite deactivation steps, specifically equipment needed for fuel washing and sodium removal, and removal of equipment no longer needed during deactivation (FY 2002).
- Certain regulatory interfaces and documentation, such as the Nuclear Infrastructure Project Environmental Impact Statement and corresponding Record of Decision and agreements with the Tri-Party Agreement regulators relative to milestones for deactivation of Fast Flux Test Facility, needed to proceed with deactivation work were completed (FY 2002).
- Complete Secondary Heat Transport System Sodium drain. Removal of sodium from the plant system is a major deactivation step and completion of the above activity will realize a 33% reduction of the total sodium inventory (September 2003).
- Conduct the following activities in support of reactor fuel disposition and preparation for decommissioning: initiate fuel offload operations, and complete planned early in-plant equipment removals (September 2003).
- Complete washing and packaging of 1 metric tonne heavy metal of Fast Flux Test Facility reactor fuel for disposition (December 2003).
- Award the contract for 27 additional custom-fabricated dry storage casks required to complete the disposition of reactor fuel (December 2003).
- Complete cleaning 21 additional reactor fuel assemblies and have them staged for packaging in storage/shipping casks for disposition (September 2004).

Total, Non-Defense Environmental Services, Environmental Cleanup Projects	36,439	36,100	43,842
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Explanation of Funding Changes

FY 2004 vs. FY 2003 (\$000)

RL-0042 / Nuclear Facility Decontamination and Decommissioning - Fast Flux Test Facility

■ The increase in funding supports accelerated deactivation and decommissioning work scope, including the procurement for Interim Storage Casks for storage of washed fuel assemblies and various sodium drain activities	7,742
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Total Funding Change, Non-Defense Environmental Services, Environmental Cleanup Projects	<u>7,742</u>

Capital Operating Expenses & Construction Summary

Construction Projects

(dollars in thousands)

Total Estimated Cost (TEC)	Prior Year Approp- riations	FY 2002	FY 2003	FY 2004	Unapprop- riated Balance
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Non-Defense Environmental Services

Non-Closure Environmental Activities

02-U-101, Depleted Uranium Hexafluoride
Conversion Project, Paducah/Portsmouth,
PA-0011X/PO-0011X

296,460	0	10,000	0	86,800	185,370	
Total Non-Closure Environmental Activities . .	N/A	N/A	10,000	0	86,800	N/A

02-U-101, Depleted Uranium Hexafluoride Conversion Project, Paducah, Kentucky and Portsmouth, Ohio (PA-0011X/PO-0011X)

Significant Changes

- The Total Project Cost has increased from \$461,800 to \$731,572 because the first 5 years of operations cost are now being included, whereas the previous estimate did not include operations cost. The Total Estimated Cost has decreased from \$365,000 to \$296,460 because the previous estimate was made before the final contract award date, while the current estimate is based on the information provided in the August 29, 2002, contract award to Uranium Disposition Services.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost (\$000)	Total Project Cost (\$000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
	FY 2001 Budget Request (Preliminary Estimate)	1Q 2002	3Q 2003	2Q 2004		
FY 2002 Budget Request	1Q 2002	3Q 2003	2Q 2004	4Q 2005	365,000	461,800
FY 2004 Budget Request	1Q 2003	1Q 2005	3Q 2004	3Q 2007	296,460	731,572

2. Financial Schedule

(dollars in thousands)

Fiscal Year	MOA	Appropriations	Obligations	Costs
2002	5,000	10,000	15,000	0
2003	9,290	0 ^a	9,290	24,290
2004	0	86,800 ^b	86,800	86,800
2005	0	185,370	185,370	147,920
2006	0	0	0	37,450
2007	0	0	0	0
Total	14,290	282,170	296,460	296,460

^a \$10,000,000 requested in FY 2003 in operating funding.

^b An additional \$3,200,000 is requested in FY 2004 in operating funding for a total of \$90,000,000.

3. Project Description, Justification and Scope

Design, build, and operate for 5 years two depleted uranium hexafluoride (DUF₆) conversion facilities, one located at the Paducah Gaseous Diffusion Plant site, the other located at the Portsmouth Gaseous Diffusion Plant site. The conversion plants will convert the DUF₆ to a more stable chemical form, which is suitable for either beneficial use or disposal. The contractor will design the conversion plants using its proposed technology; construct the plants; and operate the plants for a 5-year period, which will include maintaining depleted uranium and product inventories, transporting depleted uranium from the East Tennessee Technology Park to the Portsmouth site for conversion, and transporting products of conversion to a disposal site or locations for beneficial uses. The contractor will be expected to arrange for the disposal of such excess material at an appropriate site. It is anticipated that the plants will require 25 years total operations to convert the existing stockpile. **The conversion plants will then undergo decontamination and decommissioning.**

The project follows directly from the decision presented in the *Record of Decision for Long-Term Management and Use of Depleted Uranium Hexafluoride* (issued in August 1999), namely to begin conversion of the DUF₆ inventory as soon as possible, and is consistent with the *Final Plan for the Conversion of Depleted Uranium Hexafluoride*, which the Department submitted to Congress in July 1999 in response to Public Law 105-204. Scheduling is based on meeting a construction start date of July 31, 2004, per Public Law 107-206.

Over the last 5 decades, large quantities of uranium were processed using gaseous diffusion in order to produce enriched uranium for National defense and civilian purposes. These enrichment activities began as part of the Manhattan Project during World War II. DUF₆ was generated as a byproduct of the enrichment process.

A legacy of approximately 700,000 metric tons of DUF₆ is currently stored at the Paducah site in Kentucky, the Portsmouth site in Ohio, and the East Tennessee Technology Park in Tennessee (formerly known as the K-25 site). This inventory of DUF₆ is stored outdoors in about 57,700 large steel cylinders, typically 12 feet long by 4 feet in diameter. Approximately 37,000 cylinders are stored at the Paducah site, 16,000 at the Portsmouth site, and 4,700 at the East Tennessee Technology Park site.

The advanced age and storage conditions of some of the cylinders show evidence of external corrosion, which has created a potential environmental and safety hazard due to cylinder breaching. Because the DUF₆ is a solid at ambient temperatures and pressures, it is not readily released from a cylinder following a leak or breach. When a cylinder is breached, moisture in air reacts with the exposed DUF₆ solid and iron, resulting in the formation of a dense plug of solid uranium and iron compounds and a small amount of hydrogen fluoride gas. This plug limits the amount of material released from a breached cylinder. When a cylinder breach is identified, the cylinder is repaired or its contents are transferred to a new cylinder.

The Department of Energy (DOE) has responsibility for continued management of the DUF₆ cylinders stored at the Paducah, Portsmouth, and East Tennessee Technology Park sites. Since 1990, the Department has conducted a comprehensive cylinder management program in order to minimize risks to workers, the public, and the environment until the DUF₆ is dispositioned. The core features of the DUF₆ cylinder management program are conducting annual storage cylinder inspections; moving cylinders to properly spaced storage locations on upgraded, concrete storage yards; coating cylinders to inhibit corrosion; and developing and implementing options to repair cylinders exhibiting accelerated

corrosion. This effort is consistent with the consent agreements between the Department and the States of Ohio and Tennessee, and Recommendation 95-1 of the Defense Nuclear Facility Safety Board.

The facilities will be Government-owned and contractor-operated. These facilities will convert the Department's inventory of DUF₆ now located at Paducah Gaseous Diffusion Plant, Portsmouth Gaseous Diffusion Plant, and East Tennessee Technology Park to uranium oxide for transportation, beneficial use/reuse, and/or disposal. In addition, prior to the start of conversion plant operation the contractor will also assume cylinder surveillance and maintenance of the DOE inventory of DUF₆, low-enrichment uranium hexafluoride, natural assay hexafluoride, and empty and heel cylinders. These surveillance and maintenance activities will include the transfer of cylinders located at East Tennessee Technology Park to the Portsmouth site for conversion. Finally, the selected contractor will also be responsible for transportation and disposition of conversion products, all waste forms, and empty and heel cylinders. This contract will cover the first 5 years of conversion operations; it is estimated that it would take up to 20 years of additional plant operations to convert all of the Department's depleted uranium inventory.

For FY 2004, the project will start final design, start procurement of long lead items, start construction on the conversion facilities, gain approval of the Department of Transportation exemption for East Tennessee Technology Park cylinder shipments to Portsmouth, design the overpack for non-compliant cylinders, and transition the surveillance and maintenance of the cylinder yards.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate	Previous Estimate
Design and Management Costs		
Engineering, design, and inspection of approximately 11% of TEC	32,380	20,000
Construction management at approximately 7.2% of TEC	21,290	4,000
Project Management at approximately 4.1% of TEC	11,970	0
Subtotal	65,640	24,000
Construction Costs	184,560	341,000
Subtotal	250,200	365,000
Contingencies	46,260	0
Total, Line-item Cost	296,460	365,000

5. Method of Performance

The Oak Ridge Operations Office will manage the award of a performance-based, cost-plus contract to design, construct, and operate (for a 5-year period) DUF₆ conversion facilities at the Department's Gaseous Diffusion Sites in Paducah, Kentucky, and Portsmouth, Ohio.

The contract establishes performance requirements and incentives for the accomplishment of the Statement of Work. The design work will be performed on a fixed-fee basis. An incentive fee for

construction will be proposed by the contractor and will be paid based on the successful completion of construction and the attainment of cost and schedule targets. An award fee will also be proposed by the contractor for operation of the plants based on the quantity and cost of DUF₆ processed and other associated performance requirements.

In addition to activities included within the scope of the DUF₆ procurement, the Department will be performing the requisite activities to comply with the Department's directives associated with program and project management. For example, DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, which prescribes a formal process for securing critical acquisition decisions and implementing various project management reform initiatives will be applied using the tailoring approach described in the Order.

The Department will develop and refine an integrated project schedule to plan and track activities. A life cycle baseline will then be developed to establish and control the technical scope, cost, and schedule parameters of this project and to integrate these activities with other environmental management activities.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2003	FY 2004	Out Years	Total
Project Costs					
Facility Cost					
Design and Management	0	21,013	18,232	8,363	47,608
Construction	0	0	56,227	146,365	202,592
Contingencies	0	3,277	12,341	30,642	46,260
Total, Line Item	0	24,290	86,800	185,370	296,460
From Appropriations	0	10,000	86,800	185,370	282,170
From MOA funds	0	14,290	0	0	14,290
Other Project Costs					
System Requirements Document	0	389	0	0	389
Conceptual Design Report	0	2,207	0	0	2,207
RFP Development	6,600	0	0	0	6,600
National Environmental Policy Act and Other Preparatory Work	7,500	0	0	0	7,500
Cylinder Overpacks	0	0	0	1,338	1,338
Cylinder Transportation	0	0	0	11,978	11,978
Total Plant Operations to FY 2011	0	0	0	376,370	376,370
DOE Plant Support to FY 2011	0	0	0	28,730	28,730
Total, Other Project Costs	14,100	2,596	0	418,416	435,112
From Appropriations	8,800	0	0	414,247	423,047
From MOA funds	5,300	2,596	0	4,169	12,065
Grand Total	14,100	26,886	86,800	551,076	731,572
From Appropriations	8,800	10,000	86,800	546,907	705,217
From MOA funds	5,300	16,886	0	4,169	26,355

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Annual facility operating costs for 20 years (all operations costs, management, fees, contingency)	70,000	0

Note: FY 2007 is the first year of full operations.

The “Estimated Project Cost” is a preliminary cost for the design and construction of two conversion plants. This estimate is based on a contractor cost estimate and should not be construed as a project baseline.