

# **Department of Energy FY 2006 Congressional Budget Request**

## **Environmental Management**

### **Defense Site Acceleration Completion**

### **Defense Environmental Services**

### **Non-Defense Site Acceleration Completion**

### **Non-Defense Environmental Services**

## **Uranium Enrichment Decontamination and Decommissioning Fund**



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### **Defense Site Acceleration Completion**

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### **Non-Defense Environmental Services**

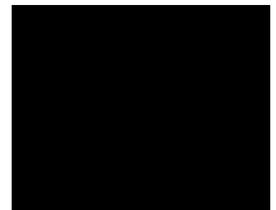
## **Uranium Enrichment Decontamination and Decommissioning Fund**



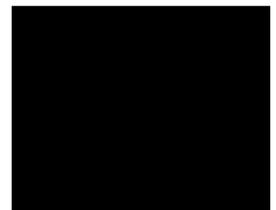
**Defense Site Acceleration Completion**



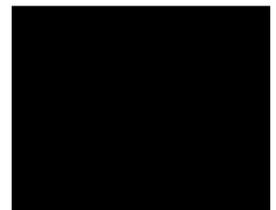
**Defense Environmental Services**



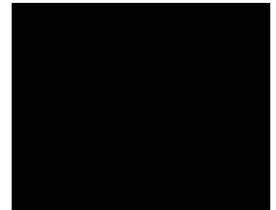
**Non-Defense Site Acceleration Completion**



**Non-Defense Environmental Services**

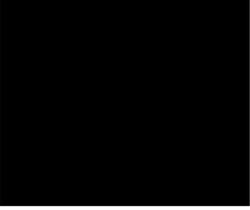


**Uranium Enrichment D&D Fund**

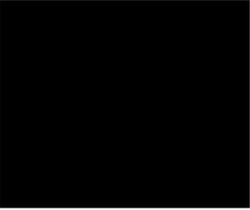




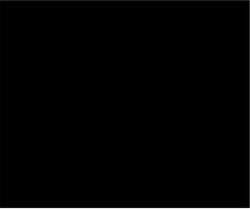
**Defense Site Acceleration Completion**



**Defense Environmental Services**



**Non-Defense Site Acceleration Completion**



**Non-Defense Environmental Services**



**Uranium Enrichment D&D Fund**

# Volume 5

## Table of Contents

|   | Page |
|---|------|
| Appropriation Account Summary .....                               | 3    |
| Overview .....  | 7    |
| Defense Site Acceleration Completion.....                         | 93   |
| Defense Environmental Services .....                              | 251  |
| Non-Defense Site Acceleration Completion.....                     | 299  |
| Non-Defense Environmental Services .....                          | 335  |
| Uranium Enrichment Decontamination and Decommissioning Fund ..... | 369  |
| PBS Subprojects Summary .....                                     | 397  |

The Department of Energy's FY 2005 Congressional Budget justification is available on the Office of Management, Budget and Evaluation/CFO homepage at <http://www.mbe.doe.gov/budget/>



**Department of Energy**  
**Appropriation Account Summary**  
(dollars in thousands - OMB Scoring)

| FY 2004<br>Comparable<br>Approp | FY 2005<br>Comparable<br>Approp | FY 2006<br>Request to<br>Congress | FY 2006 vs. FY 2005 |  |
|---------------------------------|---------------------------------|-----------------------------------|---------------------|--|
|---------------------------------|---------------------------------|-----------------------------------|---------------------|--|

**Energy And Water Development**

|  |                   |                   |                   |                 |               |
|--|-------------------|-------------------|-------------------|-----------------|---------------|
| <b>Energy Programs</b>   |                   |                   |                   |                 |               |
| Energy supply.....   | 794,897           | 932,319           | 902,674           | -29,645         | -3.2%         |
| Non-Defense site acceleration completion.....                    | 167,272           | 157,316           | 172,400           | 15,084          | +9.6%         |
| Uranium enrichment D&D fund.....                                 | 414,027           | 495,015           | 591,498           | 96,483          | +19.5%        |
| Non-Defense environmental services.....                          | 307,795           | 288,966           | 177,534           | -111,432        | -38.6%        |
| Science.....   | 3,536,373         | 3,599,546         | 3,462,718         | -136,828        | -3.8%         |
| Nuclear waste disposal.....                                      | 188,879           | 343,232           | 300,000           | -43,232         | -12.6%        |
| Departmental administration.....                                 | 109,276           | 119,284           | 130,259           | 10,975          | +9.2%         |
| Inspector general.....   | 39,229            | 41,176            | 43,000            | 1,824           | +4.4%         |
| <b>Total, Energy Programs.....</b>                               | <b>5,557,748</b>  | <b>5,976,854</b>  | <b>5,780,083</b>  | <b>-196,771</b> | <b>-3.3%</b>  |
| <b>Atomic Energy Defense Activities</b>                          |                   |                   |                   |                 |               |
| <b>National nuclear security administration:</b>                 |                   |                   |                   |                 |               |
| Weapons activities.....  | 6,447,159         | 6,583,350         | 6,630,133         | 46,783          | +0.7%         |
| Defense nuclear nonproliferation.....                            | 1,367,709         | 1,422,103         | 1,637,239         | 215,136         | +15.1%        |
| Naval reactors.....  | 761,872           | 801,437           | 786,000           | -15,437         | -1.9%         |
| Office of the administrator.....                                 | 352,949           | 357,051           | 343,869           | -13,182         | -3.7%         |
| <b>Total, National nuclear security administration.....</b>      | <b>8,929,689</b>  | <b>9,163,941</b>  | <b>9,397,241</b>  | <b>233,300</b>  | <b>+2.5%</b>  |
| <b>Environmental and other defense activities:</b>               |                   |                   |                   |                 |               |
| Defense site acceleration completion.....                        | 5,433,423         | 5,725,935         | 5,183,713         | -542,222        | -9.5%         |
| Defense environmental services.....                              | 895,015           | 845,704           | 831,331           | -14,373         | -1.7%         |
| Other defense activities.....                                    | 675,824           | 672,590           | 635,998           | -36,592         | -5.4%         |
| Defense nuclear waste disposal.....                              | 387,699           | 229,152           | 351,447           | 122,295         | +53.4%        |
| <b>Total, Environmental &amp; other defense activities.....</b>  | <b>7,391,961</b>  | <b>7,473,381</b>  | <b>7,002,489</b>  | <b>-470,892</b> | <b>-6.3%</b>  |
| <b>Total, Atomic Energy Defense Activities.....</b>              | <b>16,321,650</b> | <b>16,637,322</b> | <b>16,399,730</b> | <b>-237,592</b> | <b>-1.4%</b>  |
| Defense EM privatization (rescission).....                       | -15,329           | —                 | —                 | —               | —             |
| <b>Power marketing administrations:</b>                          |                   |                   |                   |                 |               |
| Southeastern power administration.....                           | 5,070             | 5,158             | —                 | -5,158          | -100.0%       |
| Southwestern power administration.....                           | 28,431            | 29,117            | 3,166             | -25,951         | -89.1%        |
| Western area power administration.....                           | 176,873           | 171,715           | 53,957            | -117,758        | -68.6%        |
| Falcon & Amistad operating & maintenance fund.....               | 2,625             | 2,804             | —                 | -2,804          | -100.0%       |
| <b>Total, Power marketing administrations.....</b>               | <b>212,999</b>    | <b>208,794</b>    | <b>57,123</b>     | <b>-151,671</b> | <b>-72.6%</b> |
| Federal energy regulatory commission.....                        | —                 | —                 | —                 | —               | —             |
| <b>Subtotal, Energy And Water Development Appropriation.....</b> | <b>22,077,068</b> | <b>22,822,970</b> | <b>22,236,936</b> | <b>-586,034</b> | <b>-2.6%</b>  |
| Uranium enrichment D&D fund discretionary payments.....          | -449,333          | -459,296          | -451,000          | 8,296           | +1.8%         |
| Excess fees and recoveries, FERC.....                            | -19,000           | -15,000           | -13,000           | 2,000           | +13.3%        |
| Colorado River Basins.....                                       | 1,458             | -23,000           | -23,000           | —               | —             |
| <b>Total, Energy And Water Development.....</b>                  | <b>21,610,193</b> | <b>22,325,674</b> | <b>21,749,936</b> | <b>-575,738</b> | <b>-2.6%</b>  |



Department of Energy  
**Appropriation Account Summary**  
(dollars in thousands - OMB Scoring)

|  | FY 2004<br>Comparable<br>Approp | FY 2005<br>Comparable<br>Approp | FY 2006<br>Request to<br>Congress | FY 2006 vs. FY 2005 |              |
|--|---------------------------------|---------------------------------|-----------------------------------|---------------------|--------------|
| <b>Interior And Related Agencies</b>             |                                 |                                 |                                   |                     |              |
| Fossil energy research and development.....      | 658,981                         | 571,854                         | 491,456                           | -80,398             | -14.1%       |
| Naval petroleum and oil shale reserves.....      | 17,995                          | 17,750                          | 18,500                            | 750                 | +4.2%        |
| Elk Hills school lands fund.....                 | 36,000                          | 36,000                          | 84,000                            | 48,000              | +133.3%      |
| Energy conservation.....                         | 867,967                         | 868,234                         | 846,772                           | -21,462             | -2.5%        |
| Economic regulation.....                         | 1,034                           | —                               | —                                 | —                   | —            |
| Strategic petroleum reserve.....                 | 170,948                         | 169,710                         | 166,000                           | -3,710              | -2.2%        |
| Northeast home heating oil reserve.....          | 4,939                           | 4,930                           | —                                 | -4,930              | -100.0%      |
| Energy information administration.....           | 81,100                          | 83,819                          | 85,926                            | 2,107               | +2.5%        |
| Subtotal, Interior Accounts.....                 | 1,838,964                       | 1,752,297                       | 1,692,654                         | -59,643             | -3.4%        |
| Clean coal technology.....                       | -98,000                         | -160,000                        | —                                 | 160,000             | +100.0%      |
| <b>Total, Interior And Related Agencies.....</b> | <b>1,740,964</b>                | <b>1,592,297</b>                | <b>1,692,654</b>                  | <b>100,357</b>      | <b>+6.3%</b> |
| <b>Total, Discretionary Funding.....</b>         | <b>23,351,157</b>               | <b>23,917,971</b>               | <b>23,442,590</b>                 | <b>-475,381</b>     | <b>-2.0%</b> |



# Environmental Management Overview

## Appropriation Summary by Program

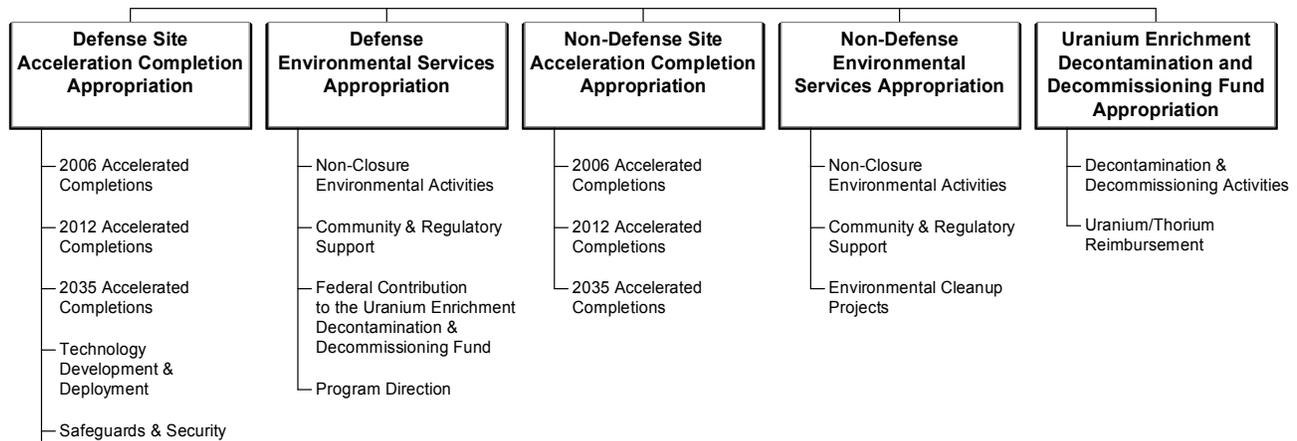
(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|--|--|--------------------------------------|------------------------|--|--------------------|
| <b>Defense Site Acceleration Completion</b>                        |  |                                      |                        |  |                    |
| 2006 Accelerated Completions.....                                  | 1,196,189                              | 1,264,999                            | -55,155                | 1,209,844                              | 1,016,508          |
| 2012 Accelerated Completions.....                                  | 2,205,966                              | 2,150,641                            | 42,272                 | 2,192,913                              | 1,943,139          |
| 2035 Accelerated Completions.....                                  | 1,829,922                              | 1,904,339                            | 108,679                | 2,013,018                              | 1,915,454          |
| Safeguards and Security.....                                       | 291,124                                | 265,059                              | -2,117                 | 262,942                                | 287,223            |
| Alternative High-Level Waste (Legislative)....                     | 0                                      | 249,442                              | -249,442               | 0                                      | 0                  |
| High-Level Waste (Legislative).....                                | 0                                      | 291,950                              | -291,950               | 0                                      | 0                  |
| Technology Development and Deployment.....                         | 61,358                                 | 60,142                               | -416                   | 59,726                                 | 21,389             |
| <b>Total, Defense Site Acceleration Completion.....</b>            | <b>5,584,559</b>                       | <b>6,186,572</b>                     | <b>-448,129</b>        | <b>5,738,443</b>                       | <b>5,183,713</b>   |
| <b>Defense Environmental Services</b>                              |  |                                      |                        |  |                    |
| Community and Regulatory Support.....                              | 54,528                                 | 60,547                               | -6,223                 | 54,324                                 | 62,032             |
| Federal Contribution to the UE D&D Fund.....                       | 449,333                                | 463,000                              | -3,704                 | 459,296                                | 451,000            |
| Non-Closure Environmental Activities.....                          | 155,841                                | 146,038                              | -44,788                | 101,250                                | 87,368             |
| Spent Nuclear Fuel Management.....                                 | 0                                      | 17,332                               | -17,332                | 0                                      | 0                  |
| Program Direction.....   | 258,943                                | 271,059                              | -20,225                | 250,834                                | 230,931            |
| <b>Total, Defense Environmental Services.....</b>                  | <b>918,645</b>                         | <b>957,976</b>                       | <b>-92,272</b>         | <b>865,704</b>                         | <b>831,331</b>     |
| <b>Non-Defense Site Acceleration Completion</b>                    |  |                                      |                        |  |                    |
| 2006 Accelerated Completions.....                                  | 39,446                                 | 45,435                               | -8,748                 | 36,687                                 | 14,954             |
| 2012 Accelerated Completions.....                                  | 132,906                                | 98,191                               | 14,280                 | 112,471                                | 128,950            |
| 2035 Accelerated Completions.....                                  | 4,920                                  | 8,224                                | -66                    | 8,158                                  | 28,496             |
| <b>Total, Non-Defense Site Acceleration<br/>Completion.....</b>    | <b>177,272</b>                         | <b>151,850</b>                       | <b>5,466</b>           | <b>157,316</b>                         | <b>172,400</b>     |
| <b>Non-Defense Environmental Services</b>                          |  |                                      |                        |  |                    |
| Community and Regulatory Support.....                              | 1,030                                  | 90                                   | -1                     | 89                                     | 90                 |
| Environmental Cleanup Projects.....                                | 43,589                                 | 46,083                               | -368                   | 45,715                                 | 46,113             |
| Non-Closure Environmental Activities.....                          | 273,178                                | 245,123                              | -1,961                 | 243,162                                | 131,331            |
| <b>Total, Non-Defense Environmental Services.....</b>              | <b>317,797</b>                         | <b>291,296</b>                       | <b>-2,330</b>          | <b>288,966</b>                         | <b>177,534</b>     |
| <b>Uranium Enrichment Decontamination and Decommissioning Fund</b> |  |                                      |                        |  |                    |
| D&D Activities.....  | 363,328                                | 419,007                              | -3,352                 | 415,655                                | 571,498            |
| Uranium/Thorium Reimbursement.....                                 | 50,699                                 | 80,000                               | -640                   | 79,360                                 | 20,000             |
| <b>Total, Uranium Enrichment D&amp;D Fund.....</b>                 | <b>414,027</b>                         | <b>499,007</b>                       | <b>-3,992</b>          | <b>495,015</b>                         | <b>591,498</b>     |
| <b>Subtotal, Environmental Management</b>                          | <b>7,412,300</b>                       | <b>8,086,701</b>                     | <b>-541,257</b>        | <b>7,545,444</b>                       | <b>6,956,476</b>   |
| Uranium Enrichment D&D Fund Deposit<br>(Offset).....               | -449,333                               | -463,000                             | 3,704                  | -459,296                               | -451,000           |
| Privatization Prior Year Rescission.....                           | -15,329                                | 0                                    | 0                      | 0                                      | 0                  |
| Less Use of Prior Year Balances (Defense)....                      | -174,645                               | -110,000                             | 77,635                 | -32,365                                | 0                  |
| Safeguards and Security Charge for<br>Reimbursable Work.....       | -121                                   | -143                                 | 0                      | -143                                   | 0                  |
| Less Use of Prior Year Balances<br>(Non-Defense).....              | -20,002                                | 0                                    | 0                      | 0                                      | 0                  |
| <b>Total, Environmental Management.....</b>                        | <b>6,752,870</b>                       | <b>7,513,558</b>                     | <b>-459,918</b>        | <b>7,053,640</b>                       | <b>6,505,476</b>   |

**Preface**

Fifty years of nuclear weapons production and energy research generated millions of gallons of radioactive waste, thousands of tons of spent nuclear fuel and special nuclear material, along with huge quantities of contaminated soil and water. The Environmental Management (EM) program was established in 1989 to clean up the legacy waste and environmental contamination from these operations in a manner safe for the workers, protective of the environment, and respectful of the taxpayer.

The following chart identifies the five appropriations that comprise the EM Program. Risk reduction and completion activities are consolidated into predominantly three appropriations - Defense Site Acceleration Completion, Non-Defense Site Acceleration Completion, and the Uranium Enrichment D&D Fund. The two acceleration completion appropriations are segmented into three accounts – 2006, 2012, and 2035 – to highlight time horizons and accountability. The other two appropriations, Defense and Non-Defense Environmental Services, fund activities that indirectly support EM’s accelerated cleanup and closure mission.



This Overview will describe the Mission, Benefits, Strategic Context, Strategic Goals, and Funding by General Goal. These items together put the appropriations in perspective. The Annual Performance Results and Targets, Means and Strategies, and Validation and Verification sections address how the goals will be achieved and how performance will be measured. Finally, this Overview will address the Program Assessment Rating Tool, Significant Program Shifts from EM to other Departmental programs, and Corporate Performance Measurement reporting.

## **Mission**

The mission of EM is the safe, accelerated risk reduction and cleanup of the environmental legacy resulting from the Nation's nuclear weapons development and government-sponsored nuclear energy research.

Over the last four years, the program has delivered significant risk reduction and cleanup results while ensuring the cleanup is safe for the workers, protective of the environment and respectful of the taxpayer. The program, once focused on managing risk, is demonstrating the success in reducing risk through a focus on safety, meeting commitments, and delivering results. These results are providing important and valuable benefits to the public, the communities, and for the generations that will follow.

As an established operating cleanup and risk reduction program, EM is demonstrating the importance of remaining firm to operating principles while staying focused on the mission, for example:

- In 2000, the Government Accountability Office reported there was little chance that Rocky Flats would close in 2006. Today, EM will not only complete cleanup in 2006, but is ahead of schedule.
- In 2000, EM had lost focus on completing cleanup at Mound and Fernald and had looked at significant delay. Today, both are on track to close in 2006.
- At Hanford in 2000, EM had accumulated years worth of spent nuclear fuel and was storing it in degrading basins near the Columbia River. Today EM has removed all spent fuel from those basins and is removing the residual sludge. In addition, EM has retrieved all pumpable liquid wastes from single-shell tanks at Hanford and transferred it to double-shell tanks. As a result of these actions potential risks to the Columbia River from the Hanford Site have been significantly reduced.
- At the Savannah River Site in 2000, EM stored spent nuclear fuel in multiple water pool basins. Today, the spent nuclear fuel is all consolidated in one robust basin, over 100 excess facilities have been demolished, and over 300 sites have been remediated. Also, more than 1,700 canisters of immobilized highly radioactive waste have been produced (of which approximately 1,000 canisters have been produced since FY 2000), removing liquid waste from storage in aging tanks. Removing these contamination sources has reduced the potential risk to the bordering Savannah River.
- At Idaho in 2000, EM continued to store spent nuclear fuel in water in several basins and liquid radioactive waste in pillar and panel tanks. Today, EM has not only consolidated fuel into the most robust storage basins, but has removed the water from the less robust basins. EM has emptied liquid waste from the pillar and panel tanks. These actions have significantly reduced risks from the Idaho National Laboratory to the underlying Snake River Plain aquifer.
- EM made major strides in disposing of radioactive waste. Since opening the Waste Isolation Pilot Plant in 1999, EM has safely disposed of over 20,000 m<sup>3</sup> of transuranic waste.
- EM has stabilized and consolidated plutonium and other nuclear materials. As a result, seven high security and expensive-to-maintain storage areas have been eliminated.

- EM has improved worker safety, reducing reportable incidents by half. Even though workers are dealing with dangerous and hazardous materials, EM's safety record is unparalleled in the government.

In 2006, the following 7 geographic sites are scheduled to be completed, bringing the total number of sites completed to 86 out of 107<sup>a</sup>.

1. Rocky Flats Environmental Technology Site in Colorado;
2. Miamisburg Environmental Project in Ohio;
3. Fernald Environmental Project in Ohio;
4. Lawrence Berkeley National Laboratory in California;
5. Stanford Linear Accelerator Center in California;
6. Ashtabula Environmental Management Project in Ohio; and
7. Columbus Environmental Management Project – West Jefferson in Ohio.

Complementing these EM site cleanup completions and closures, the following sites, whose cleanup was previously funded by EM, will complete cleanup in 2006 under the management of the National Nuclear Security Administration (2006 is the first year these sites cleanup activities are not funded by the EM program---see Significant Program Shifts).

1. Kansas City Plant in Missouri;
2. Lawrence Livermore National Laboratory – Main Site in California; and
3. Sandia National Laboratory in New Mexico.

These important accomplishments would not have been possible without EM's operating principles that will continue to drive the program through to completion. Of these operating principles, safety remains the utmost priority. The only way EM is able to accomplish its risk reduction and cleanup mission is to do the work safely. EM is committed to instilling this philosophy in every worker's day-to-day decisions from start to finish of every project. To that end, with these safety standards, the program is demonstrating that EM can improve safety performance and then accelerate work. EM will continue to "raise the bar" and hold itself accountable to the highest standards. The program's ultimate goal is the elimination of accident and injury from the EM work place.

Dovetailing with the program's safety philosophy, EM has implemented steps to assure the required human capital resources are available, the right people with the right skills to meet the challenges ahead. These steps include buy-out authority, larger training budgets, succession planning, and rotational assignments. EM recognizes the invaluable breakthroughs that are the result of the program's talented

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<sup>a</sup> In FY 2006, environmental cleanup responsibility for the following seven sites transferred from the Office of Environmental Management (EM) to the National Nuclear Security Administration (NNSA): Pantex Plant, Sandia National Laboratory, Lawrence Livermore National Laboratory (Main Site and Site 300), Nevada Test Site, Kansas City Plant, and the Separations Process Research Unit. As a result of the transfers, the number of EM sites projected to be completed in 2006 has been revised from 10 to 7 [Sandia National Laboratory, Lawrence Livermore National Laboratory (Main Site), and the Kansas City Plant are scheduled to be completed in 2006]; the number of sites for which EM has cleanup responsibility has been reduced from 114 to 107 and the number of sites to be completed by the end of 2006 is now projected to be 86 (this number includes the Salmon Site, which was not completed as targeted in FY 2003 and is projected to be completed in FY 2005) versus 89.

and dedicated workforce, both federal and contractor. EM continues to encourage its people to look beyond the status quo for safer, more efficient remedies for EM cleanup responsibilities.

EM's current goal is to complete its cleanup mission by 2035. Several factors are affecting both the current and required states of the EM workforce. In addition to overseeing large contractor cleanup activities, EM programs and field offices routinely collaborate with national laboratories, other Federal agencies, state agencies, industry, universities, non-governmental organizations, and other stakeholders. As cleanup activities proceed, the nature and proportion of workforce competencies required for critical mission accomplishment change. When there was a larger workforce and hundreds of support service contractors, employees were able to specialize in one area for many years. Today, the leaner workforce calls for a more distributed approach and an agile, multi-skilled workforce. Future recruitment, employee development, and skills retooling will address skills gaps.

EM is executing a well-defined, rigorous configuration control management system. The EM Configuration Control Board (CCB) maintains control of EM's life-cycle cost, scope, and schedule, performance measures, project baseline summaries for each site, the EM budget structure, and the Waste Isolation Pilot Plant transportation baseline. The CCB's actions have increased accountability, control, and rigor to the EM Program, as well as the predictability in outcomes. Through strict project control, EM is able to make corporate decisions that will keep the program on track, and control costs and schedules. For example, all EM site baselines have been reviewed for acceptance into the program's configuration control process. Site baselines are a critical project management tool enabling senior management to accurately monitor and measure (as well as to take corrective actions to assure) the cleanup progress of each site against its completion objectives.

Crucial to the performance at EM sites are the contracts. Contracts define the EM work and set expectations and standards, which define the operating principles and requirements. Major procurements are underway within the Office of Environmental Management for work at the Idaho National Laboratory; River Corridor and 222-S Laboratory at Richland, Washington; the West Valley Demonstration Project in New York; the Paducah site in Kentucky; and the Portsmouth site in Ohio. Major procurements will be underway later in 2005 for the cleanup contracts at the Savannah River Site and the balance of the Hanford Site (including the tank farms). Work is also progressing on the implementation of national Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts for remediation and decontamination and decommissioning. In October 2004, the Office of Environmental Management through the Savannah River Site contracting office awarded ID/IQ contracts to a pool of 22 contractors; the breakout includes seven minority/woman-owned businesses (8(a)), seven small business and eight large business contractors. These new ID/IQ contracts bring many new contractors into performing EM work and increases competition, resulting in efficiency and innovation which will be beneficial for all involved.

This budget incorporates the new national Consolidated Business Center (CBC) for the Department's Environmental Management program. The CBC located in Cincinnati, Ohio will serve as a central clearinghouse for a wide range of activities supporting small sites and near-term closure sites. These sites will receive support in the areas of financial management, contracting, human resources, legal advisory, logistics, technical services and information resource management. The CBC will consolidate these essential business and technical support services into one location to serve DOE's environmental management efforts all over the country, allowing the sites to focus their limited FTEs on mission essential tasks. This consolidation of services mirrors that of other agencies that provide infrastructure from one location, rather than on site. At this time, there are two near-term closure sites and nine small

sites that will receive this support from the CBC. As EM continues to draw down and lose capability to provide on-site support at other locations, the CBC will be poised to assume that role.

With this submission, certain assumptions have been incorporated into the FY 2006 budget. These assumptions are neither listed in priority order nor by their influence on the EM program. The planning assumptions are incorporated into sites baselines that drive the planning and implementation of cleanup and risk reduction activities.

1. The EM program will not be subject to new regulations, statutes, or orders that constrain the program's flexibility in accomplishing the goal of accelerated cleanup and risk reduction in a fiscally responsible manner while being protective of human health and the environment.
2. EM can proceed with key aspects of its planned tank waste programs given the FY 2005 authorization legislation and resolution of the litigation related to waste incidental to reprocessing.
3. No new mission requirements or responsibilities will be assigned to the EM program for FY 2006.
4. Accomplishments (i.e., milestones and metrics) may be impacted by fluctuating requirements relative to market-based contractor pension plan contributions.
5. Cost-effective strategies and tactics will be identified and utilized to fully implement the current Design Basis Threat guidance.
6. Contractors will be incentivized to develop innovative technology solutions to address cleanup challenges.

The FY 2006 budget request represents the next stage of the EM strategy in executing the objectives. Acceleration is now an inherent component of the cleanup program planning and execution. As safety improves and experience is gained, EM is able to accomplish the work quicker and more cost effectively which is better for its workers, the communities, and the environment. The principles and management systems have been tested and although there have been hurdles that appeared insurmountable, the program has continued to move forward. EM has proven that it can forecast its outcomes and is experienced in addressing challenges as they arise. EM is staying the course to move cleanup closer to completion.

### **Benefits**

Since 2001, reforms within the program (discussed above) have enabled EM to reduce its life-cycle costs on a comparable scope basis by over \$50 billion from FY 2001 to FY 2003. During this time period, EM was the only major program in government that had actually decreased its financial liability. The reforms also contributed to a shortening of the completion of the program's cleanup mission by 35 years, from 2070 to 2035. In FY 2004, EM's comparable life-cycle costs decreased slightly from FY 2003. This marks the third consecutive year the program's comparable cost for mission completion has decreased. These initiatives, aligned with the goal of achieving tangible results in safely accelerating risk reduction and cleanup, illustrate the Administration's commitment to protecting the environment while providing a responsible resolution for the environmental legacy of the Cold War.

### **Strategic Context**

Following publication of the Administration's National Energy Policy, the Department developed a Strategic Plan that defines its mission, four strategic goals for accomplishing that mission, and seven general goals to support the strategic goals. Each appropriation has developed quantifiable goals to support the general goals. Thus, the "goal cascade" is the following:

Department Mission → Strategic Goal (25 yrs) → General Goal (10-15 yrs) → Program Goal (GPR Unit) (10-15 yrs)

To provide a concrete link between budget, performance, and reporting, the Department developed a “GPR<sup>a</sup> unit” concept. Within DOE, a GPR Unit defines a major activity or group of activities that support the core mission and aligns resources with specific goals. Each GPR Unit has completed or will complete a Program Assessment Rating Tool (PART). A unique program goal was developed for each GPR unit.

The goal cascade accomplishes two things. First, it ties major activities for each program to successive goals and, ultimately, to DOE’s mission. This helps ensure the Department focuses its resources on fulfilling its mission. Second, the cascade allows DOE to track progress against quantifiable goals and to tie resources to each goal at any level in the cascade. Thus, the cascade facilitates the integration of budget and performance information in support of the GPR and the President’s Management Agenda (PMA).

### **Strategic, General, and Program Goals**

The Department’s Strategic Plan identifies four strategic goals (one each for defense, energy, science, and environmental aspects of the mission) plus seven general goals that tie to the strategic goals. The five EM appropriations (Defense Site Acceleration Completion, Defense Environmental Services, Non-Defense Site Acceleration Completion, Non-Defense Environmental Services, and Uranium Enrichment Decontamination and Decommissioning Fund appropriations) support the following goals:

Environmental Strategic Goal: To protect the environment by providing a responsible resolution to the environmental legacy of the Cold War and by providing for the permanent disposal of high-level radioactive waste.

General Goal 6, Environmental Management: Accelerate cleanup of nuclear weapons manufacturing and testing sites, completing cleanup of 108 contaminated sites by 2025.

The programs funded within the five EM appropriations have one Program Goal that contributes to the General Goals in the “goal cascade.” This goal is:

Program Goal 06.18.00.00: Based on EM’s accelerated risk reduction and site closure initiative, EM is targeting 86 and 95 geographic sites to be completed by the end of FY 2006 and FY 2012, respectively<sup>b</sup>.

### **Contribution to General Goal**

Integral to meeting General Goal 6 is the accelerated completion of geographic sites as scheduled to ensure the completion of 108 contaminated sites by the end of 2025. EM’s Program Goal contributes directly to the Department’s ability to meet its General Goal through the establishment of “interim” goals for the FY 2006 and FY 2012 time periods.

The EM program is now aligned to achieve the objectives of the above goals. Annual progress towards meeting these goals is demonstrated by EM’s 16 corporate performance measures. Each site establishes

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<sup>a</sup> Government Performance and Results Act of 1993.

<sup>b</sup> As a result of the transfer of seven sites from EM to the National Nuclear Security Administration, 89 geographic sites has been revised to 86 (three transfer sites, Kansas City Plant, Lawrence Livermore National Laboratory-Main Site, and Sandia National Laboratory, are scheduled to close by FY 2006) and 100 revised to 95 (five transfer sites, Kansas City Plant, Lawrence Livermore National Laboratory-Main Site and Site 300, Sandia National Laboratory, and Pantex, are scheduled to close by FY 2012).

annual targets for specific corporate performance measures that are applicable to that site's scope of work. The corporate measures for a site collectively represent the totality of EM risk reduction activities that must be achieved in order for site cleanup to be completed.

### Funding by General and Program Goal

|   | (dollars in thousands) |           |           |
|---|------------------------|-----------|-----------|
|   | FY 2004                | FY 2005   | FY 2006   |
| General Goal 6, Environmental Management  |                        |           |           |
| Program Goal 06.18.00.00, Environmental Management                              |                        |           |           |
| Defense Site Acceleration Completion  |                        |           |           |
| 2006 Accelerated Completions.....   | 1,196,189              | 1,209,844 | 1,016,508 |
| 2012 Accelerated Completions.....   | 2,205,966              | 2,192,913 | 1,943,139 |
| 2035 Accelerated Completions.....   | 1,829,922              | 2,013,018 | 1,915,454 |
| Safeguards and Security.....  | 291,124                | 262,942   | 287,223   |
| Technology Development and Deployment.....                                      | 61,358                 | 59,726    | 21,389    |
| Subtotal, General Goal 6 Defense Site Acceleration Completion.....              | 5,584,559              | 5,738,443 | 5,183,713 |
| Defense Environmental Services  |                        |           |           |
| Non-Closure Environmental Activities.....                                       | 93,308                 | 46,634    | 46,635    |
| Non-Defense Site Acceleration Completion  |                        |           |           |
| 2006 Accelerated Completions.....   | 39,446                 | 36,687    | 14,954    |
| 2012 Accelerated Completions.....   | 132,906                | 112,471   | 128,950   |
| 2035 Accelerated Completions.....   | 4,920                  | 8,158     | 28,496    |
| Subtotal, General Goal 6 Non-Defense Site Acceleration Completion.....          | 177,272                | 157,316   | 172,400   |
| Non-Defense Environmental Services  |                        |           |           |
| Environmental Cleanup Projects.....   | 24,130                 | 19,840    | 19,975    |
| Non-Closure Environmental Activities.....                                       | 43,589                 | 45,715    | 46,113    |
| Subtotal, General Goal 6 Non-Defense Environmental Services.....                | 67,719                 | 65,555    | 66,088    |
| Uranium Enrichment Decontamination and Decommissioning Fund D&D Activities..... | 332,827                | 383,555   | 545,407   |
| All Other   |                        |           |           |
| Community and Regulatory Support.....   | 61,588                 | 58,667    | 64,777    |
| Federal Contribution to the UE D&D Fund.....                                    | 449,333                | 459,296   | 451,000   |
| Uranium/Thorium Reimbursements.....   | 50,699                 | 79,360    | 20,000    |
| Non-Closure Environmental Activities.....                                       | 336,052                | 305,784   | 175,525   |
| Program Direction.....  | 258,943                | 250,834   | 230,931   |
| Subtotal, General Goal 6 All Other.....   | 1,156,615              | 1,153,941 | 942,233   |
| Subtotal, General Goal 6 (EM).....  | 7,412,300              | 7,545,444 | 6,956,476 |
| Uranium Enrichment D&D Fund Deposit (Offset).....                               | -449,333               | -459,296  | -451,000  |
| Privatization Prior Year Rescission.....  | -15,329                | 0         | 0         |
| Less Use of Prior Year Balances (Defense).....                                  | -174,645               | -32,365   | 0         |
| Safeguards and Security Charge for Reimbursable Work.....                       | -121                   | -143      | 0         |
| Less Use of Prior Year Balances (Non-Defense).....                              | -20,002                | 0         | 0         |
| Total, General Goal 6 (EM).....   | 6,752,870              | 7,053,640 | 6,505,476 |

## Annual Performance and Targets<sup>a</sup>

In developing a subset of the 16 corporate performance measures EM uses to track program performance, 7 corporate measures were selected in addition to an efficiency measure. The measures selected portray the broad scope of cleanup challenges the program faces in completing its cleanup mission.

| Measures                                       | FY 2003 Cumulative Targets   | FY 2004 Cumulative Targets  | FY 2005 Cumulative Targets  | FY 2006 Cumulative Targets  |
|--|--|---|---|---|
| Number of Geographic Sites Eliminated          | Complete a cumulative total of 77 geographic sites. (GOAL NOT MET)                                   | Complete a cumulative total of 77 geographic sites. (Not an Annual Performance Plan (APP) measure in FY 2004)       | Complete a cumulative total of 79 geographic sites.                                       | Complete a cumulative total of 86 geographic sites.                                       |
| Transuranic Waste Shipped for Disposal at WIPP | Ship for disposal at WIPP a cumulative total of 12,126 cubic meters of transuranic waste. (MET GOAL) | Ship for disposal at WIPP a cumulative total of 24,525 cubic meters of transuranic waste. (GOAL NOT MET)            | Ship for disposal at WIPP a cumulative total of 34,037 cubic meters of transuranic waste. | Ship for disposal at WIPP a cumulative total of 44,222 cubic meters of transuranic waste. |
| Canisters of High-Level Waste Packaged         | Package a cumulative total of 1,742 canisters of high-level waste. (NEARLY MET GOAL)                 | Package a cumulative total of 1,992 canisters of high-level waste. (Not an APP measure in FY 2004)                  | Package a cumulative total of 2,242 canisters of high-level waste.                        | Package a cumulative total of 2,492 canisters of high-level waste.                        |
| Number of Release Sites Completed              | Complete a cumulative total of 4,027 release sites. (MET GOAL)                                       | Complete a cumulative total of 4,121 release sites. (MET GOAL)  | Complete a cumulative total of 4,311 release sites.                                       | Complete a cumulative total of 4,576 release sites.                                       |
| Enriched Uranium Packaged for Disposition      | Package for disposition a cumulative total of 2,130 containers of enriched uranium. (GOAL NOT MET)   | Package for disposition a cumulative total of 3,055 containers of enriched uranium. (Not an APP measure in FY 2004) | Package for disposition a cumulative total of 3,944 containers of enriched uranium.       | Package for disposition a cumulative total of 6,159 containers of enriched uranium.       |
| Number of Radioactive Facility Completions     | Complete a cumulative total of 130 radioactive facilities. (MET GOAL)                                | Complete a cumulative total of 167 radioactive facilities. (NEARLY MET GOAL)  | Complete a cumulative total of 220 radioactive facilities.                                | Complete a cumulative total of 254 radioactive facilities.                                |
| Number of Nuclear Facility Completions         | Complete a cumulative total of 20 nuclear facilities. (MET GOAL)                                     | Complete a cumulative total of 26 nuclear facilities. (Not an APP measure in FY 2004)                               | Complete a cumulative total of 40 nuclear facilities.                                     | Complete a cumulative total of 58 nuclear facilities.                                     |

### Means and Strategies

The EM program will continue to pursue the following means and strategies:

- Eliminate significant environmental, health and safety risks as soon as possible.
- Hold cleanup contractors accountable to high safety standards; and empower them to pursue the most direct path to success.

<sup>a</sup> Corporate performance measures shown for FY 2003 – FY 2006 have been made comparable based on the planned transfer of seven sites to the National Nuclear Security Administration in FY 2006. Due to the manner in which annual performance measures were developed and tracked prior to FY 2003, comparable cumulative targets were not calculated for FY 2001 and FY 2002.

- Perform accelerated risk reduction and site closure in concert with regulators and stakeholders to determine the most appropriate remediation schedules and approaches.
- Develop management systems that will establish clearly defined and demanding performance goals and drive accountability through performance plans and contracts.
- Improve the acquisition approach by clearly identifying the work to be done and the Department's expectations, establishing proper incentives for its contracts, hold the contractor accountable and reward outstanding performance.
- Streamline EM program activities to focus on expedited legacy cleanup.
- Continue to revitalize human capital as it is only with well trained and qualified people that EM will be able to accomplish its accelerated cleanup mission.

These means and strategies will result in significant cost savings and a significant reduction in the time needed to complete cleanup—putting the taxpayers' dollars to more productive use.

In addition to some of the assumptions identified earlier, the following external factors could also affect EM's ability to achieve its strategic goal:

- **Cleanup Standards:** The end state for cleanup at certain sites is not fully determined. The extent of cleanup greatly affects cost, schedule and scope of work.
- **Uncertain Work Scope:** Uncertainties are inherent in the environmental cleanup program due to the complexity and nature of the work. There are uncertainties in our knowledge of the types of contaminants, their extent, and concentrations.
- **Commercially Available Options for Waste Disposal:** Accomplishment of accelerated risk reduction and site closure is dependent upon the continued availability of commercial options for mixed low-level waste and low-level waste disposal.

In carrying out the program's accelerated cleanup and closure mission, EM performs a variety of collaborative activities:

- **Regulatory Compliance:** DOE negotiates and executes environmental compliance and cleanup agreements with the U.S. Environmental Protection Agency and state regulatory agencies, as appropriate. Key parameters such as required cleanup levels and milestones must be negotiated with the appropriate regulators and stakeholders for each site.
- **Defense Nuclear Facilities Safety Board:** EM works with the Defense Nuclear Facilities Safety Board to implement the Board's recommendations relating to activities at the Department's nuclear facilities affecting nuclear health and safety.
- **Environmental Management Advisory Board:** EM solicits advice and guidance from the EM Advisory Board on a wide variety of topics, with special emphasis on difficult corporate issues relative to cleanup.
- **EM Site Specific Advisory Boards:** EM solicits advice and guidance on site operations from nine Site Specific Advisory Boards across the EM complex.
- **External Liaison Groups:** EM solicits advice and guidance from external liaison groups, including the National Governors Association, National Association of Attorney's General, State and Tribal Governments Working Group, Energy Communities Alliance, and the Environmental Council of the States.

## **Validation and Verification**

To validate and verify program performance, EM will conduct various internal and external reviews and audits. EM's programmatic activities are subject to continuing reviews by the Congress, the Government Accountability Office, the Department's Inspector General, the Nuclear Regulatory Commission, the U.S. Environmental Protection Agency, state environmental and health agencies, the Defense Nuclear Facilities Safety Board, and the Department's Office of Engineering and Construction Management. Each year, the Office of Engineering and Construction Management conducts external independent reviews of selected projects. In addition, various Operations/Field Offices commission external independent reviews of site baselines or portions of both operating and construction project baselines. Additionally, EM Headquarters senior management and Field managers conduct quarterly, in-depth reviews of cost, schedule, and scope to ensure projects are on-track and within budget. Headquarters offices conduct routine assessments of baseline performance.

## **Program Assessment Rating Tool (PART)**

The Department implemented a tool to evaluate selected programs. The PART was developed by the Office of Management and Budget (OMB) to provide a standardized way to assess the effectiveness of the Federal Government's portfolio of programs. The structured framework of the PART provides a means through which programs can assess their activities differently than through traditional reviews.

The current focus is to establish outcome- and output-oriented goals, the successful completion of which will lead to benefits to the public, such as increased national security and energy security, and improved environmental conditions. DOE has incorporated feedback from OMB into the FY 2006 budget, and the Department will take the necessary steps to continue to improve performance.

**FY 2004 PART** The EM program received a FY 2004 PART score of 49 (ineffective). Average or above scores of 80, 88, and 73 were received in the "Purpose," "Planning," and "Management" sections of the PART evaluation, respectively. OMB's assessment found that the program was generally effective in planning and managing cleanup activities. For the last section of the PART assessment, "Results/Accountability," an unsatisfactory score of 20 was assigned due in large part to OMB's position that a lack of annual cost and schedule performance measures made it difficult for the EM program to demonstrate progress towards its program goal. In the FY 2004 Congressional Budget Request, EM acknowledged that the program needed to continue to improve upon progress made to further develop project management techniques and associated cost and schedule performance measures.

**FY 2005 PART** EM made significant progress over the year, which enabled the program to receive a FY 2005 PART score of 61 (adequate). OMB assigned scores in the "Purpose," "Planning," and "Management Sections" of 100, 80, and 100, respectively. The assessment found that EM's managers were implementing reforms that were improving program performance. It was noted that the EM program had been redesigned to focus on its cleanup mission. The score for the "Results/Accountability" section was 26, also an improvement versus the value previously assigned. OMB's primary finding was that EM had not developed annual cost and schedule performance measures to monitor progress towards completing the EM mission. EM is taking steps to fully incorporate and address this finding. It was EM's goal to have validated baselines for all of its sites approved by the Assistant Secretary and to develop annual cost and schedule measures by the end of FY 2004.

**FY 2006 PART** EM was not required to do a PART evaluation for the FY 2006 budget given its participation the previous two years. Nonetheless, EM has used the past PART evaluations to help

continue to focus the program on accelerated risk reduction and site closure while performing work safely. To this end, in FY 2004 EM made significant progress towards meeting its goal to have resource-loaded baselines in place at each EM site which reflects its accelerated closure strategy. All site baselines have been reviewed for acceptance into the program's configuration control process. All but six site baselines (West Valley, Nevada, Stanford Linear Accelerator Center, Carlsbad, Los Alamos National Laboratory, and Energy Technology Engineering Center) are under configuration control. These six sites did not have defined end states to enable firm baselines; they are targeted to be placed under configuration control by the fourth quarter of FY 2005.

At each site where approved baselines are in place, EM is currently collecting and analyzing earned value cost and schedule information on a monthly basis to monitor and measure the cleanup progress of each site against its cleanup objectives. Since approved site baselines account for more than 90 percent of EM's life-cycle costs, the program is currently monitoring the vast majority of project performance towards meeting its site closure goals. When the remaining six site baselines are placed under configuration control, all project earned value cost and schedule information will be tracked. Additionally, EM is planning on developing a complex-wide baseline in FY 2006 that will incorporate life-cycle site baselines as well as government-furnished services and items that need to be delivered in order for the program to meet its mission goals.

### **Significant Program Shifts**

The FY 2006 budget request proposes several shifts between programs.

- The request includes funding for Spent Nuclear Fuel activities that were funded by the Office of Nuclear Energy, Science, and Technology for the management of the NRC-licensed Fort St. Vrain independent spent nuclear fuel storage installation in Colorado and Three Mile Island spent nuclear fuel at the Idaho Nuclear Technology Engineering Center (INTEC).
- The Office of Environmental Management (EM) has reached agreement with the National Nuclear Security Administration (NNSA) to transfer environmental scope, funding, and associated Federal personnel beginning in FY 2006. The environmental transfer activities include legacy waste treatment, storage, and disposal and environmental remediation for sites where NNSA will have continuing operations, as well as newly generated waste at the Lawrence Livermore National Laboratory and the Oak Ridge Y-12 National Security Complex. Responsibility for newly generated waste at other NNSA sites was transferred by prior agreements. Additionally, the realignment includes the waste disposal facilities at the Nevada Test Site. The transferred mission from EM is included in NNSA's Budget Request within the Weapons Activities appropriation. The transfer of these activities from EM to NNSA requires no additional funding or staffing over and above the transferred amounts. Successful implementation and execution of the environmental transfer activities will streamline organizational reporting relationships and increase accountability and responsibility for NNSA's environmental activities consistent with the tenets of the NNSA Act.
- With the completion of cleanup work at the Laboratory for Energy-Related Health Research, this request transfers responsibility for long-term response actions from EM to the Office of Legacy Management.

Additionally, the following changes are reflected in this budget request.

- Funding for CH-BRNL-0040, Nuclear Facility D&D-Brookhaven Graphite Research Reactor is now requested under the Non-Defense Site Acceleration Completion, 2012 Accelerated Completions account. This shift from the 2006 to the 2012 Accelerated Completions account is due to the addition of work scope that will result in extension of the end date past 2006.
- Transition of Work Scope from Richland to the Office of River Protection: Responsibility for a number of activities at Richland has transitioned to the Office of River Protection. The 242-A Evaporator was transitioned at the end of FY 2003. The 222-S Laboratory is transitioned to the Office of River Protection in FY 2006 for its mission needs.

Future Liabilities: Funding is included in the FY 2006 budget for the initial support for future liabilities planning. However, there is future DOE work scope that is not part of the EM program baseline, or outyear funding targets. This future work includes cleanup activities at currently operating facilities in the balance of DOE's programs, including the National Nuclear Security Administration, the Office of Science, and the Office of Nuclear Energy, Science, and Technology.

### **Corporate Performance Measurement**

EM's 16 corporate performance measures enable the program to monitor annual and life-cycle progress towards meeting the Department's General Goal 6 and EM's Program Goal. EM's 16 corporate performance measures are:

1. Number of geographic sites closed;
2. Certified DOE storage/treatment/disposal 3013 containers (or equivalent) of plutonium metal or oxide packaged ready for long-term storage;
3. Certified containers of enriched uranium packaged ready for long-term storage;
4. Plutonium or uranium residues packaged for disposition (kg of bulk material);
5. Spent nuclear fuel packaged for final disposition (metric tons of heavy metal);
6. Depleted and other uranium packaged for disposition (metric tons).
7. Liquid waste eliminated (millions of gallons);
8. Number of liquid tanks closed;
9. Canisters of high-level waste packaged for final disposition;
10. Transuranic waste shipped for disposal at the Waste Isolation Pilot Plant (cubic meters);
11. Number of nuclear facilities completed;
12. Number of radioactive facilities completed;
13. Number of industrial facilities completed;
14. Number of material access areas eliminated;
15. Low-level waste/mixed low-level waste disposed (cubic meters); and
16. Number of release sites remediated.

Each of EM's corporate performance measures is quantitative and focuses on the accomplishment of risk-reducing actions and life-cycle reduction. Each measure is tracked in the context of the total measure (life-cycle) necessary to complete each site as well as the EM program as a whole. The corporate measures are under configuration control, thereby establishing performance expectations and

accountability for those expectations within a given target funding level. Through configuration control, EM is able to make corporate decisions that will keep the program on track, monitor and control costs and schedule, and manage site closure expectations. In addition to the corporate measures, performance is also tracked through the establishment of site- and project-specific milestones, which are used to demonstrate whether a project and site are on track to achieve agreed upon performance expectations. Current progress against performance measures is available on the EM web site at [www.em.doe.gov](http://www.em.doe.gov).

The corporate performance measures presented below reflect metrics reported in this FY 2006 budget request.

### Corporate Performance Measures - EM Program Totals <sup>a</sup>

|  | Comparable<br>FY 2004<br>Actuals | Comparable<br>FY 2005<br>Target | Comparable<br>FY 2006<br>Target | Complete<br>Through<br>FY 2006 | Life-cycle<br>Estimates |
|--|----------------------------------|---------------------------------|---------------------------------|--------------------------------|-------------------------|
| Number of Plutonium Metal or Oxide Containers  |                                  |                                 |                                 |                                |                         |
| Packed for Long-Term Storage.....  | 1,620                            | 176                             | 0                               | 6,345                          | 5,850                   |
| Number of Enriched Uranium Containers  |                                  |                                 |                                 |                                |                         |
| Packed for Long-Term Storage.....  | 1,174                            | 889                             | 2,215                           | 6,332                          | 8,428                   |
| Amount of Plutonium or Uranium Residues  |                                  |                                 |                                 |                                |                         |
| Packed for Disposition (kg bulk).....  | 79                               | 36                              | 0                               | 107,775                        | 107,782                 |
| Amount of Depleted and Other Uranium   |                                  |                                 |                                 |                                |                         |
| Packed for Disposition (MT).....   | 1,406                            | 0                               | 186                             | 9,243                          | 685,161                 |
| Volume of Liquid Waste in Inventory Eliminated   |                                  |                                 |                                 |                                |                         |
| Thousands of Gallons.....  | 0                                | 0                               | 888                             | 888                            | 88,000                  |
| Number of Liquid Waste Tanks Closed.....   | 0                                | 0                               | 1                               | 3                              | 241                     |
| Number of High-Level Waste Containers  |                                  |                                 |                                 |                                |                         |
| Packed for Final Disposition .....   | 260                              | 250                             | 250                             | 2,487                          | 18,735                  |
| Amount of Spent Nuclear Fuel Packed for<br>Final Disposition (MTHM).....                     | 649                              | 30                              | 2                               | 2,127                          | 2,420                   |
| Volume of Transuranic Waste Shipped for<br>Disposal at Waste Isolation Pilot Plant (m3)..... | 6,953                            | 9,512                           | 10,185                          | 40,731                         | 140,905                 |
| Volume of Low-Level and Mixed Low-Level<br>Waste Disposed (m3).....                          | 206,978                          | 124,771                         | 29,807                          | 752,071                        | 1,161,773               |
| Number of Material Access Areas Eliminated.....  | 0                                | 1                               | 1                               | 9                              | 14                      |
| Number of Nuclear Facility Completions.....  | 12                               | 14                              | 18                              | 66                             | 511                     |
| Number of Radioactive Facility Completions.....  | 44                               | 53                              | 34                              | 279                            | 821                     |
| Number of Industrial Facility Completions.....   | 259                              | 150                             | 97                              | 1,158                          | 3,098                   |
| Number of Geographic Sites Eliminated.....   | 0                                | 2                               | 7                               | 86 <sup>b</sup>                | 107                     |
| Number of Remediation Completions  |                                  |                                 |                                 |                                |                         |
| Number of Release Sites.....   | 207                              | 190                             | 265                             | 4,732                          | 7,666                   |

a/ Figures shown are comparable based on the scheduled transfer of seven sites to the National Nuclear Security Administration in FY 2006.

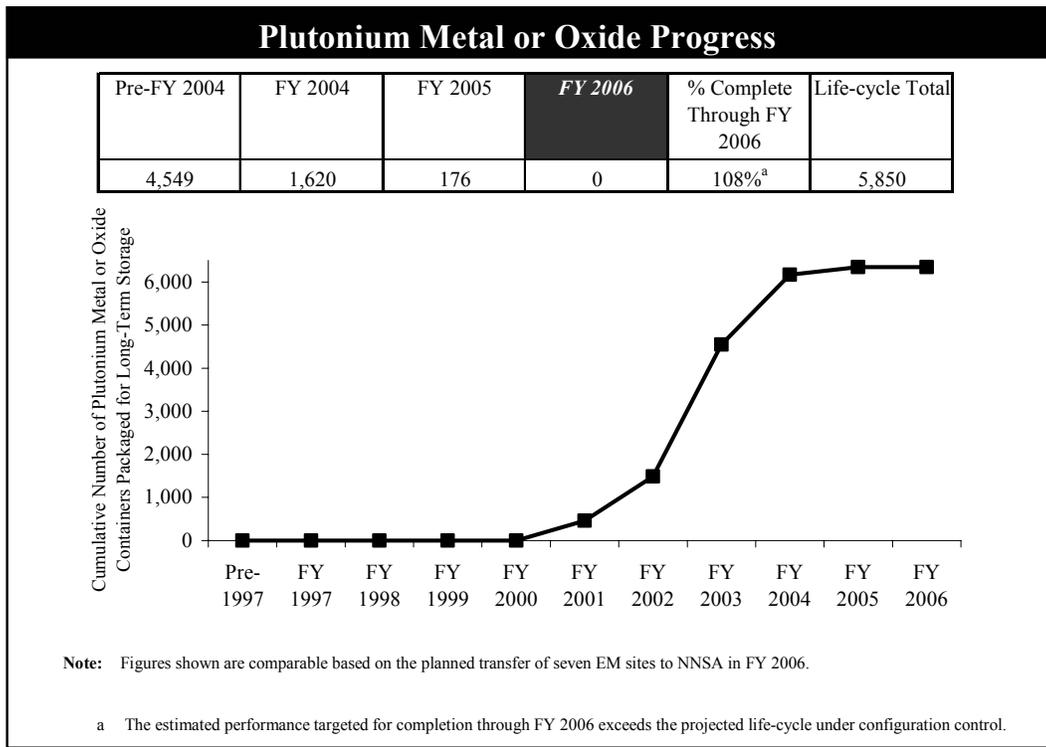
b/ The Salmon Site was not completed as targeted in FY 2003. It is projected to be completed in FY 2005. If completed, the number of geographic sites completed by the end of FY 2006 will equal 86.

## Nuclear Materials

Reducing the inventory of high-risk nuclear materials by preparing it for long-term storage or disposition quantitatively measures EM's progress towards environmental, safety, and security risk reduction. The stabilization and packaging of nuclear materials indicates a reduction in an activity that is

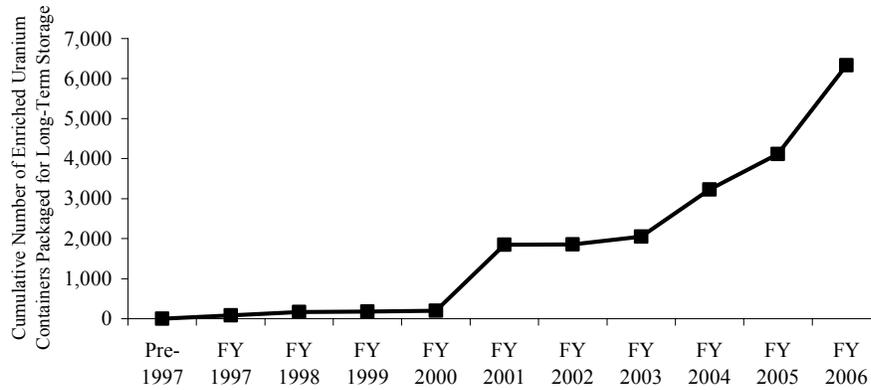
a major cost driver for the EM program. The following four corporate performance measures (and the identification of the sites which mainly contributes to each of the measures) are depicted below.

- Plutonium metal or oxide containers packaged for long-term storage (Hanford Site, Rocky Flats Site, and Savannah River Site);
- Enriched uranium containers packaged for long-term storage (Hanford Site, Savannah River Site, Portsmouth Gaseous Diffusion Plant, Idaho National Laboratory, and Oak Ridge Reservation);
- Plutonium or uranium residues packaged for disposition (Rocky Flats Site); and
- Depleted and other uranium packaged for disposition (Oak Ridge Reservation, Paducah, and Portsmouth).



### Enriched Uranium Progress

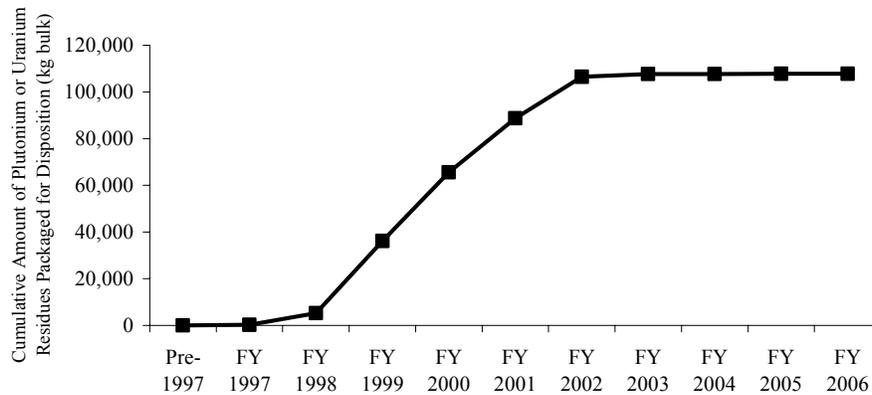
| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 2,054       | 1,174   | 889     | 2,215          | 75%                        | 8,428            |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

### Plutonium or Uranium Residues Progress

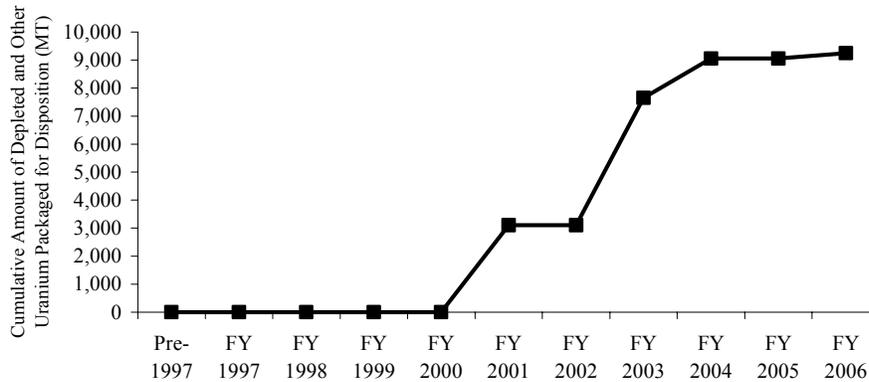
| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 107,659     | 79      | 36      | 0              | 100%                       | 107,782          |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

## Depleted and Other Uranium Progress

| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 7,651       | 1,406   | 0       | <i>186</i>     | 1%                         | 685,161          |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

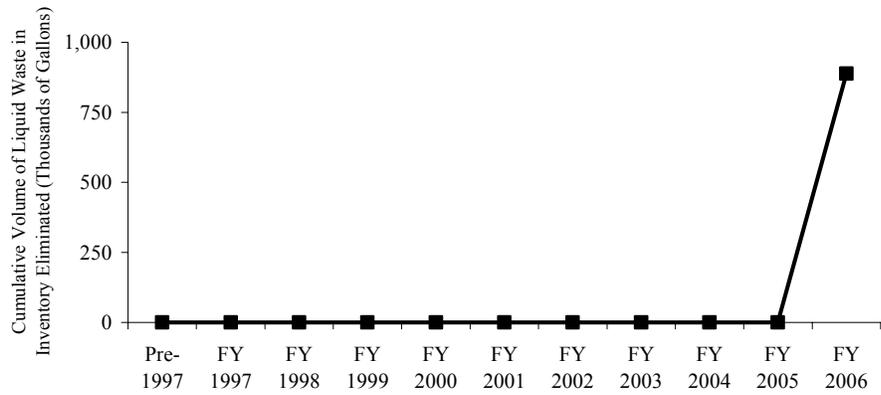
## Liquid Waste

By reducing the amount of radioactive liquid waste in inventory and subsequent closing of the liquid waste tanks, EM is demonstrating tangible evidence of the program's goal to accelerate reduction of the highest risks in the complex and site cleanup. In addition to eliminating high-risk material, corresponding life-cycle cost reductions are achieved for an activity that is a major cost driver to the EM program. The following two corporate measures (and the identification of the sites which mainly contributes to each of the measures) are depicted below:

- Liquid waste in inventory eliminated (Hanford Site and Savannah River Site); and
- Liquid waste tanks closed (Hanford Site, Savannah River Site, and Idaho National Laboratory).

## Liquid Waste in Inventory Progress

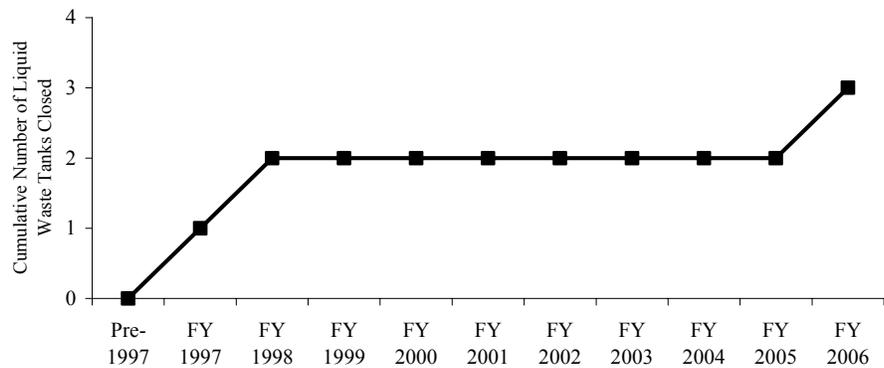
| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 0           | 0       | 0       | <i>888</i>     | 1%                         | 88,000           |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

## Liquid Waste Tank Progress

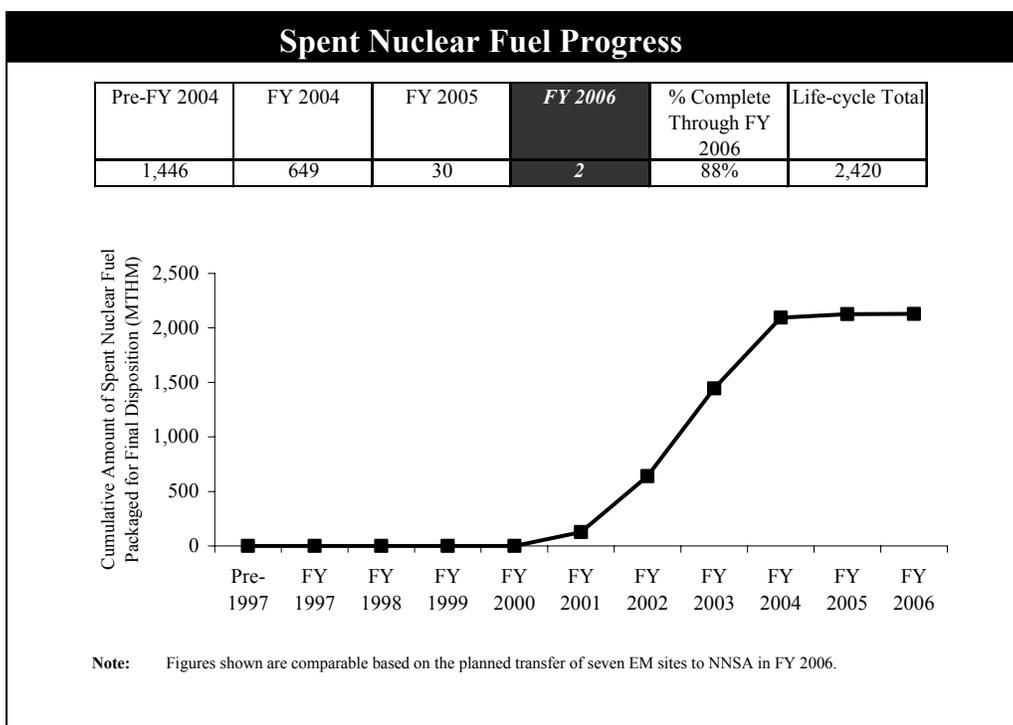
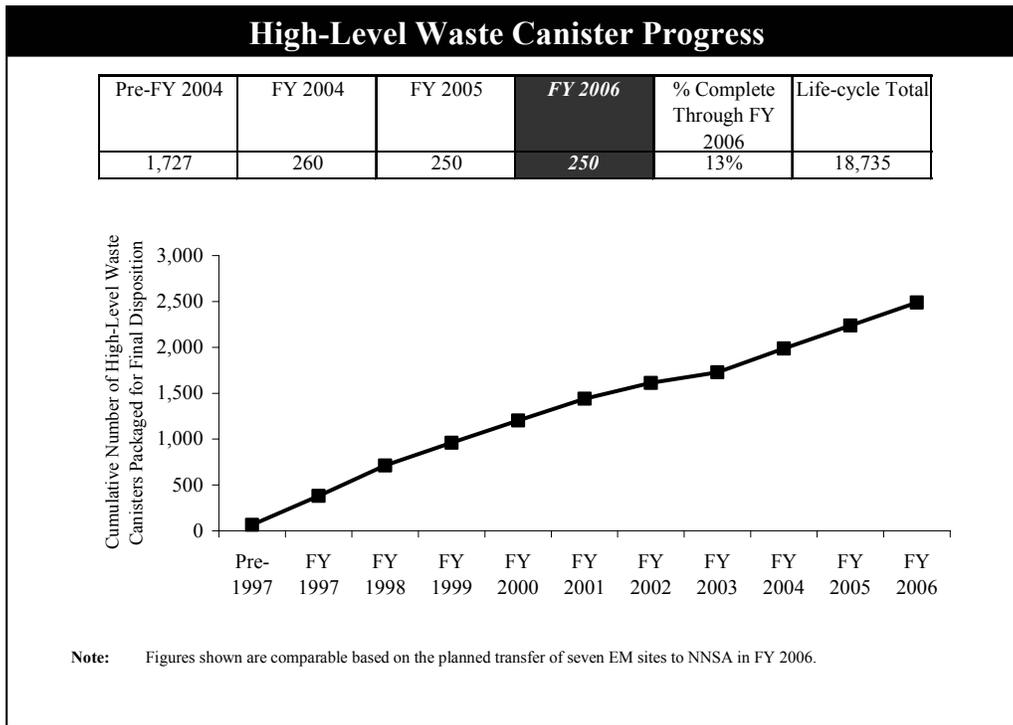
| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 2           | 0       | 0       | <i>1</i>       | 1%                         | 241              |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

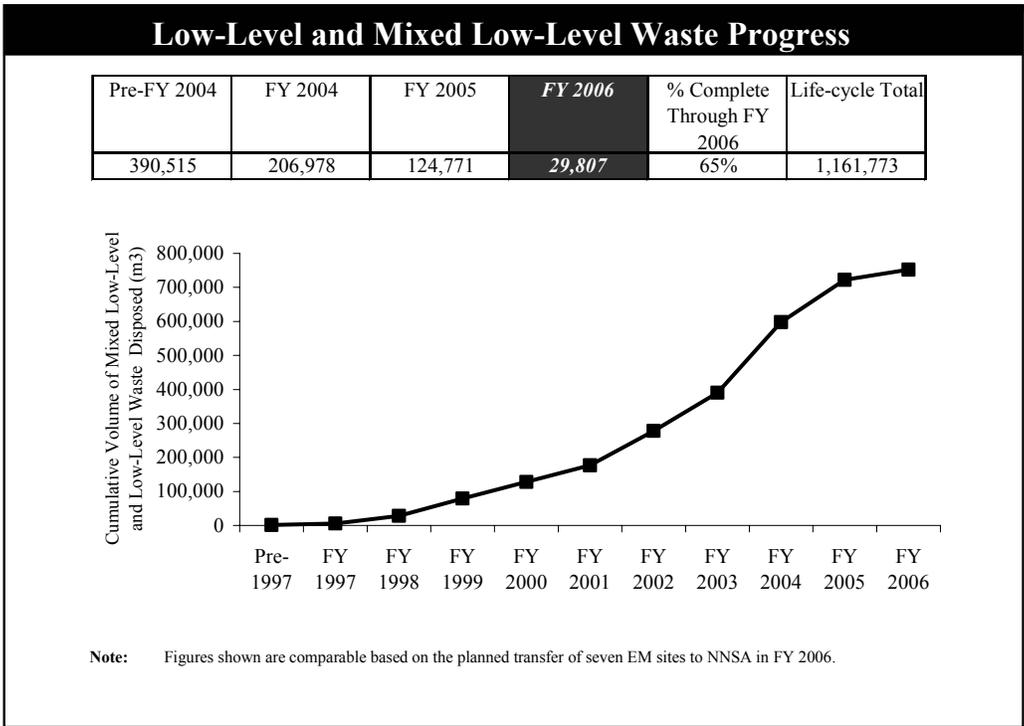
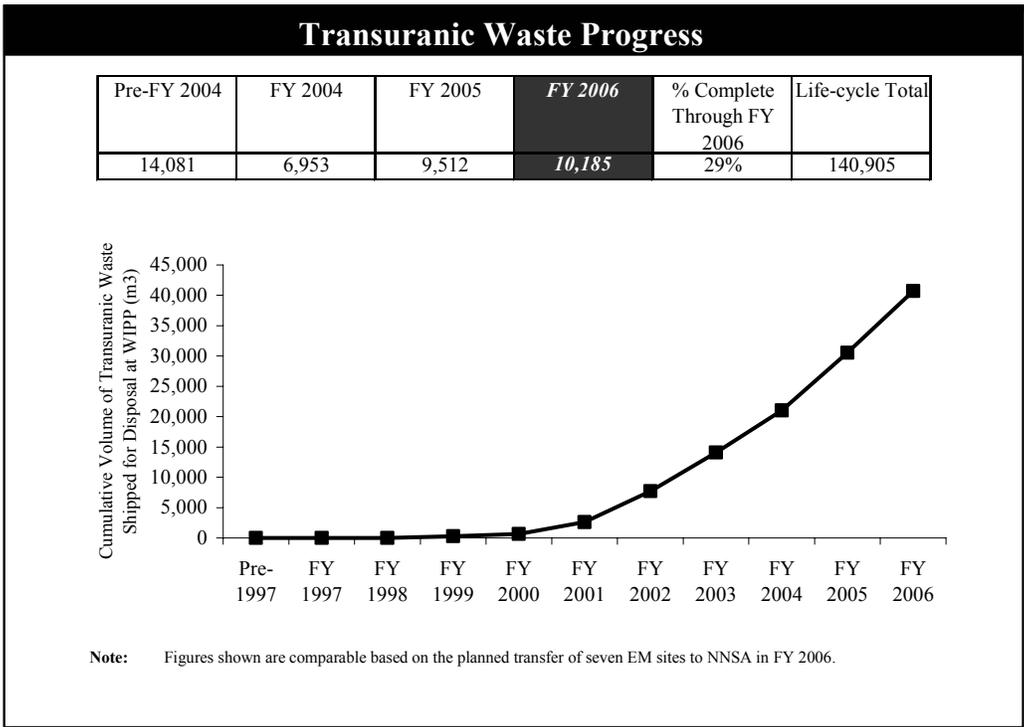
## High-Level Waste and Spent Nuclear Fuel

The EM program is preparing high-level waste and spent nuclear fuel for final disposition in order to ensure the material is ready for disposal in the federal geologic repository. Completion of high-level waste and spent nuclear fuel activities indicates the reduction of both high risk and cost incurring activities. The Hanford Site, Savannah River Site, and Idaho National Laboratory primarily contribute to both the high-level waste measure and the spent nuclear fuel measure. Both corporate performance measures are depicted below.



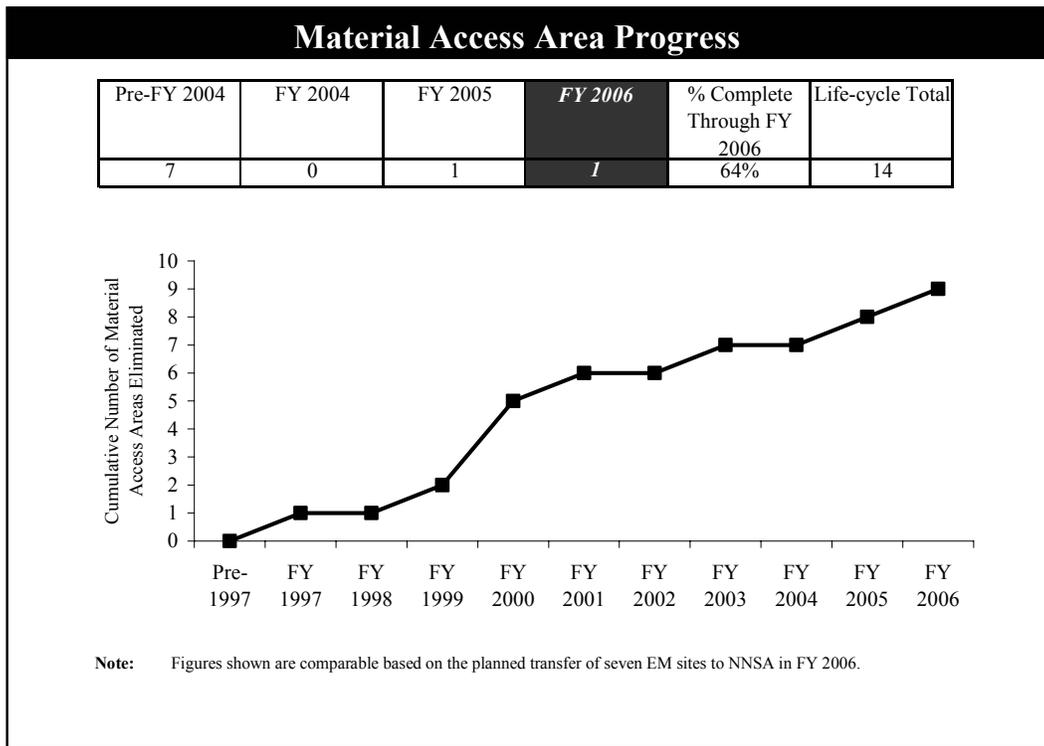
## Transuranic Waste and Low-Level/Mixed Low-Level Waste

The shipment of transuranic waste to the Waste Isolation Pilot Plant measures a site's progress towards accelerating cleanup and reducing risk. The Idaho National Laboratory, Savannah River Site, Rocky Flats Site, Los Alamos National Laboratory, and Hanford Site primarily contribute to the transuranic waste corporate measure. The disposal of low-level waste/mixed low-level waste reflects the intensity of cleanup activities at a site. A large number of sites contribute to the low-level waste/mixed low-level waste measure. The two corporate measures portrayed below demonstrate progress towards EM's ultimate goal of site completion.



## Material Access Areas

The elimination of a Material Access Area indicates the completion of a segment of work, thus removing the need for safeguards and security in the area. This is an obvious indicator of a site's work towards reducing risk to workers, the public, and the environment. The Rocky Flats Site, Savannah River Site, Hanford Site, and Idaho National Laboratory contribute to this corporate measure, which is depicted below.



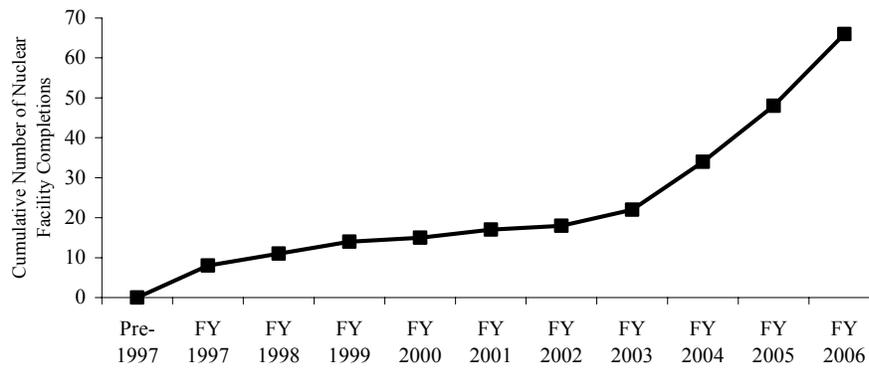
## Facility Completions

Three corporate performance measures (i.e., nuclear, radioactive, and industrial facilities) encompass facility completions; measured are the number of facilities that have reached their end state within the EM program. The endpoint corresponds to one of the following: decommissioning, deactivation, dismantlement, demolition, or responsibility for the facility is transferred to another program or owner. Facility completions are an excellent indicator of EM's progress towards site cleanup. Many sites contribute to facility completions, which are portrayed below.

- Nuclear facility completions;
- Radioactive facility completions; and
- Industrial facility completions.

## Nuclear Facility Progress

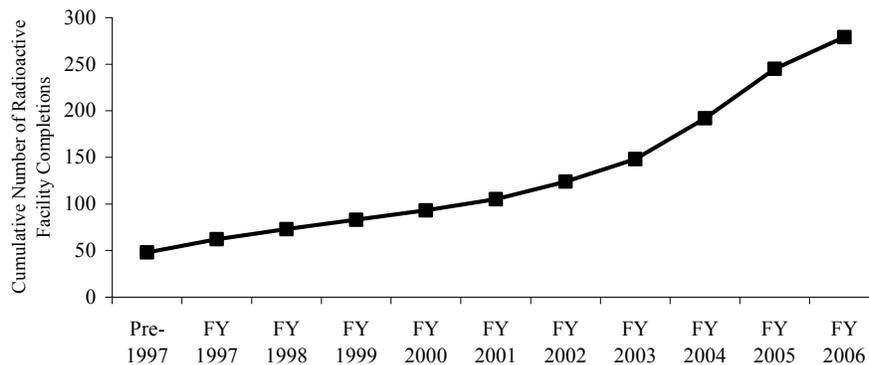
| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 22          | 12      | 14      | <i>18</i>      | 13%                        | 511              |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

## Radioactive Facility Progress

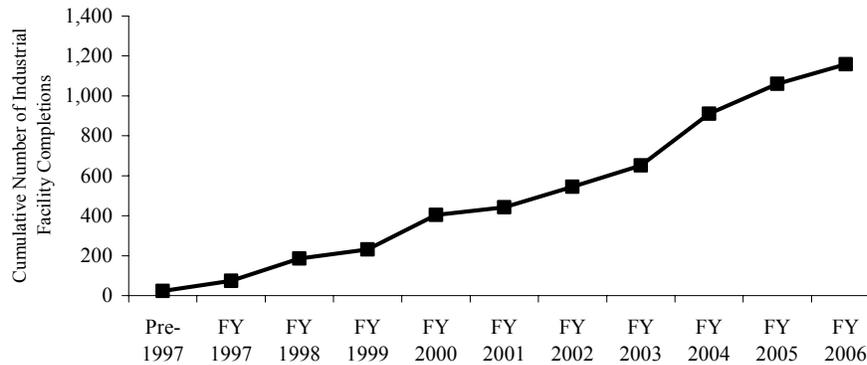
| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 148         | 44      | 53      | <i>34</i>      | 34%                        | 821              |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

## Industrial Facility Progress

| Pre-FY 2004 | FY 2004 | FY 2005 | <i>FY 2006</i> | % Complete Through FY 2006 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------|------------------|
| 652         | 259     | 150     | <i>97</i>      | 37%                        | 3,098            |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

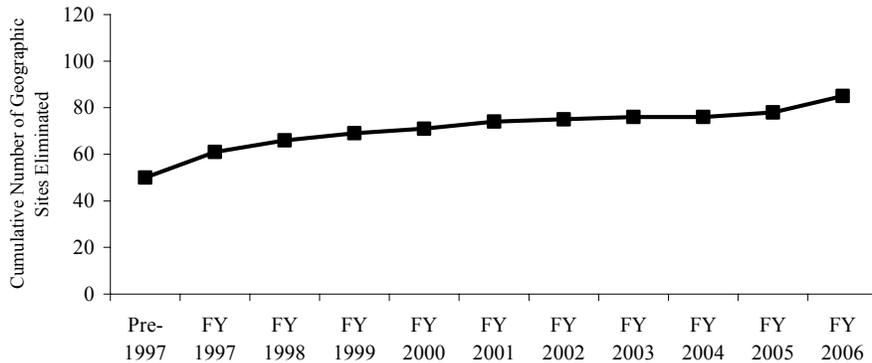
## Geographic Sites and Remediation Completions

Completion of a geographic site best reflects EM's goal of accelerating cleanup and reducing risk. A geographic site in its entirety is considered complete when active remediation has been completed in accordance with the terms and conditions of cleanup agreements. Stewardship or non-EM activities may be on going after a site is completed. EM tracks cleanup responsibilities for 107 (see page 4, footnote a) contaminated sites. In FY 2006, EM plans to complete seven sites: Rocky Flats Environmental Technology Site in Colorado; Miamisburg Environmental Project in Ohio; Fernald Environmental Project in Ohio; Lawrence Berkeley National Laboratory in California; Stanford Linear Accelerator Center in California; Ashtabula Environmental Management Project in Ohio; and Columbus Environmental Management Project – West Jefferson in Ohio.

In order to complete a geographic site (e.g., Fernald), EM must complete remediation of any release sites present at the site. The completion of release sites, discrete areas of contamination at a site, is a good indicator of a site's progress towards completions. All sites except for the Waste Isolation Pilot Plant contribute to this corporate measure. These two corporate performance measures are shown below.

### Geographic Sites Eliminated

| Pre-FY 2004<br>Actual | FY 2004<br>Target | FY 2005<br>Target | <i>FY 2006<br/>Target</i> | % Complete<br>Through FY 2006 <sup>a</sup> | Life-cycle Total |
|-----------------------|-------------------|-------------------|---------------------------|--|------------------|
| 76                    | 0                 | 2                 | 7                         | 80%  | 107              |

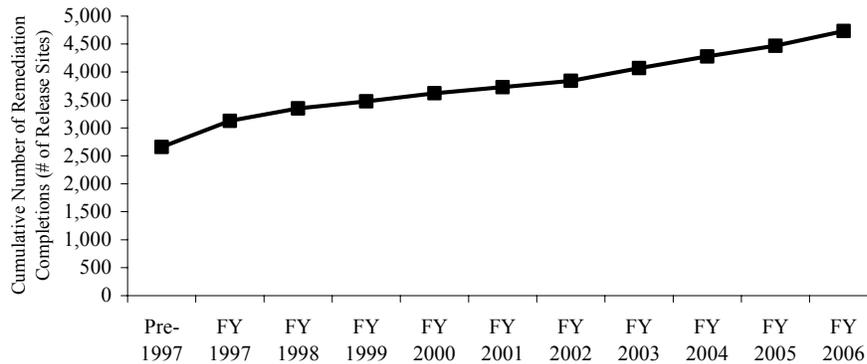


**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

<sup>a</sup> The Salmon Site in Mississippi, targeted for site closure in FY 2003, was not completed. All remediation work was completed but regulatory approval was not obtained. The Salmon Site is projected to be completed in FY 2005. If completed, the number of geographic sites completed by the end of FY 2006 will equal 86 (80% complete through FY 2006).

### Remediation Completion Progress

| Pre-FY 2003 | FY 2003 | FY 2004 | <i>FY 2005</i> | % Complete<br>Through FY<br>2005 | Life-cycle Total |
|-------------|---------|---------|----------------|----------------------------------|------------------|
| 4,070       | 207     | 190     | 265            | 62%                              | 7,666            |



**Note:** Figures shown are comparable based on the planned transfer of seven EM sites to NNSA in FY 2006.

In preparation of the FY 2006 budget, EM used performance data in making management and budget decisions. The following two examples illustrate how budget decisions were influenced by program performance.

### ***Spent Nuclear Fuel Stabilization and Disposition at Hanford.***

This project will package and move approximately 2,100 metric tons of degrading spent nuclear fuel, and up to 60 cubic meters of radioactive sludge (estimated to weigh approximately 18 metric tons) generated by the degrading fuel, from wet storage in the K Basins near the Columbia River to safer, dry interim storage on the 200 Area Central Plateau. The K Basin facilities are well past their design life and are a major threat to the environment due to the potential for radioactive basin water to contaminate the surrounding soil and the Columbia River. The spent nuclear fuel has been removed from the basins; removing the water and sludge is underway. Project performance of the contractor, as measured by an unacceptably low earned value, resulted in significant loss of fee for the contractor. As a result of this performance, DOE worked with the contractor to develop a new approach to process the sludge directly into a disposable form instead of storing the sludge long term in another facility. The Department has modified the current contract and work at the K Basin facilities has been accelerated. Although funding for the overall project is reduced in FY 2006, funding within the project to implement this technical approach on sludge removal has been increased.

### ***Hanford Waste Treatment and Immobilization Plant***

Ongoing construction of the \$5.8 billion Waste Treatment and Immobilization Plant (WTP) at Hanford is a key component of EM's plan to clean up liquid radioactive waste currently stored in 177 aging underground storage tanks. To meet a 2011 facility start date in the Federal Facility Compliance Agreement among DOE and its regulators, WTP design and construction activities have been closely coupled. Recent project performance reviews indicated a decrease in WTP construction schedule performance. In addition, recent seismic information has raised new concerns that some equipment now may require modification. This, in combination with the current schedule performance resulted in a recent decision to slow WTP construction to allow further evaluation of requirements. In addition, an effort is underway to address safety uncertainties involving generation of hydrogen during operation. Lastly, there remains uncertainties regarding the ultimate disposition of tank wastes to be processed through WTP. The FY 2006 budget request decreases funding to reflect the slower construction pace through FY 2006. The Department will develop and request the appropriate funding profile in subsequent years to ensure DOE still meets its commitment to start up WTP operations in 2011.



## Environmental Management Funding by Site by Program

(dollars in thousands)

|   | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|---|---------|---------|---------|-----------|----------|
| Carlsbad Field Office                             |         |         |         |           |          |
| Carlsbad Field Office                             |         |         |         |           |          |
| Defense Site Acceleration Completion:             |         |         |         |           |          |
| Safeguards and Security.....                      | 3,441   | 4,072   | 4,223   | 151       | 3.7%     |
| Defense Environmental Services:                   |         |         |         |           |          |
| Community and Regulatory Support.....             | 25,898  | 23,452  | 24,548  | 1,096     | 4.7%     |
| Waste Isolation Pilot Plant                       |         |         |         |           |          |
| Defense Site Acceleration Completion:             |         |         |         |           |          |
| 2035 Site Acceleration Completions.....           | 193,717 | 201,920 | 188,081 | -13,839   | -6.9%    |
| Total, Carlsbad Field Office.....                 | 223,056 | 229,444 | 216,852 | -12,592   | -5.5%    |
| Chicago Operations Office                         |         |         |         |           |          |
| Argonne National Laboratory - East                |         |         |         |           |          |
| Non-Defense Site Acceleration Completion:         |         |         |         |           |          |
| 2006 Accelerated Completions.....                 | 642     | 401     | 415     | 14        | 3.5%     |
| 2012 Accelerated Completions.....                 | 1,297   | 384     | 10,072  | 9,688     | 2522.9%  |
| Subtotal, Argonne National Laboratory - East..... | 1,939   | 785     | 10,487  | 9,702     | 1235.9%  |
| Argonne National Laboratory - West                |         |         |         |           |          |
| Non-Defense Site Acceleration Completion:         |         |         |         |           |          |
| 2006 Accelerated Completions.....                 | 200     | 0       | 121     | 121       | 100.0%   |
| Brookhaven National Laboratory                    |         |         |         |           |          |
| Non-Defense Site Acceleration Completion:         |         |         |         |           |          |
| 2006 Accelerated Completions.....                 | 29,119  | 28,785  | 6,713   | -22,072   | -76.7%   |
| 2012 Accelerated Completions.....                 | 10,110  | 13,482  | 27,565  | 14,083    | 104.5%   |
| Non-Defense Environmental Services:               |         |         |         |           |          |
| Community and Regulatory Support.....             | 660     | 49      | 50      | 1         | 2.0%     |
| Subtotal, Brookhaven National Laboratory.....     | 39,889  | 42,316  | 34,328  | -7,988    | -18.9%   |
| Princeton Plasma Physics Laboratory               |         |         |         |           |          |
| Non-Defense Site Acceleration Completion:         |         |         |         |           |          |
| 2006 Accelerated Completions.....                 | 124     | 0       | 0       | 0         | 0.0%     |
| Total, Chicago Operations Office.....             | 42,152  | 43,101  | 44,936  | 1,835     | 4.3%     |
| Idaho Operations Office                           |         |         |         |           |          |
| Idaho National Laboratory                         |         |         |         |           |          |
| Defense Site Acceleration Completion:             |         |         |         |           |          |
| 2012 Site Acceleration Completions.....           | 529,751 | 519,295 | 515,513 | -3,782    | -0.7%    |
| 2035 Site Acceleration Completions.....           | 439     | 1,984   | 0       | -1,984    | 0.0%     |
| Defense Environmental Services:                   |         |         |         |           |          |
| Community and Regulatory Support.....             | 2,310   | 3,088   | 3,546   | 458       | 14.8%    |
| Non-Defense Site Acceleration Completions:        |         |         |         |           |          |
| 2012 Accelerated Completions.....                 | 4,861   | 6,681   | 5,153   | -1,528    | -22.9%   |
| Subtotal, Idaho National Laboratory.....          | 537,361 | 531,048 | 524,212 | -6,836    | -1.3%    |
| Total, Idaho Operations Office.....               | 537,361 | 531,048 | 524,212 | -6,836    | -1.3%    |

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| Oak Ridge Operations Office                    |         |         |         |           |          |
| East Tennessee Technology Park                 |         |         |         |           |          |
| Defense Site Acceleration Completion:          |         |         |         |           |          |
| 2012 Accelerated Completions.....              | 3,633   | 6,540   | 6,034   | -506      | -7.7%    |
| Non-Defense Environmental Services:            |         |         |         |           |          |
| Non-Closure Environmental Activities.....      | 13,406  | 7,923   | 1,600   | -6,323    | -79.8%   |
| Uranium Enrichment D&D Fund:                   |         |         |         |           |          |
| D&D Activities.....                            | 161,302 | 211,876 | 281,329 | 69,453    | 32.8%    |
| Subtotal, East Tennessee Technology Park.....  | 178,341 | 226,339 | 288,963 | 62,624    | 27.7%    |
| Oak Ridge National Laboratory                  |         |         |         |           |          |
| Defense Site Acceleration Completion:          |         |         |         |           |          |
| 2035 Accelerated Completions.....              | 30,249  | 19,626  | 16,034  | -3,592    | -18.3%   |
| Oak Ridge Reservation                          |         |         |         |           |          |
| Defense Site Acceleration Completion:          |         |         |         |           |          |
| 2006 Accelerated Completions.....              | 120,506 | 110,874 | 15,146  | -95,728   | -86.3%   |
| 2012 Accelerated Completions.....              | 75,122  | 59,497  | 84,843  | 25,346    | 42.6%    |
| Safeguards and Security.....                   | 20,668  | 21,850  | 28,855  | 7,005     | 32.1%    |
| Defense Environmental Services:                |         |         |         |           |          |
| Community and Regulatory Support.....          | 3,439   | 3,592   | 5,670   | 2,078     | 57.9%    |
| Non-Closure Environmental Activities.....      | 15,908  | 14,583  | 0       | -14,583   | -100.0%  |
| Uranium Enrichment D&D Fund:                   |         |         |         |           |          |
| D&D Activities.....                            | 1,452   | 1,454   | 0       | -1,454    | -100.0%  |
| Subtotal, Oak Ridge Reservation.....           | 237,095 | 211,850 | 134,514 | -77,336   | -36.5%   |
| Y-12 Plant                                     |         |         |         |           |          |
| Defense Site Acceleration Completion:          |         |         |         |           |          |
| 2035 Accelerated Completions.....              | 25,981  | 27,323  | 40,558  | 13,235    | 48.4%    |
| Total, Oak Ridge Operations Office.....        | 471,666 | 485,138 | 480,069 | -5,069    | -1.0%    |
| Paducah Gaseous Diffusion Plant                |         |         |         |           |          |
| Defense Site Acceleration Completion:          |         |         |         |           |          |
| Safeguards and Security.....                   | 8,352   | 7,760   | 11,014  | 3,254     | 41.9%    |
| Non-Defense Environmental Services:            |         |         |         |           |          |
| Community and Regulatory Support.....          | 331     | 0       | 0       | 0         | 0.0%     |
| Non-Closure Environmental Activities.....      | 61,386  | 55,484  | 50,820  | -4,664    | -8.4%    |
| Uranium Enrichment D&D Fund:                   |         |         |         |           |          |
| D&D Activities.....                            | 120,158 | 111,280 | 98,012  | -13,268   | -11.9%   |
| Total, Paducah Gaseous Diffusion Plant.....    | 190,227 | 174,524 | 159,846 | -14,678   | -8.4%    |
| Portsmouth Gaseous Diffusion Plant             |         |         |         |           |          |
| Defense Site Acceleration Completion:          |         |         |         |           |          |
| Safeguards and Security.....                   | 19,418  | 16,009  | 17,842  | 1,833     | 11.4%    |
| Non-Defense Environmental Services:            |         |         |         |           |          |
| Non-Closure Environmental Activities.....      | 198,386 | 179,755 | 78,911  | -100,844  | -56.1%   |
| Uranium Enrichment D&D Fund:                   |         |         |         |           |          |
| D&D Activities.....                            | 80,416  | 91,045  | 192,157 | 101,112   | 111.1%   |
| Total, Portsmouth Gaseous Diffusion Plant..... | 298,220 | 286,809 | 288,910 | 2,101     | 0.7%     |

(dollars in thousands)

|   | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|---|---------|---------|---------|-----------|----------|
| Ohio Field Office                         |         |         |         |           |          |
| Ashtabula                                 |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| 2006 Accelerated Completions.....         | 5,977   | 15,752  | 16,000  | 248       | 1.6%     |
| Columbus                                  |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| 2006 Accelerated Completions.....         | 18,235  | 19,690  | 9,500   | -10,190   | -51.8%   |
| Fernald                                   |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| 2006 Accelerated Completions.....         | 324,973 | 316,591 | 326,732 | 10,141    | 3.2%     |
| Safeguards and Security.....              | 3,922   | 1,157   | 1,391   | 234       | 20.2%    |
| Defense Environmental Services:           |         |         |         |           |          |
| Community and Regulatory Support.....     | 1,484   | 1,134   | 877     | -257      | -22.7%   |
| Subtotal, Fernald.....                    | 330,379 | 318,882 | 329,000 | 10,118    | 3.2%     |
| Miamisburg                                |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| 2006 Accelerated Completions.....         | 101,649 | 109,559 | 74,730  | -34,829   | -31.8%   |
| Safeguards and Security.....              | 3,870   | 524     | 0       | -524      | -100.0%  |
| Define Environmental Services             |         |         |         |           |          |
| Community and Regulatory Support.....     | 890     | 1,346   | 800     | -546      | -40.6%   |
| Subtotal, Miamisburg.....                 | 106,409 | 111,429 | 75,530  | -35,899   | -32.2%   |
| West Valley                               |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| Safeguards and Security.....              | 2,555   | 2,648   | 1,800   | -848      | -32.0%   |
| Non-Defense Site Acceleration Completion: |         |         |         |           |          |
| 2012 Accelerated Completions.....         | 98,364  | 73,628  | 77,100  | 3,472     | 4.7%     |
| Subtotal, West Valley.....                | 100,919 | 76,276  | 78,900  | 2,624     | 3.4%     |
| Total, Ohio Field Office.....             | 561,919 | 542,029 | 508,930 | -33,099   | -6.1%    |
| Richland Operations Office                |         |         |         |           |          |
| Hanford Site                              |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| 2012 Site Acceleration Completions.....   | 478,977 | 503,891 | 417,752 | -86,139   | -17.1%   |
| 2035 Site Acceleration Completions.....   | 303,536 | 377,216 | 314,741 | -62,475   | -16.6%   |
| Safeguards and Security.....              | 57,187  | 54,304  | 82,155  | 27,851    | 51.3%    |
| Non-Defense Environmental Services:       |         |         |         |           |          |
| Environmental Cleanup Projects.....       | 43,589  | 45,715  | 46,113  | 398       | 0.9%     |
| Subtotal, Hanford Site.....               | 883,289 | 981,126 | 860,761 | -120,365  | -12.3%   |
| Richland Operations Office                |         |         |         |           |          |
| Defense Site Acceleration Completion:     |         |         |         |           |          |
| Safeguards and Security.....              | 0       | 1,972   | 0       | -1,972    | -100.0%  |
| Defense Environmental Services:           |         |         |         |           |          |
| Community and Regulatory Support.....     | 11,123  | 12,653  | 15,411  | 2,758     | 21.8%    |
| Subtotal, Richland Operations Office..... | 11,123  | 14,625  | 15,411  | 786       | 5.4%     |
| Total, Richland Operations Office.....    | 894,412 | 995,751 | 876,172 | -119,579  | -12.0%   |

(dollars in thousands)

|   | FY 2004   | FY 2005   | FY 2006   | \$ Change | % Change |
|---|-----------|-----------|-----------|-----------|----------|
| Office of River Protection                          |           |           |           |           |          |
| Defense Site Acceleration Completion:               |           |           |           |           |          |
| 2012 Accelerated Completions.....                   | 697,530   | 684,480   | 625,893   | -58,587   | -8.6%    |
| 2035 Accelerated Completions.....                   | 410,744   | 391,329   | 301,942   | -89,387   | -22.8%   |
| Defense Environmental Services:                     |           |           |           |           |          |
| Community and Regulatory Support.....               | 471       | 471       | 471       | 0         | 0.0%     |
| Total, Office of River Protection.....              | 1,108,745 | 1,076,280 | 928,306   | -147,974  | -13.7%   |
| Rocky Flats Field Office                            |           |           |           |           |          |
| Rocky Flats Environmental Technology Site           |           |           |           |           |          |
| Defense Site Acceleration Completion:               |           |           |           |           |          |
| 2006 Site Acceleration Completions.....             | 624,641   | 637,378   | 574,400   | -62,978   | -9.9%    |
| Safeguards and Security.....                        | 28,382    | 16,455    | 3,200     | -13,255   | -80.6%   |
| Subtotal, Rocky Flats Environmental Tech. Site..... | 653,023   | 653,833   | 577,600   | -76,233   | -11.7%   |
| Rocky Flats Field Office                            |           |           |           |           |          |
| Defense Environmental Services:                     |           |           |           |           |          |
| Community and Regulatory Support.....               | 2,795     | 2,022     | 3,050     | 1,028     | 50.8%    |
| Non-Closure Environmental Activities.....           | 2,367     | 2,300     | 2,500     | 200       | 8.7%     |
| Subtotal, Rocky Flats Field Office.....             | 5,162     | 4,322     | 5,550     | 1,228     | 28.4%    |
| Total, Rocky Flats Field Office.....                | 658,185   | 658,155   | 583,150   | -75,005   | -11.4%   |
| Savannah River Operations Office                    |           |           |           |           |          |
| Savannah River Operations Office                    |           |           |           |           |          |
| Defense Environmental Services:                     |           |           |           |           |          |
| Community and Regulatory Support.....               | 6,118     | 6,566     | 7,659     | 1,093     | 16.6%    |
| Non-Closure Environmental Activities.....           | 14,010    | 5,026     | 5,387     | 361       | 7.2%     |
| Subtotal, Savannah River Operations Office.....     | 20,128    | 11,592    | 13,046    | 1,454     | 12.5%    |
| Savannah River Site Office                          |           |           |           |           |          |
| Defense Site Acceleration Completion:               |           |           |           |           |          |
| 2006 Accelerated Completions.....                   | 208       | 0         | 0         | 0         | 0.0%     |
| 2012 Accelerated Completions.....                   | 378,223   | 378,562   | 250,303   | -128,259  | -33.9%   |
| 2035 Accelerated Completions.....                   | 796,694   | 910,026   | 951,844   | 41,818    | 4.6%     |
| Safeguards and Security.....                        | 143,329   | 136,191   | 136,743   | 552       | 0.4%     |
| Subtotal, Savannah River Site Office.....           | 1,318,454 | 1,424,779 | 1,338,890 | -85,889   | -6.0%    |
| Total, Savannah River Operations Office.....        | 1,338,582 | 1,436,371 | 1,351,936 | -84,435   | -5.9%    |
| Technology Development and Deployment               |           |           |           |           |          |
| Defense Site Acceleration Completion:               |           |           |           |           |          |
| Technology Development and Deployment.....          | 61,358    | 59,726    | 21,389    | -38,337   | -64.2%   |
| Headquarters Operations                             |           |           |           |           |          |
| Hanford Site  |           |           |           |           |          |
| Defense Environmental Services:                     |           |           |           |           |          |
| Non-Closure Environmental Activities.....           | 3,429     | 896       | 1,813     | 917       | 102.3%   |

(dollars in thousands)

|   | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|---|---------|---------|---------|-----------|----------|
| Headquarters                                  |         |         |         |           |          |
| Defense Environmental Services:               |         |         |         |           |          |
| Non-Closure Environmental Activities.....     | 29,038  | 32,707  | 32,600  | -107      | -0.3%    |
| UE D&D Fund:                                  |         |         |         |           |          |
| Uranium/Thorium Reimbursements.....           | 50,699  | 79,360  | 20,000  | -59,360   | -74.8%   |
| Subtotal, Headquarters.....                   | 79,737  | 112,067 | 52,600  | -59,467   | -53.1%   |
| Idaho National Laboratory                     |         |         |         |           |          |
| Defense Environmental Services:               |         |         |         |           |          |
| Non-Closure Environmental Activities.....     | 54,927  | 16,278  | 12,666  | -3,612    | -22.2%   |
| Laboratory for Energy-Related Health Research |         |         |         |           |          |
| Defense Environmental Services:               |         |         |         |           |          |
| Non-Closure Environmental Activities.....     | 3,273   | 496     | 0       | -496      | -100.0%  |
| Oak Ridge National Laboratory                 |         |         |         |           |          |
| Defense Environmental Services:               |         |         |         |           |          |
| Non-Closure Environmental Activities.....     | 20,574  | 18,220  | 18,267  | 47        | 0.3%     |
| Savannah River Site                           |         |         |         |           |          |
| Defense Environmental Services:               |         |         |         |           |          |
| Non-Closure Environmental Activities.....     | 14,378  | 11,240  | 13,889  | 2,649     | 23.6%    |
| Total, Headquarters Operations.....           | 176,318 | 159,197 | 99,235  | -59,962   | -37.7%   |
| Consolidated Business Center                  |         |         |         |           |          |
| Atlas Site                                    |         |         |         |           |          |
| Non-Defense Site Acceleration Completion      |         |         |         |           |          |
| 2035 Accelerated Completions.....             | 4,473   | 7,711   | 28,006  | 20,295    | 263.2%   |
| California Site Support                       |         |         |         |           |          |
| Non-Defense Site Acceleration Completion      |         |         |         |           |          |
| 2012 Accelerated Completions.....             | 57      | 58      | 60      | 2         | 3.4%     |
| Non-Defense Environmental Services            |         |         |         |           |          |
| Community and Regulatory Support.....         | 39      | 40      | 40      | 0         | 0.0%     |
| Subtotal, California Site Support.....        | 96      | 98      | 100     | 2         | 2.0%     |
| Energy Technology Engineering Center          |         |         |         |           |          |
| Non-Defense Site Acceleration Completion      |         |         |         |           |          |
| 2012 Accelerated Completions.....             | 18,217  | 18,238  | 9,000   | -9,238    | -50.7%   |
| Inhalation Toxicology Laboratory              |         |         |         |           |          |
| Non-Defense Site Acceleration Completion      |         |         |         |           |          |
| 2006 Accelerated Completions.....             | 476     | 487     | 305     | -182      | -37.4%   |
| Lawrence Berkeley National Laboratory         |         |         |         |           |          |
| Non-Defense Site Acceleration Completion:     |         |         |         |           |          |
| 2006 Accelerated Completions.....             | 3,228   | 4,038   | 3,900   | -138      | -3.4%    |
| Rocky Flats Field Office                      |         |         |         |           |          |
| Defense Environmental Services                |         |         |         |           |          |
| Non-Closure Environmental Activities.....     | 1,210   | 0       | 246     | 246       | 100.0%   |

(dollars in thousands)

|   | FY 2004   | FY 2005   | FY 2006   | \$ Change | % Change |
|---|-----------|-----------|-----------|-----------|----------|
| Stanford Linear Accelerator Center                        |           |           |           |           |          |
| Non-Defense Site Acceleration Completion:                 |           |           |           |           |          |
| 2006 Accelerated Completions.....                         | 2,384     | 2,480     | 3,500     | 1,020     | 41.1%    |
| Total, Consolidated Business Center.....                  | 30,084    | 33,052    | 45,057    | 12,005    | 36.3%    |
| D&D Fund Deposit  |           |           |           |           |          |
| Defense Environmental Services:                           |           |           |           |           |          |
| Contribution to the UE D&D Fund.....                      | 449,333   | 459,296   | 451,000   | -8,296    | -1.8%    |
| Los Alamos Site Office                                    |           |           |           |           |          |
| Los Alamos National Laboratory                            |           |           |           |           |          |
| Defense Site Acceleration Completion:                     |           |           |           |           |          |
| 2012 Accelerated Completions.....                         | 42,730    | 40,648    | 42,801    | 2,153     | 5.3%     |
| 2035 Accelerated Completions.....                         | 60,847    | 76,104    | 99,408    | 23,304    | 30.6%    |
| Non-Defense Site Acceleration Completion:                 |           |           |           |           |          |
| 2035 Accelerated Completions.....                         | 447       | 447       | 490       | 43        | 9.6%     |
| Total, Los Alamos Site Office.....                        | 104,024   | 117,199   | 142,699   | 25,500    | 21.8%    |
| Program Direction   |           |           |           |           |          |
| Defense Environmental Services:                           |           |           |           |           |          |
| Program Direction.....                                    | 258,943   | 250,834   | 230,931   | -19,903   | -7.9%    |
| Nevada Offsites   |           |           |           |           |          |
| Defense Environmental Services                            |           |           |           |           |          |
| 2035 Accelerated Completions.....                         | 7,715     | 7,490     | 2,846     | -4,644    | -62.0%   |
| Subtotal, Environmental Management.....                   | 7,412,300 | 7,545,444 | 6,956,476 | -588,968  | -7.8%    |
| Uranium Enrichment D&D Fund Deposit                       | -449,333  | -459,296  | -451,000  | 8,296     | -1.8%    |
| Privatization Prior Year Rescission.....                  | -20,002   | 0         | 0         | 0         | 0.0%     |
| Less Use of Prior Year Balances (Defense).....            | -174,645  | -32,365   | 0         | 32,365    | 0.0%     |
| Safeguards and Security Charge for Reimbursable Work..... | -121      | -143      | 0         | 143       | -100.0%  |
| Less Use of Prior Year Balances (Non-Defense).....        | -15,329   | 0         | 0         | 0         | 0.0%     |
| Total, Environmental Management.....                      | 6,752,870 | 7,053,640 | 6,505,476 | -548,164  | -7.8%    |

## Site Descriptions

### Argonne National Laboratory-East

The Argonne National Laboratory-East is a research laboratory occupying a 700-acre tract of land located approximately 22 miles southwest of downtown Chicago in DuPage County, Illinois. The Argonne National Laboratory-East is operated by the University of Chicago under the direction of the Chicago Operations Office. The site is an Office of Science multi-disciplinary research and development laboratory that conducts basic and applied research to support the development of energy-related technologies. Historic operations at Argonne focused on reactor research that led to the construction and operation of several reactors.

Contamination of groundwater, sediments, and soils has occurred at the Argonne National Laboratory-East as a result of past laboratory operations and spills. The EM mission at Argonne involves the cleanup of contaminated soils and remedial actions to reduce risk to human health and the environment in compliance with the corrective action requirements of the Resource Conservation and Recovery Act Part B Permit issued by the Illinois Environmental Protection Agency in 1997. In addition, the EM

mission includes the decontamination and decommissioning of several surplus reactor facilities, and the disposal of transuranic waste.

The EM end-state for Argonne National Laboratory-East will be reached when all the corrective actions have been implemented and accepted by the regulators, the transuranic waste has been disposed, and the remaining surplus reactor facilities in the EM program have been decontaminated and decommissioned (expected in FY 2009). Continuing operation and maintenance activities will be transferred to the Office of Science, the landlord organization, whose mission will be ongoing after EM mission completion.

### **Ashtabula Closure Project**

The Ashtabula Closure Project site, located in Ashtabula, Ohio, is owned and operated by the RMI Titanium Company. The site, originally 43 acres with 32 facilities, is contaminated with both radiological and hazardous materials resulting from previous metals extrusion operations for the DOE. The Ashtabula Closure Project requires decontamination and decommissioning of buildings and the remediation of contaminated soils and groundwater in conformance with a U.S. Nuclear Regulatory Commission decommissioning plan to allow unrestricted use of the site. Upon closure in FY 2006, or sooner, the site will be released back to RMI Titanium Company for unrestricted use.

### **Brookhaven National Laboratory**

The Brookhaven National Laboratory site is an Office of Science multi-purpose research and development laboratory located in central Suffolk County on Long Island, about 60 miles east of New York City. It is operated by Brookhaven Science Associates under the direction of the Chicago Operations Office. Brookhaven National Laboratory's current mission is to conduct fundamental research, including concept development, design, construction, and operation of large complex research facilities. These facilities are used for both basic and applied research in high energy and nuclear physics; in basic energy sciences emphasizing fundamental research on biological, chemical, and physical phenomena underlying energy related transfer, conversion and storage systems; in life sciences; and in nuclear medical applications.

Soil, groundwater, and surface water sediment were contaminated from past operations, resulting in the site being placed on the U.S. Environmental Protection Agency's National Priorities (Superfund) List in 1989. The EM mission at Brookhaven National Laboratory addresses the accelerated cleanup of these contaminated areas. The EM mission also includes the decontamination and decommissioning of several surplus nuclear reactor and non-reactor facilities, and the disposal of legacy waste.

### **Columbus Closure Project**

The Columbus Closure Project is comprised of two geographic sites (King Avenue and West Jefferson) located in and near Columbus, Ohio. Research and development work was performed at these facilities for DOE and its predecessor's agencies. The 14 affected buildings and grounds are privately owned by Battelle Memorial Institute. The Columbus Closure Project consists of 15 radioactively contaminated facilities and two release sites, of which 12 facility clean ups were completed by the end of FY 2001. The original scope of decontamination activities at King Avenue has been completed.

### **Consolidated Business Center**

The new Consolidated Business Center (CBC), located in Cincinnati, Ohio, provides support to the Department's Environmental Management program. The CBC will serve as a central clearinghouse for a wide range of activities supporting small sites and near term closure sites engaged in DOE's national environmental cleanup mission. These sites will receive support in the areas of financial management,

contracting, human resources, legal advisory, logistics, technical services and information resource management. The CBC will consolidate these essential business and technical support services into one location to serve DOE's environmental management efforts all over the country, allowing the sites to focus their limited FTEs on mission essential tasks. This consolidation of services mirrors that of other agencies that provide infrastructure from one location, rather than on site. At this time, there are two near-term closure sites and nine small sites that will receive this support from the CBC. As EM continues to draw down and lose capability to provide on-site support at other locations, the CBC will be poised to assume that role.

### **Energy Technology Engineering Center**

The Energy Technology Engineering Center is located approximately 30 miles north of Los Angeles, California between the populous Simi and San Fernando Valleys. The facility occupies 90 acres of the Santa Susana Field Laboratory, which is owned and operated by Boeing North American Incorporated. The site was opened in the 1950s and supported research for DOE and its predecessor agencies in nuclear research and energy development projects. The cleanup of the site involves the remediation of contaminated groundwater, decontamination and decommissioning of several radiological facilities, deactivation and clean up existing sodium facilities, and the characterization and off-site disposal of radiological and hazardous waste. Upon completion of cleanup in FY 2007, the land and existing facilities will be returned to the Boeing Company.

### **Fernald**

The Fernald Closure Project site encompasses approximately 1,050 acres, located 17 miles northwest of Cincinnati, Ohio. High purity uranium metal products were produced at Fernald for DOE and its predecessor agencies from 1951 to 1989. Thorium was also processed, on a smaller scale. Uranium processing operations at Fernald were limited to a fenced, 136 acre tract known as the Production Area. In November 1989, the Environmental Protection Agency placed the Fernald site on the National Priorities List, and in April 1990, DOE and the U.S. and Ohio Environmental Protection Agencies entered into a Consent Agreement (since amended) for site remediation. Clean up of contaminated facilities, soils, groundwater and waste pits and disposition of waste in three silos will be accomplished by 2006. The planned end state for the Fernald Site is an undeveloped park. To that end, an Institutional Control Plan is being developed with stakeholder input.

### **Hanford Site - Richland Operations Office**

The Richland Operations Office manages the Department's Hanford Site, except for the High-Level Waste Tank Farms, in Southeastern Washington State. The 1,465 square kilometer (560 square mile) site is bounded on the north by over 80 kilometers (50 miles) of the Columbia River, known as the Hanford Reach.

Hanford was established in secrecy during World War II to produce plutonium for the nation's nuclear weapons. Peak production years were reached in the 1960s when nine production reactors were in operation along the river. The last reactor to be decommissioned was the N-Reactor and its spent nuclear fuel in the K-Basins is now being relocated to higher ground in the Central Plateau, known as the 200 Area. Research and development is conducted by Pacific Northwest National Laboratories in the 300 Area. Support facilities are located in the 1100 Area, most of which have been turned over to the local community. Soil and groundwater contamination has resulted from past operations, placing the site on the National Priorities (Superfund) List. The Hanford mission is now site cleanup and environmental restoration to protect the Columbia River. The cleanup is covered by commitments in a 1989 consent

agreement, known as the Tri-Party Agreement, among DOE, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology.

### **Hanford Site - Office of River Protection**

In order to more effectively manage the River Protection Project and in response to Section 3139 of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999, the Secretary of Energy established the Office of River Protection at the Hanford Site in the State of Washington. The Office of River Protection is responsible for the storage, retrieval, treatment, and immobilization, and disposal of tank waste and the operation, maintenance, engineering, and construction activities in the 200 Area tank farms. The 200 Area tank farms are located in the Central Plateau of the Hanford Site and are 7 miles south and 10 miles west of the Columbia River. They include 177 underground storage tanks (149 single-shell and 28 double shell) containing approximately 190 million curies in more than 53 million gallons of radioactive waste from past processing operations. Multi-year construction of the Waste Treatment and Immobilization Plant to process and immobilize the tank waste is ongoing. Waste treatment operations are scheduled to begin in 2011 and treatment of all tank waste will be completed by 2028. The Office of River Protection will manage the complex River Protection Project activities to ensure successful immobilization and disposal of radioactive liquid wastes and the ultimate protection of the Columbia River resources.

### **Idaho National Laboratory**

The Idaho National Laboratory, established as the National Reactor Testing Station in 1949, occupies 890 square miles in the Snake River Plain of Southeastern Idaho. They have constructed and operated fifty-two reactors over the years. The Laboratory has nine primary facilities as well as administrative, engineering, and research laboratories in Idaho Falls, approximately 50 miles east of the site. Other activities at the Laboratory over the last five decades include nuclear technology research, defense programs, engineering testing and operations to develop, demonstrate, and transfer advanced engineering technology and systems to private industry. These activities have resulted in an inventory of high-level, transuranic, mixed low-level and low-level wastes, which are being disposed in accordance with applicable laws and regulations. The Idaho National Laboratory is also responsible for storing and dispositioning approximately 250 metric tons of spent nuclear fuel from a number of sources, including the Navy, foreign and domestic research reactors, and some commercial reactors, along with Department of Energy owned fuel. In addition, the site is on the U.S. Environmental Protection Agency's National Priorities (Superfund) List, and environmental remediation activities are required at ten Waste Area Groups encompassing 100 operable units, including Naval Reactors Facility (8) and Argonne National Laboratory-West (4).

The Argonne National Laboratory-West site is located 35 miles west of Idaho Falls, Idaho, and is operated by the Idaho Operations Office. The site is an Office of Nuclear Energy, Science, and Technology facility and was constructed for the purpose of carrying out research and development for liquid metal fast breeder reactor technology. The current mission for the Argonne National Laboratory-West includes technology development for spent nuclear fuel and radioactive waste treatment, and reactor and fuel cycle safety.

Past operations of the Experimental Breeder Reactor II and associated facilities at Argonne National Laboratory-West have resulted in contaminated surface soils and sediments. The EM mission at Argonne National Laboratory-West involves remediation activities at Waste Area Group 9.

The EM end-state for Argonne National Laboratory-West is the completion of phytoremediation operation and maintenance activities, and verification sampling in FY 2003, with regulator approval expected in FY 2005. The continuing tasks of monitoring and maintaining restricted areas, and enforcing institutional controls are expected to be transferred to the landlord program, the Office of Nuclear Energy, Science, and Technology, during FY 2005.

### **Inhalation Toxicology Laboratory**

The Inhalation Toxicology Laboratory, managed by the DOE Office of Science, is located 10 miles south of Albuquerque, New Mexico. It occupies 135 acres within the boundaries of the 118 square mile Kirtland Air Force Base. The laboratory was established in 1960 to carry out research programs on the effects of airborne radioactive materials on human health. After the mid-1970s, the program was expanded to include the effects of other airborne chemicals on human health, and more basic research on biological response of the respiratory tract to inhaled materials. The Department's goal is to fully privatize work at the Inhalation Toxicology Laboratory within 4-5 years.

Low-level radioactive materials, diesel oil products, and other chemicals from past research activities and disposal practices have contaminated the soil and groundwater. EM cleanup of the 9 contaminated release sites was completed in 1997. However, groundwater monitoring and cleanup and disposition of legacy waste, mostly low-level radioactive waste from inactive laboratory buildings, is continuing under the State of New Mexico's regulatory authority. EM mission at the site will be completed by 2009, and the site will be transferred to the Office of Science landlord, who will then be responsible for stewardship and monitoring activities through 2030 and the eventual decommissioning of the site.

### **Laboratory for Energy-Related Health Research**

The Laboratory for Energy-Related Health Research site is a 15-acre site located at the University of California at Davis, California. Research at the Laboratory focused on the health effects from chronic exposure to radionuclides, i.e. Strontium-90 and Radium 226, using animal subjects to simulate radiation effects on humans. The Department terminated the research program and closed the Laboratory in 1988. Those areas of the site contaminated by the DOE-sponsored research are being cleaned up. This involves the remediation of contaminated soil, the removal and disposal of waste material, the decontamination of several buildings, and the removal and cleanup of dog pens, septic systems, treatment systems, and trenches. The cleanup activities are to be completed in FY 2005. The cleaned areas and facilities will remain a part of the University of California-Davis for continued use in research and teaching.

### **Lawrence Berkeley National Laboratory**

The Lawrence Berkeley National Laboratory is operated by the DOE Office of Science and managed under contract by the University of California. The 200-acre Lawrence Berkeley National Laboratory site is located adjacent to the University of California in Berkeley. The Laboratory is a multipurpose research facility where the Office of Science continues to have an on-going operating DOE mission. Activities conducted at Lawrence Berkeley National Laboratory have included nuclear and high-energy physics, accelerator development; materials research, biomedical research; and research in chemistry, earth sciences, and molecular biology. In the course of performing DOE missions, a number of chemicals were used or produced as wastes during the Laboratory's 62-year operation. These chemicals include volatile organic compounds, fuels, waste oils, polychlorinated biphenyls, Freon, metals acids, and lead and chromate-based paints. Additionally, radionuclides, primarily tritium, have also been used or generated as waste at Lawrence Berkeley National Laboratory. The EM program mission at Lawrence

Berkeley National Laboratory is to investigate and clean up the past releases of hazardous and radioactive waste in the soil and groundwater. The waste management activities provide compliant storage, treatment, and off-site disposal of both legacy and currently generated hazardous and radioactive waste. The responsibility for the newly generated waste management activities was transferred to the Office of Science, the landlord organization, in FY 2001. EM mission completion is scheduled at the end of FY 2006 and long-term remedial actions are to transfer to the Office of Science, the site landlord, in FY 2007.

### **Los Alamos National Laboratory**

The Los Alamos National Laboratory is managed by the National Nuclear Security Administration, Los Alamos Site Office, and encompasses over 43 square miles in northern New Mexico. It is divided into 47 technical areas that are used for scientific sites, experimental areas, waste disposal locations, roads and utilities, and safety and security buffers. Los Alamos National Laboratory and its subcontractors employ approximately 13,000 people. Radiological, hazardous and high explosive wastes have contaminated the soils and groundwater as a result of the development and production of nuclear weapons, beginning during World War II. Major programs today include applied research in nuclear and conventional weapons development, nuclear fission and fusion, nuclear safeguards and security, and environmental and energy research.

The primary legacy waste management activities include storage, treatment, and disposal of transuranic and mixed low-level waste. All newly generated waste activities were transferred to the Office of Defense Programs in FY 1999. Within the currently defined EM scope for environmental restoration, there are approximately 1,800 release sites at Los Alamos National Laboratory requiring cleanup and/or regulatory closure. Under the accelerated cleanup plan legacy waste removal has been accelerated to 2010 and completion of cleanup corrective actions to 2015. After the EM mission is completed, environmental restoration sites will be transferred to the site landlord, the National Nuclear Security Administration.

### **Miamisburg**

The Miamisburg Closure Project encompasses the former Mound Plant, which is located on 306 acres in Miamisburg, Ohio, ten miles south of Dayton. The plant was built in the late 1940s to support research and development, testing, and production activities for the Department's defense nuclear weapons complex and energy research programs. The mission continued until 1994, when these activities were transferred to other DOE facilities. The mission involved production of components that contained tritium, plutonium, and other radioisotopes, and processing large quantities of high explosives. As a result of these past operations, the buildings, soil, and groundwater are contaminated with radioactive and hazardous chemicals. The site is on the National Priorities List and a Federal Facility Agreement to remediate the site has been negotiated with the Ohio and United States Environmental Protection Agencies.

The end-state for the Mound Plant site is to either demolish or transfer all buildings and land to the Miamisburg Mound Community Improvement Corporation, an agent for the City of Miamisburg, for economic development. Levels of residual contamination left on-site will be below industrial use standards.

## **Moab Site**

The Moab Site includes about eleven million tons of contaminated mill tailings, and mill debris, as well as contaminated ground water, and vicinity properties in Moab, Utah. It is being remediated in accordance with Title 1 of the Uranium Mill Tailings Radiation Control Act of 1978 (under the authority of the Floyd D Spence National Defense Authorization Act for Fiscal Year 2001).

## **Nevada Off-Sites**

The EM program is responsible for clean up of contaminated test sites at the Tonopah Test Range in Nevada and at nine contaminated off-site locations (one site completed) in five states (Alaska, Colorado, Mississippi, New Mexico, and Nevada). As EM activities are completed, responsibility for long-term surveillance and maintenance at these locations will be transferred to the Office of Legacy Management.

## **Oak Ridge Reservation**

The Oak Ridge Reservation encompasses about 37,000 acres in east Tennessee and is comprised of three facilities: the East Tennessee Technology Park; the Oak Ridge National Laboratory; and the Y-12 Plant. These facilities are described in detail below. In addition, there are some private properties that are not located on the Oak Ridge Reservation (the Atomic City Auto Parts Site and the David Witherspoon Sites) that are being cleaned up under the auspices of the Oak Ridge program.

### **Oak Ridge - East Tennessee Technology Park**

The East Tennessee Technology Park site occupies 1,500 acres adjacent to the Clinch River, approximately 13 miles west of Oak Ridge, Tennessee. It was originally built as an uranium enrichment facility using uranium hexafluoride for defense programs. The majority of the 125 major buildings on the site have been inactive since uranium enrichment production ceased in 1985. Environmental Management is the current landlord. The site will be closed by 2008 as part of the Accelerated Cleanup Plan. Much of the Oak Ridge legacy low-level waste is stored at the East Tennessee Technology Park and will be dispositioned by 2005. The Toxic Substances Control Act Incinerator is located here and will continue to treat waste for the DOE complex until 2006. At closure the site will be available as an industrial park. Some of the facilities and buildings may be transitioned to the private sector through the reindustrialization program if there is timely private interest.

### **Oak Ridge National Laboratory**

Activities carried out at the 3,300-acre Oak Ridge National Laboratory historically have supported both the defense production operations and civilian energy research effort. This group of facilities requires cleanup resulting from a variety of research and development activities, which were supported by multiple DOE programs over a long period of time. The Oak Ridge National Laboratory currently conducts applied and basic research in energy technologies and the physical and life sciences. Clean up includes environmental remediation, decontamination and decommissioning of radioactively-contaminated facilities, and disposition of legacy low, mixed low-level, and transuranic waste. When EM has completed its activities, Oak Ridge National Laboratory will continue its research and development activities. Melton Valley will be a permanent waste management area.

## **Oak Ridge - Y-12**

The Y-12 site is approximately 811 acres and is located about two miles southwest of Oak Ridge, Tennessee. The Y-12 site originally was a uranium processing facility and now dismantles nuclear weapons components and serves as one of the nation's store houses for special nuclear materials. The Y-12 site has 15 operable units within three areas: Chestnut Ridge, Upper East Fork of Poplar Creek, and Bear Creek Valley. The types of contamination include radioactive, hazardous, and mixed wastes. The sanitary landfills for all of the Oak Ridge Reservation are located at Y-12. The Environmental Management Waste Management Facility, the CERCLA disposal facility supporting the cleanup is located in Bear Creek Valley of Y-12 area. When EM has completed its activities, Y-12 will continue its national security mission. Portions of Y-12 will be a permanent waste management areas.

## **Paducah Gaseous Diffusion Plant**

The Paducah Gaseous Diffusion Plant, located just outside Paducah, Kentucky, is owned by DOE. The plant, which occupies about 750 acres of the approximately 3600-acre site, began operations in the mid-1950s to supply enriched uranium to meet both Government and commercial nuclear fuel needs. The United States Enrichment Corporation leases facilities at the site for commercial uranium enrichment purposes. In accordance with a June 2002 Memorandum of Agreement with DOE, the Paducah Gaseous Diffusion Plant will continue operations at least until advanced uranium enrichment technology is successfully deployed. The EM mission at the site includes environmental cleanup, facility decontamination and decommissioning, and waste management; management of depleted uranium hexafluoride, including the construction of a facility on site to convert the hexafluoride to an oxide suitable for further disposition; and maintenance of non-leased buildings and grounds. The security aspect of the mission includes physical protection of government employees, property, classified and unclassified information through use of protective forces and physical security instrumentation, information security, cyber security, personnel security, material control and accountability, and program management. Ultimately, DOE will be responsible for the decontamination and decommissioning of the Paducah Gaseous Diffusion Plant once the United States Enrichment Corporation has no further need for the facilities.

## **Portsmouth Gaseous Diffusion Plant**

The Portsmouth Gaseous Diffusion Plant, which occupies a 3,700-acre site located in Piketon, Ohio (approximately 22 miles north of Portsmouth and 75 miles south of Columbus), is owned by DOE. The United States Enrichment Corporation leases facilities at the site for commercial operations. United States Enrichment Corporation ceased enrichment operations at Portsmouth in June 2001, and DOE placed the facility in cold standby condition, capable of being restarted within 18 to 24 months to produce 3 million separative work units of enriched uranium. The EM mission at Portsmouth includes environmental cleanup, facility decontamination and decommissioning, waste management; management of depleted uranium hexafluoride, including construction of a facility on site to convert the hexafluoride to an oxide suitable for further disposition; completion of the highly-enriched uranium shutdown and removal program; and maintenance of non-leased buildings and grounds. The security aspect of the mission includes physical protection of government employees, property, classified and unclassified information through use of protective forces and physical security instrumentation, information security, cyber security, personnel security, material control and accountability, and program management.

## **Rocky Flats**

The Rocky Flats Environmental Technology Site is located about 10 miles northwest of Denver, Colorado, on about 11 square miles at the base of the Rocky Mountains. The Atomic Energy Commission in 1951 established the Rocky Flats Plant with a mission to manufacture nuclear weapons components from materials such as plutonium, beryllium, and uranium. When operations ceased, large amounts of plutonium, plutonium compounds, and metallic residues remained at the various site facilities. Significant volumes of hazardous and radioactive waste generated during production operations were also present throughout numerous buildings and soil was contaminated, resulting in the site being placed on the National Priorities List. In 1991, EM acquired the Rocky Flats Plant and the site transitioned to a new mission: cleaning up the contamination and waste from past production activities. It was at this time that the Rocky Flats Plant became the Rocky Flats Environmental Technology Site. By 2006, all site facilities will be demolished; all waste removed and contamination reduced to acceptable levels. The site will then become a National Wildlife Refuge.

## **Savannah River Site**

The Savannah River Operations Office manages this complex which covers 310 square miles encompassing parts of Aiken, Barnwell, and Allendale counties in South Carolina, bordering the Savannah River. The Savannah River Site was completed by the mid-1950s to produce and reprocess nuclear materials for the manufacture of military weapons.

The Savannah River Site now has 13 separate areas. They include: five isotope production areas, which are permanently shutdown; heavy water processing facilities; two radiochemical reprocessing facilities (with one scheduled to complete deactivation by 2006); waste management facilities, including tank farm areas and the Defense Waste Processing Facility for vitrifying high-level waste; administrative offices, laboratories and technical shops. The site also has facilities which support research and development associated with spent nuclear materials processing; and low level waste disposal, reactor fuels, and solid waste disposal areas. The current mission of the site includes nuclear facility operations, applied research, waste management, nuclear materials and spent nuclear fuel stabilization and management, facility decontamination, deactivation and decommissioning, and environmental restoration. A major aspect of the site operations is stabilizing liquid high-level waste stored in tanks through vitrification at the Defense Waste Processing Facility, and stabilization of nuclear materials in a chemical processing canyon. Due to past operations and disposal practices, the Savannah River Site was placed on the National Priorities List in 1989. The end-state goal is to maintain federal institutional control of the site for an extended period of time to provide continual assurance that the public health and safety will be fully protected.

## **Stanford Linear Accelerator Center**

The Stanford Linear Accelerator Center site is a 426-acre site located near Stanford University in California where theoretical research in high-energy particle physics is conducted. The site was established in 1962 and is managed by Stanford University for the Department of Energy. During past facility operations and waste management activities, the site was contaminated with volatile organic compounds, polychlorinated biphenyls, petroleum hydrocarbons, lead, and other metals. The Office of Environmental Management is currently cleaning up these contaminants which principally involves remediating contaminated soil and groundwater, and the removal of old PCB transformers, underground storage tanks, and other materials. Cleanup of site contamination is to be completed in 2007, at which time the cleaned areas will be returned to the Office of Science, the landlord organization, for site

research and scientific use. Responsibility for waste management operations was transferred to the Office of Science in FY 1998.

### **Waste Isolation Pilot Plant**

The Waste Isolation Pilot Plant is comprised of surface support buildings, a waste-handling building, four shafts, and the mined underground operations area. The facility is designed for deep geological disposal of defense-generated transuranic waste resulting from nuclear weapons production, dismantlement, and site cleanup. The repository is located in southeastern New Mexico near Carlsbad, 2,150 feet (655 meters) underground in bedded salt. The bedded salt where transuranic waste is being disposed has been stable for over 225 million years and, through extensive computer modeling and experiments, the DOE has successfully demonstrated to the Environmental Protection Agency that the site will provide effective isolation of the waste from the environment for at least the next 10,000 years. On March 26, 1999, the Waste Isolation Pilot Plant received its first shipment of contact-handled transuranic waste from the Los Alamos National Laboratory.

### **West Valley**

The West Valley Demonstration Project is located at the Western New York Nuclear Service Center near West Valley, New York, 35 miles south of Buffalo. The Center was developed by a private company to process commercial spent nuclear fuel to extract plutonium and uranium and operated from 1966 to 1972.

The West Valley Demonstration Project Act (Public Law 96-368) was enacted in 1980 and directed the DOE to carry out a high-level waste solidification demonstration project. The principal operation at West Valley thus far has been the solidification of liquid high-level waste into borosilicate glass using vitrification. With vitrification treatment operations complete, the Project has transitioned into its next major phase which is decontamination, shipment of project-generated waste off-site for disposal, and decommissioning. A Remote-Handled Waste Facility has been constructed which will allow project personnel to remotely size, reduce, sort, characterize, and package the project's high activity waste in preparation for off-site shipment and disposal. Following site decontamination and waste shipment activities, DOE will pursue final decommissioning and project completion, which will be implemented consistent with an Environmental Impact Statement for Decommissioning and/or Long-term Stewardship which is currently under development.



# ANCILLARY TABLES



## Detailed Funding Table

|   | (dollars in thousands) |           |           |
|---|------------------------|-----------|-----------|
|   | FY 2004                | FY 2005   | FY 2006   |
| <b>Defense Site Acceleration Completion</b>   |                        |           |           |
| 2006 Accelerated Completions  |                        |           |           |
| Operating.....  | 1,196,189              | 1,209,844 | 1,016,508 |
| 2012 Accelerated Completions  |                        |           |           |
| Operating.....  | 1,465,477              | 1,460,281 | 1,293,046 |
| Construction:   |                        |           |           |
| 01-D-416, Waste Treatment and Immobilization Plant, Richland.....   | 697,530                | 684,480   | 625,893   |
| 02-D-402, Cathodic Protection System Expansion, Idaho.....  | 1,120                  | 0         | 0         |
| 04-D-414, Project Engineering and Design, 3013 Container<br>Surveillance Capability in 235-F, Savannah River..... | 10,247                 | 2,976     | 0         |
| 04-D-414, Project Engineering and Design, Sodium Bearing Waste<br>Treatment, Idaho.....                           | 20,379                 | 24,701    | 9,200     |
| 04-D-423, 3013 Container Surveillance Capability in 235-F,<br>Savannah River.....                                 | 11,213                 | 20,475    | 0         |
| 06-D-401, Sodium Bearing Waste Treatment Project,<br>Idaho National Laboratory, Idaho.....                        | 0                      | 0         | 15,000    |
| Subtotal, Construction.....   | 740,489                | 732,632   | 650,093   |
| Subtotal, 2012 Accelerated Completions.....   | 2,205,966              | 2,192,913 | 1,943,139 |
| 2035 Accelerated Completions  |                        |           |           |
| Operating.....  | 1,758,379              | 1,920,281 | 1,826,642 |
| Construction:   |                        |           |           |
| 03-D-403, Immobilized HLW Interim Storage Facility, Richland.....   | 206                    | 0         | 7,495     |
| 03-D-414, PED Salt Waste Processing Facility Alternative,<br>Savannah River.....                                  | 51,198                 | 23,469    | 4,342     |
| 04-D-408, Glass Waste Storage Building #2, Savannah River.....  | 20,139                 | 43,476    | 6,975     |
| 05-D-405, Salt Waste Processing Facility, Savannah River.....   | 0                      | 25,792    | 70,000    |
| Subtotal, Construction.....   | 71,543                 | 92,737    | 88,812    |
| Subtotal, 2035 Accelerated Completions.....   | 1,829,922              | 2,013,018 | 1,915,454 |
| Safeguards and Security   |                        |           |           |
| Operating.....  | 291,124                | 262,942   | 287,223   |
| Technology Development and Deployment   |                        |           |           |
| Operating.....  | 61,358                 | 59,726    | 21,389    |
| Subtotal, Defense Site Acceleration Completion.....   | 5,584,559              | 5,738,443 | 5,183,713 |
| Defense Environmental Services  |                        |           |           |
| Community and Regulatory Support  |                        |           |           |
| Operating.....  | 54,528                 | 54,324    | 62,032    |
| Federal Contribution to the UE D&D Fund   |                        |           |           |
| Operating.....  | 449,333                | 459,296   | 451,000   |

|   | (dollars in thousands) |           |           |
|---|------------------------|-----------|-----------|
|   | FY 2004                | FY 2005   | FY 2006   |
| Non-Closure Environmental Activities  |                        |           |           |
| Operating.....  | 155,841                | 101,250   | 87,368    |
| Program Direction   |                        |           |           |
| Operating.....  | 258,943                | 250,834   | 230,931   |
| Subtotal, Defense Environmental Services.....   | 918,645                | 865,704   | 831,331   |
| Non-Defense Site Acceleration   |                        |           |           |
| 2006 Accelerated Completions  |                        |           |           |
| Operating.....  | 39,446                 | 36,687    | 14,954    |
| 2012 Accelerated Completions  |                        |           |           |
| Operating.....  | 132,906                | 112,471   | 128,950   |
| 2035 Accelerated Completions  |                        |           |           |
| Operating.....  | 4,920                  | 8,158     | 28,496    |
| Subtotal, Non-Defense Site Acceleration.....  | 177,272                | 157,316   | 172,400   |
| Non-Defense Environmental Services  |                        |           |           |
| Non-Closure Environmental Activities  |                        |           |           |
| Operating.....  | 174,953                | 143,962   | 45,528    |
| Construction:   |                        |           |           |
| 02-U-101 Depleted Uranium Hexafluoride Conversion Project,<br>Paducah, KY and Portsmouth, OH..... | 98,225                 | 99,200    | 85,803    |
| Subtotal, Non-Closure Environmental Activities.....   | 273,178                | 243,162   | 131,331   |
| Community and Regulatory Support  |                        |           |           |
| Operating.....  | 1,030                  | 89        | 90        |
| Environmental Cleanup Projects  |                        |           |           |
| Operating.....  | 43,589                 | 45,715    | 46,113    |
| Subtotal, Non-Defense Environmental Services.....   | 317,797                | 288,966   | 177,534   |
| Uranium Enrichment Decontamination and Decommissioning Fund                                       |                        |           |           |
| D&D Activities.....   | 363,328                | 415,655   | 571,498   |
| Uranium/Thorium Reimbursement.....  | 50,699                 | 79,360    | 20,000    |
| Subtotal, Uranium Enrichment D&D Fund.....  | 414,027                | 495,015   | 591,498   |
| Subtotal, Environmental Management.....   | 7,412,300              | 7,545,444 | 6,956,476 |
| Uranium Enrichment D&D Fund Deposit (Offset).....   | -449,333               | -459,296  | -451,000  |
| Privatization Prior Year Rescission.....  | -15,329                | 0         | 0         |
| Less Use of Prior Year Balances (Defense).....  | -174,645               | -32,365   | 0         |
| Safeguards and Security Charge for Reimbursable Work.....   | -121                   | -143      | 0         |
| Less Use of Prior Year Balances (Non-Defense).....  | -20,002                | 0         | 0         |
| Total, Environmental Management.....  | 6,752,870              | 7,053,640 | 6,505,476 |

## Funding Summary by Office

(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|--|--|--|--------------------|
| Carlsbad.....                              | 223,056                                | 229,444                                | 216,852            |
| Chicago.....                               | 42,152                                 | 43,101                                 | 44,936             |
| Idaho.....                                 | 537,361                                | 531,048                                | 524,212            |
| Oak Ridge.....                             | 471,666                                | 485,138                                | 480,069            |
| Paducah.....                               | 190,227                                | 174,524                                | 159,846            |
| Portsmouth.....                            | 298,220                                | 286,809                                | 288,910            |
| Ohio.....                                  | 561,919                                | 542,029                                | 508,930            |
| Richland.....                              | 894,412                                | 995,751                                | 876,172            |
| River Protection.....                      | 1,108,745                              | 1,076,280                              | 928,306            |
| Rocky Flats.....                           | 658,185                                | 658,155                                | 583,150            |
| Savannah River.....                        | 1,338,582                              | 1,436,371                              | 1,351,936          |
| Technology Development and Deployment..... | 61,358                                 | 59,726                                 | 21,389             |
| Headquarters Operations.....               | 176,318                                | 159,197                                | 99,235             |
| Consolidated Business Center.....          | 30,084                                 | 33,052                                 | 45,057             |
| D&D Fund Deposit.....                      | 449,333                                | 459,296                                | 451,000            |
| Los Alamos Site Office.....                | 104,024                                | 117,199                                | 142,699            |
| Program Direction.....                     | 258,943                                | 250,834                                | 230,931            |
| Nevada Site Office.....                    | 7,715                                  | 7,490                                  | 2,846              |
| Subtotal, Environmental Management.....    | 7,412,300                              | 7,545,444                              | 6,956,476          |
| Offsets.....                               | -659,430                               | -491,804                               | -451,000           |
| Total, Environmental Management.....       | 6,752,870                              | 7,053,640                              | 6,505,476          |

## Life-Cycle Costs by Site

| Completion Date<br>(Calendar Year)                 | Life-Cycle Costs<br>(thousands of<br>current-year dollars) <sup>a</sup> |
|--|---|
| Laboratory for Energy-Related Health Research..... | 2005 39,178   |
| Amchitka Site.....                                 | 2005 - <sup>b</sup>   |
| Rocky Flats Environmental Technology Site.....     | 2006 9,364,678  |
| Fernald.....                                       | 2006 3,636,986  |
| Miamisburg.....                                    | 2006 1,541,001  |
| Columbus.....                                      | 2006 154,518  |
| Ashtabula.....                                     | 2006 149,635  |
| Lawrence Berkeley National Laboratory.....         | 2006 34,157   |
| Stanford Linear Accelerator Center.....            | 2006 20,184   |
| Energy Technology Engineering Center.....          | 2007 205,163  |
| Brookhaven National Laboratory.....                | 2009 381,018  |
| Argonne National Laboratory - East.....            | 2009 78,380   |
| Central Nevada Test Area.....                      | 2010 - <sup>b</sup>   |
| Project Shoal Area.....                            | 2010 - <sup>b</sup>   |
| Rio Blanco Site.....                               | 2010 - <sup>b</sup>   |
| Atlas Site (Moab).....                             | 2011 187,534  |
| Rulison Site.....                                  | 2012 - <sup>b</sup>   |
| West Valley .....                                  | 2012 1,382,650  |
| Gasbuggy Site.....                                 | 2014 - <sup>b</sup>   |
| Gnome-Coach Site.....                              | 2014 - <sup>b</sup>   |
| General Electric Vallecitos Nuclear Center.....    | 2014 - <sup>c</sup>   |
| Los Alamos National Laboratory.....                | 2015 1,495,622  |
| Oak Ridge Reservation.....                         | 2015 6,925,358  |
| Savannah River Site.....                           | 2025 30,636,745   |
| Portsmouth Gaseous Diffusion Plant.....            | 2025 6,374,955  |
| Tonopah Test Range Area.....                       | 2027 - <sup>b</sup>   |
| Paducah Gaseous Diffusion Plant.....               | 2030 4,740,968  |
| Hanford Site (incl. River Protection).....         | 2035 56,411,976   |
| Waste Isolation Pilot Plant.....                   | 2035 5,848,807  |
| Idaho National Laboratory.....                     | 2035 15,088,012   |

<sup>a/</sup> Comparable (in current year dollars) to the FY 2004 environmental liability estimates, on which the Department FY 2004 financial statements are based. Financial statements are reported in constant dollars.

<sup>b/</sup> Nevada off-sites life-cycle cost cannot be credibly separated from, and are included in the Nevada off-sites life-cycle estimate of \$101,774.

<sup>c/</sup> Life-cycle cost estimate assumes the Department no longer has cleanup obligations at this site.

## Environmental Management Federal Staffing

(dollars in thousands)

|                                   | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|-----------------------------------|--|--|--------------------|
| Carlsbad.....                     | 44                                     | 50                                     | 50                 |
| Chicago.....                      | 19                                     | 19                                     | 15                 |
| Idaho.....                        | 77                                     | 67                                     | 65                 |
| Oak Ridge.....                    | 104                                    | 98                                     | 73                 |
| Paducah/Portsmouth.....           | 18                                     | 34                                     | 34                 |
| Ohio.....                         | 122                                    | 75                                     | 44                 |
| Richland.....                     | 292                                    | 251                                    | 204                |
| River Protection.....             | 111                                    | 107                                    | 107                |
| Rocky Flats.....                  | 56                                     | 25                                     | 5                  |
| Savannah River.....               | 382                                    | 374                                    | 348                |
| Subtotal, Field Office.....       | 1,225                                  | 1,100                                  | 945                |
| Headquarters.....                 | 304                                    | 299                                    | 265                |
| Consolidated Business Center..... | 0                                      | 125                                    | 140                |
| Total, Full-Time Equivalents..... | 1,529                                  | 1,524                                  | 1,350              |

## Funding by Site

(dollars in thousands)

|  | FY 2004          | FY 2005          | FY 2006          | \$ Change       | % Change      |
|--|------------------|------------------|------------------|-----------------|---------------|
| <b>Carlsbad Field Office</b>                           |                  |                  |                  |                 |               |
| Carlsbad Field Office.....                             | 29,339           | 27,524           | 28,771           | 1,247           | 4.5%          |
| Waste Isolation Pilot Plant.....                       | 193,717          | 201,920          | 188,081          | -13,839         | -6.9%         |
| <b>Subtotal, Carlsbad Field Office.....</b>            | <b>223,056</b>   | <b>229,444</b>   | <b>216,852</b>   | <b>-12,592</b>  | <b>-5.5%</b>  |
| <b>Chicago Operations Office</b>                       |                  |                  |                  |                 |               |
| Argonne National Laboratory - East.....                | 1,939            | 785              | 10,487           | 9,702           | 1235.9%       |
| Argonne National Laboratory - West.....                | 200              | 0                | 121              | 121             | 100.0%        |
| Brookhaven National Laboratory.....                    | 39,889           | 42,316           | 34,328           | -7,988          | -18.9%        |
| Princeton Plasma Physics Laboratory.....               | 124              | 0                | 0                | 0               | 0.0%          |
| <b>Subtotal, Chicago Operations Office.....</b>        | <b>42,152</b>    | <b>43,101</b>    | <b>44,936</b>    | <b>1,835</b>    | <b>4.3%</b>   |
| <b>Idaho Operations Office</b>                         |                  |                  |                  |                 |               |
| Idaho National Laboratory.....                         | 537,361          | 531,048          | 524,212          | -6,836          | -1.3%         |
| <b>Oak Ridge Operations Office</b>                     |                  |                  |                  |                 |               |
| East Tennessee Technology Park.....                    | 178,341          | 226,339          | 288,963          | 62,624          | 27.7%         |
| Oak Ridge National Laboratory.....                     | 30,249           | 19,626           | 16,034           | -3,592          | -18.3%        |
| Oak Ridge Reservation.....                             | 237,095          | 211,850          | 134,514          | -77,336         | -36.5%        |
| Y-12 Plant.....  | 25,981           | 27,323           | 40,558           | 13,235          | 48.4%         |
| <b>Subtotal, Oak Ridge Operations Office.....</b>      | <b>471,666</b>   | <b>485,138</b>   | <b>480,069</b>   | <b>-5,069</b>   | <b>-1.0%</b>  |
| Paducah Gaseous Diffusion Plant.....                   | 190,227          | 174,524          | 159,846          | -14,678         | -8.4%         |
| Portsmouth Gaseous Diffusion Plant.....                | 298,220          | 286,809          | 288,910          | 2,101           | 0.7%          |
| <b>Ohio Field Office</b>                               |                  |                  |                  |                 |               |
| Ashtabula.....   | 5,977            | 15,752           | 16,000           | 248             | 1.6%          |
| Columbus.....  | 18,235           | 19,690           | 9,500            | -10,190         | -51.8%        |
| Fernald.....   | 330,379          | 318,882          | 329,000          | 10,118          | 3.2%          |
| Miamisburg.....  | 106,409          | 111,429          | 75,530           | -35,899         | -32.2%        |
| West Valley Demonstration Project.....                 | 100,919          | 76,276           | 78,900           | 2,624           | 3.4%          |
| <b>Subtotal, Ohio Field Office.....</b>                | <b>561,919</b>   | <b>542,029</b>   | <b>508,930</b>   | <b>-33,099</b>  | <b>-6.1%</b>  |
| <b>Richland Operations Office</b>                      |                  |                  |                  |                 |               |
| Hanford Site.....                                      | 883,289          | 981,126          | 860,761          | -120,365        | -12.3%        |
| Richland Operations Office.....                        | 11,123           | 14,625           | 15,411           | 786             | 5.4%          |
| <b>Subtotal, Richland Operations Office.....</b>       | <b>894,412</b>   | <b>995,751</b>   | <b>876,172</b>   | <b>-119,579</b> | <b>-12.0%</b> |
| Office of River Protection.....                        | 1,108,745        | 1,076,280        | 928,306          | -147,974        | -13.7%        |
| <b>Rocky Flats Field Office</b>                        |                  |                  |                  |                 |               |
| Rocky Flats Environmental Tech. Site.....              | 653,023          | 653,833          | 577,600          | -76,233         | -11.7%        |
| Rocky Flats Field Office.....                          | 5,162            | 4,322            | 5,550            | 1,228           | 28.4%         |
| <b>Subtotal, Rocky Flats Field Office.....</b>         | <b>658,185</b>   | <b>658,155</b>   | <b>583,150</b>   | <b>-75,005</b>  | <b>-11.4%</b> |
| <b>Savannah River Operations Office</b>                |                  |                  |                  |                 |               |
| Savannah River Operations Office.....                  | 20,128           | 11,592           | 13,046           | 1,454           | 12.5%         |
| Savannah River Site Office.....                        | 1,318,454        | 1,424,779        | 1,338,890        | -85,889         | -6.0%         |
| <b>Subtotal, Savannah River Operations Office.....</b> | <b>1,338,582</b> | <b>1,436,371</b> | <b>1,351,936</b> | <b>-84,435</b>  | <b>-5.9%</b>  |

(dollars in thousands)

|  | FY 2004   | FY 2005   | FY 2006   | \$ Change | % Change |
|--|-----------|-----------|-----------|-----------|----------|
| Technology Development and Deployment.....         | 61,358    | 59,726    | 21,389    | -38,337   | -64.2%   |
| Headquarters Operations                            |           |           |           |           |          |
| Hanford Site.....                                  | 3,429     | 896       | 1,813     | 917       | 102.3%   |
| Headquarters.....                                  | 79,737    | 112,067   | 52,600    | -59,467   | -53.1%   |
| Idaho National Laboratory.....                     | 54,927    | 16,278    | 12,666    | -3,612    | -22.2%   |
| Laboratory for Energy-Related Health Research..... | 3,273     | 496       | 0         | -496      | -100.0%  |
| Oak Ridge National Laboratory.....                 | 20,574    | 18,220    | 18,267    | 47        | 0.3%     |
| Savannah River Site.....                           | 14,378    | 11,240    | 13,889    | 2,649     | 23.6%    |
| Subtotal, Headquarters Operations.....             | 176,318   | 159,197   | 99,235    | -59,962   | -37.7%   |
| Consolidated Business Center                       |           |           |           |           |          |
| Atlas Site.....                                    | 4,473     | 7,711     | 28,006    | 20,295    | 263.2%   |
| California Site Support.....                       | 96        | 98        | 100       | 2         | 2.0%     |
| Energy Technology Engineering Center.....          | 18,217    | 18,238    | 9,000     | -9,238    | -50.7%   |
| Inhalation Toxicology Laboratory.....              | 476       | 487       | 305       | -182      | -37.4%   |
| Lawrence Berkeley National Laboratory.....         | 3,228     | 4,038     | 3,900     | -138      | -3.4%    |
| Rocky Flats Field Office.....                      | 1,210     | 0         | 246       | 246       | 100.0%   |
| Stanford Linear Accelerator Center.....            | 2,384     | 2,480     | 3,500     | 1,020     | 41.1%    |
| Subtotal, Consolidated Business Center.....        | 30,084    | 33,052    | 45,057    | 12,005    | 36.3%    |
| D&D Fund Deposit.....                              | 449,333   | 459,296   | 451,000   | -8,296    | -1.8%    |
| Los Alamos Site Office                             |           |           |           |           |          |
| Los Alamos National Laboratory.....                | 104,024   | 117,199   | 142,699   | 25,500    | 21.8%    |
| Program Direction.....                             | 258,943   | 250,834   | 230,931   | -19,903   | -7.9%    |
| Nevada Site Office.....                            |           |           |           |           |          |
| Nevada Offsites.....                               | 7,715     | 7,490     | 2,846     | -4,644    | -62.0%   |
| Subtotal, Environmental Management.....            | 7,412,300 | 7,545,444 | 6,956,476 | -588,968  | -7.8%    |
| Uranium Enrichment D&D Fund Deposit                | -449,333  | -459,296  | -451,000  | 8,296     | -1.8%    |
| Privatization Prior Year Rescission.....           | -15,329   | 0         | 0         | 0         | 0.0%     |
| Less Use of Prior Year Balances (Defense).....     | -174,645  | -32,365   | 0         | 32,365    | 0.0%     |
| Safeguards and Security Charge for Reimbursable    | -121      | -143      | 0         | 143       | -100.0%  |
| Less Use of Prior Year Balance (Non-Defense).....  | -20,002   | 0         | 0         | 0         | 0.0%     |
| Total, Environmental Management.....               | 6,752,870 | 7,053,640 | 6,505,476 | -548,164  | -7.8%    |

## Corporate Measures Totals by Site <sup>a b c</sup>

|  | Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|--|------------------|--------------------|-------------------|-------------------|-------------------------|
| <b><u>Carlsbad</u></b>                                       |                  |                    |                   |                   |                         |
| Waste Isolation Pilot Plant                                  |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 0                | 0                  | 0                 | 0                 | 1                       |
| <b><u>Chicago</u></b>  |                  |                    |                   |                   |                         |
| Ames Laboratory  |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 1                | 0                  | 0                 | 0                 | 1                       |
| Argonne National Laboratory - East                           |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 0                | 0                  | 0                 | 0                 | 1                       |
| Radioactive Facility Completions (number of facilities)..... | 63               | 3                  | 0                 | 0                 | 78                      |
| Remediation Complete (number of release sites).....          | 443              | 0                  | 0                 | 0                 | 443                     |
| Argonne National Laboratory - West                           |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 1                | 0                  | 0                 | 0                 | 1                       |
| Remediation Complete (number of release sites).....          | 37               | 0                  | 0                 | 0                 | 37                      |
| Brookhaven National Laboratory                               |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 0                | 0                  | 0                 | 0                 | 1                       |
| Radioactive Facility Completions (number of facilities)..... | 3                | 3                  | 4                 | 0                 | 10                      |
| Remediation Complete (number of release sites).....          | 68               | 4                  | 4                 | 0                 | 76                      |
| Chicago Operations Office                                    |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 3                | 0                  | 0                 | 0                 | 3                       |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 537              | 0                  | 0                 | 0                 | 537                     |
| Remediation Complete (number of release sites).....          | 30               | 0                  | 0                 | 0                 | 30                      |
| Fermi National Accelerator Laboratory                        |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 1                | 0                  | 0                 | 0                 | 1                       |
| Princeton Plasma Physics Laboratory                          |                  |                    |                   |                   |                         |
| Geographic Sites Eliminated (number of sites).....           | 1                | 0                  | 0                 | 0                 | 1                       |

<sup>a</sup> Figures shown are comparable based on the planned transfer of seven sites to the National Nuclear Security Administration in FY 2006.

<sup>b</sup> Life-cycle estimates for release sites, facilities, and high-level waste containers include pre-1997 actuals. Quantities for all other performance measures except low-level and mixed low-level waste disposal begin in 1997. Low-level and mixed low-level waste disposal begin in 1998.

<sup>c</sup> A site consists of groups of installations, for which EM may report Budget Authority separately yet report costs and performance measures collectively.

| Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|------------------|--------------------|-------------------|-------------------|-------------------------|
|------------------|--------------------|-------------------|-------------------|-------------------------|

**Idaho**

Idaho National Laboratory

|   |        |       |       |       |        |
|---|--------|-------|-------|-------|--------|
| Enriched Uranium Packaged for Disposition (number of containers).....       | 260    | 381   | 34    | 35    | 1,029  |
| Geographic Sites Eliminated (number of sites).....                          | 0      | 0     | 0     | 0     | 1      |
| High-Level Waste Packaged for Final Disposition (number of containers)..... | 0      | 0     | 0     | 0     | 4,200  |
| Industrial Facility Completions (number of facilities).....                 | 52     | 48    | 3     | 7     | 242    |
| Liquid Waste in Inventory Eliminated (thou. of Gallons).....                | 0      | 0     | 0     | 0     | 900    |
| Liquid Waste Tanks Closed (number of tanks).....                            | 0      | 0     | 0     | 1     | 11     |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....                      | 27,814 | 9,028 | 5,240 | 5,655 | 98,550 |
| Material Access Areas Eliminated (number of material access areas).....     | 0      | 0     | 0     | 0     | 1      |
| Nuclear Facility Completions (number of facilities).....                    | 13     | 2     | 0     | 0     | 86     |
| Radioactive Facility Completions (number of facilities).....                | 5      | 9     | 1     | 0     | 37     |
| Remediation Complete (number of release sites).....                         | 142    | 6     | 3     | 0     | 270    |
| Transuranic Waste Shipped for Disposal at WIPP (m3).....                    | 3,404  | 342   | 4,050 | 6,894 | 66,139 |

Idaho Operations Office

|   |     |   |   |   |     |
|---|-----|---|---|---|-----|
| Remediation Complete (number of release sites)..... | 233 | 0 | 0 | 0 | 233 |
|---|-----|---|---|---|-----|

Maxey Flats

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| Geographic Sites Eliminated (number of sites)..... | 1 | 0 | 0 | 0 | 1 |
|--|---|---|---|---|---|

Moab

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| Geographic Sites Eliminated (number of sites)..... | 0 | 0 | 0 | 0 | 1 |
|--|---|---|---|---|---|

Monticello

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| Geographic Sites Eliminated (number of sites)..... | 1 | 0 | 0 | 0 | 1 |
|--|---|---|---|---|---|

Pinellas

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| Geographic Sites Eliminated (number of sites)..... | 1 | 0 | 0 | 0 | 1 |
|--|---|---|---|---|---|

**Oak Ridge**

East Tennessee Technology Park

|  |        |    |   |    |        |
|--|--------|----|---|----|--------|
| Industrial Facility Completions (number of facilities).....  | 71     | 34 | 8 | 49 | 596    |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 38,250 | 0  | 0 | 0  | 38,250 |
| Nuclear Facility Completions (number of facilities).....     | 2      | 0  | 2 | 0  | 8      |
| Radioactive Facility Completions (number of facilities)..... | 1      | 0  | 2 | 2  | 30     |
| Remediation Complete (number of release sites).....          | 19     | 0  | 9 | 7  | 163    |

Oak Ridge National Laboratory

|  |    |   |   |   |     |
|--|----|---|---|---|-----|
| Industrial Facility Completions (number of facilities).....  | 7  | 0 | 0 | 0 | 25  |
| Nuclear Facility Completions (number of facilities).....     | 0  | 0 | 0 | 0 | 15  |
| Radioactive Facility Completions (number of facilities)..... | 3  | 0 | 1 | 0 | 26  |
| Remediation Complete (number of release sites).....          | 80 | 0 | 0 | 0 | 178 |

| Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|------------------|--------------------|-------------------|-------------------|-------------------------|
|------------------|--------------------|-------------------|-------------------|-------------------------|

**Oak Ridge (Con't)**

FUSRAP

Geographic Sites Eliminated (number of sites)..... 25 0 0 0 25

Oak Ridge Operations Office

Geographic Sites Eliminated (number of sites)..... 1 0 0 0 1

Industrial Facility Completions (number of facilities)..... 3 0 0 0 3

Remediation Complete (number of release sites)..... 97 0 0 0 97

Oak Ridge Reservation

Geographic Sites Eliminated (number of sites)..... 1 0 0 0 2

Industrial Facility Completions (number of facilities)..... 2 0 0 0 2

Nuclear Facility Completions (number of facilities)..... 0 0 0 2 2

Low-Level and Mixed Low-Level Waste Disposed (m3)..... 21,152 19,758 16,787 1,524 64,959

Radioactive Facility Completions (number of facilities)..... 2 0 0 13 15

Remediation Complete (number of release sites)..... 36 19 3 53 114

Transuranic Waste Shipped for Disposal at WIPP (m3)..... 0 0 0 271 1,224

Y-12 Plant

Industrial Facility Completions (number of facilities)..... 1 0 0 0 2

Remediation Complete (number of release sites)..... 28 0 0 0 138

Weldon Spring Site

Geographic Sites Eliminated (number of sites)..... 1 0 0 0 1

**Paducah**

Paducah Gaseous Diffusion Plant

Depleted and Other Uranium Packaged for Disposition  
(metric tons)..... 0 0 0 0 453,312

Enriched Uranium Packaged for Disposition (number of  
containers)..... 0 0 0 0 182

Geographic Sites Eliminated (number of sites)..... 0 0 0 0 1

Low-Level and Mixed Low-Level Waste Disposed (m3)..... 5,543 144 1,156 116 16,622

Radioactive Facility Completions (number of facilities)..... 0 0 0 0 2

Remediation Complete (number of release sites)..... 86 1 2 0 237

**Portsmouth**

Portsmouth Gaseous Diffusion Plant

Depleted and Other Uranium Packaged for Disposition  
(metric tons)..... 0 0 0 0 205,567

Enriched Uranium Packaged for Disposition (number of  
containers)..... 0 0 0 0 1,450

Geographic Sites Eliminated (number of sites)..... 0 0 0 0 1

Low-Level and Mixed Low-Level Waste Disposed (m3)..... 16,400 898 7,578 1,678 33,543

Remediation Complete (number of release sites)..... 149 0 0 1 163

| Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|------------------|--------------------|-------------------|-------------------|-------------------------|
|------------------|--------------------|-------------------|-------------------|-------------------------|

**Ohio**

**Ashtabula**

|  |     |   |   |   |     |
|--|-----|---|---|---|-----|
| Geographic Sites Eliminated (number of sites).....           | 0   | 0 | 0 | 1 | 1   |
| Industrial Facility Completions (number of facilities).....  | 1   | 0 | 0 | 6 | 7   |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 104 | 0 | 0 | 0 | 104 |
| Radioactive Facility Completions (number of facilities)..... | 20  | 0 | 0 | 5 | 25  |
| Remediation Complete (number of release sites).....          | 0   | 0 | 0 | 3 | 3   |

**Columbus**

|  |    |   |   |   |    |
|--|----|---|---|---|----|
| Geographic Sites Eliminated (number of sites).....           | 1  | 0 | 0 | 1 | 2  |
| Nuclear Facility Completions (number of facilities).....     | 0  | 0 | 0 | 1 | 1  |
| Radioactive Facility Completions (number of facilities)..... | 12 | 0 | 2 | 0 | 14 |
| Remediation Complete (number of release sites).....          | 1  | 0 | 0 | 1 | 2  |

**Fernald**

|  |       |   |   |   |       |
|--|-------|---|---|---|-------|
| Geographic Sites Eliminated (number of sites).....           | 0     | 0 | 0 | 1 | 1     |
| Industrial Facility Completions (number of facilities).....  | 0     | 0 | 1 | 0 | 1     |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 7,085 | 0 | 0 | 0 | 7,085 |
| Radioactive Facility Completions (number of facilities)..... | 19    | 6 | 2 | 2 | 29    |
| Remediation Complete (number of release sites).....          | 2     | 0 | 1 | 1 | 6     |

**Miamisburg**

|  |       |   |    |    |       |
|--|-------|---|----|----|-------|
| Geographic Sites Eliminated (number of sites).....           | 0     | 0 | 0  | 1  | 1     |
| Industrial Facility Completions (number of facilities).....  | 74    | 9 | 31 | 2  | 116   |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 3,947 | 0 | 0  | 0  | 3,947 |
| Nuclear Facility Completions (number of facilities).....     | 0     | 0 | 5  | 3  | 8     |
| Radioactive Facility Completions (number of facilities)..... | 0     | 7 | 4  | 0  | 11    |
| Remediation Complete (number of release sites).....          | 118   | 0 | 37 | 23 | 178   |

**Ohio Field Office**

|   |     |   |   |   |     |
|---|-----|---|---|---|-----|
| High-Level Waste Packaged for Final Disposition (number of containers)..... | 275 | 0 | 0 | 0 | 275 |
|---|-----|---|---|---|-----|

**West Valley Demonstration Project**

|  |       |     |       |       |        |
|--|-------|-----|-------|-------|--------|
| Geographic Sites Eliminated (number of sites).....       | 0     | 0   | 0     | 0     | 1      |
| Liquid Waste Tanks Closed (number of tanks).....         | 0     | 0   | 0     | 0     | 2      |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....   | 4,022 | 527 | 9,900 | 4,600 | 23,844 |
| Remediation Complete (number of release sites).....      | 0     | 0   | 0     | 0     | 1      |
| Transuranic Waste Shipped for Disposal at WIPP (m3)..... | 0     | 0   | 0     | 80    | 692    |

**Richland**

**Hanford**

|  |        |       |       |       |        |
|--|--------|-------|-------|-------|--------|
| Depleted and Other Uranium Packaged for Disposition (metric tons)..... | 3,100  | 0     | 0     | 0     | 3,100  |
| Enriched Uranium Packaged for Disposition (number of containers).....  | 1,648  | 0     | 0     | 1,310 | 2,958  |
| Geographic Sites Eliminated (number of sites).....                     | 0      | 0     | 0     | 0     | 1      |
| Industrial Facility Completions (number of facilities).....            | 164    | 38    | 13    | 8     | 855    |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....                 | 36,482 | 3,800 | 3,875 | 2,335 | 69,391 |

| Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|------------------|--------------------|-------------------|-------------------|-------------------------|
|------------------|--------------------|-------------------|-------------------|-------------------------|

### Richland (Con't)

|   |       |     |     |     |        |
|---|-------|-----|-----|-----|--------|
| Material Access Areas Eliminated (number of material access areas).....             | 0     | 0   | 1   | 1   | 2      |
| Nuclear Facility Completions (number of facilities).....                            | 3     | 8   | 4   | 9   | 172    |
| Plutonium Metal or Oxide Packaged for Long-Term Storage (number of containers)..... | 2,600 | 900 | 0   | 0   | 3,400  |
| Plutonium or Uranium Residues Packaged for Disposition (kilograms of bulk).....     | 3,437 | 0   | 0   | 0   | 3,467  |
| Radioactive Facility Completions (number of facilities).....                        | 2     | 7   | 3   | 9   | 415    |
| Remediation Complete (number of release sites).....                                 | 265   | 62  | 49  | 62  | 1,618  |
| Spent Nuclear Fuel Packaged for Final Disposition (MTHM)...                         | 1,443 | 648 | 30  | 2   | 2,131  |
| Transuranic Waste Shipped for Disposal at WIPP (m3).....                            | 337   | 427 | 820 | 700 | 28,369 |

### River Protection

#### Office of River Protection

|   |   |   |   |       |         |
|---|---|---|---|-------|---------|
| High-Level Waste Packaged for Final Disposition (number of containers)..... | 0 | 0 | 0 | 0     | 9,200   |
| Industrial Facility Completions (number of facilities).....                 | 0 | 0 | 0 | 0     | 102     |
| Liquid Waste in Inventory Eliminated (thousands of gallons).....            | 0 | 0 | 0 | 0     | 54,000  |
| Liquid Waste Tanks Closed (number of tanks).....                            | 0 | 0 | 0 | 0     | 177     |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....                      | 0 | 0 | 0 | 2,500 | 310,000 |
| Nuclear Facility Completions (number of facilities).....                    | 0 | 0 | 0 | 0     | 18      |
| Radioactive Facility Completions (number of facilities).....                | 0 | 0 | 0 | 0     | 28      |
| Remediation Complete (number of release sites).....                         | 5 | 0 | 0 | 0     | 322     |
| Transuranic Waste Shipped for Disposal at WIPP (m3).....                    | 0 | 0 | 0 | 0     | 7,600   |

### Rocky Flats

#### Rocky Flats Environmental Technology Site

|   |         |         |        |       |         |
|---|---------|---------|--------|-------|---------|
| Geographic Sites Eliminated (number of sites).....                                  | 0       | 0       | 0      | 1     | 1       |
| Industrial Facility Completions (number of facilities).....                         | 199     | 59      | 74     | 0     | 317     |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....                              | 155,392 | 158,783 | 68,120 | 3,100 | 254,962 |
| Material Access Areas Eliminated (number of material access areas).....             | 7       | 0       | 0      | 0     | 7       |
| Nuclear Facility Completions (number of facilities).....                            | 1       | 0       | 3      | 2     | 6       |
| Plutonium Metal or Oxide Packaged for Long-Term Storage (number of containers)..... | 1,895   | 0       | 0      | 0     | 1,700   |
| Plutonium or Uranium Residues Packaged for Disposition (kilograms of bulk).....     | 103,901 | 0       | 0      | 0     | 103,901 |
| Radioactive Facility Completions (number of facilities).....                        | 14      | 13      | 26     | 1     | 54      |
| Remediation Complete (number of release sites).....                                 | 197     | 80      | 30     | 1     | 240     |
| Transuranic Waste Shipped for Disposal at WIPP (m3).....                            | 8,275   | 4,678   | 2,402  | 0     | 12,355  |

### Savannah River

#### Savannah River Site

|  |       |       |     |     |        |
|--|-------|-------|-----|-----|--------|
| Depleted and Other Uranium Packaged for Disposition (metric tons)..... | 4,551 | 1,406 | 0   | 186 | 23,182 |
| Enriched Uranium Packaged for Disposition (number of containers).....  | 146   | 793   | 855 | 870 | 2,809  |
| Geographic Sites Eliminated (number of sites).....                     | 0     | 0     | 0   | 0   | 1      |

| Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|------------------|--------------------|-------------------|-------------------|-------------------------|
|------------------|--------------------|-------------------|-------------------|-------------------------|

**Savannah River (Con't)**

|   |        |        |        |       |         |
|---|--------|--------|--------|-------|---------|
| High-Level Waste Packaged for Final Disposition (number of containers).....         | 1,452  | 260    | 250    | 250   | 5,060   |
| Industrial Facility Completions (number of facilities).....                         | 59     | 65     | 19     | 25    | 816     |
| Liquid Waste in Inventory Eliminated (thousands of gallons).....                    | 0      | 0      | 0      | 888   | 33,100  |
| Liquid Waste Tanks Closed (number of tanks).....                                    | 2      | 0      | 0      | 0     | 51      |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....                              | 59,946 | 11,445 | 10,364 | 7,372 | 219,526 |
| Material Access Areas Eliminated (number of material access areas).....             | 0      | 0      | 0      | 0     | 4       |
| Nuclear Facility Completions (number of facilities).....                            | 3      | 2      | 0      | 1     | 195     |
| Plutonium Metal or Oxide Packaged for Long-Term Storage (number of containers)..... | 54     | 720    | 176    | 0     | 750     |
| Plutonium or Uranium Residues Packaged for Disposition (kilograms of bulk).....     | 321    | 79     | 36     | 0     | 414     |
| Radioactive Facility Completions (number of facilities).....                        | 1      | 0      | 1      | 2     | 40      |
| Remediation Complete (number of release sites).....                                 | 304    | 13     | 3      | 11    | 515     |
| Spent Nuclear Fuel Packaged for Final Disposition (MTHM)...                         | 2      | 1      | 0      | 0     | 36      |
| Transuranic Waste Shipped for Disposal at WIPP (m3).....                            | 1,459  | 1,506  | 840    | 840   | 15,326  |

**Consolidated Business Center**

California Site Support

|  |     |   |   |   |     |
|--|-----|---|---|---|-----|
| Low-Level and Mixed Low-Level Waste Disposed (m3)..... | 272 | 0 | 0 | 0 | 272 |
| Remediation Complete (number of release sites).....    | 3   | 0 | 0 | 0 | 3   |

New Mexico Site Support

|  |       |   |   |   |       |
|--|-------|---|---|---|-------|
| Low-Level and Mixed Low-Level Waste Disposed (m3)..... | 1,319 | 0 | 0 | 0 | 1,319 |
| Remediation Complete (number of release sites).....    | 155   | 0 | 0 | 0 | 155   |

Energy Technology Engineering Center

|  |     |     |     |    |       |
|--|-----|-----|-----|----|-------|
| Geographic Sites Eliminated (number of sites).....           | 0   | 0   | 0   | 0  | 1     |
| Industrial Facility Completions (number of facilities).....  | 19  | 5   | 1   | 0  | 13    |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 235 | 820 | 600 | 75 | 1,335 |
| Radioactive Facility Completions (number of facilities)..... | 3   | 1   | 2   | 0  | 6     |
| Remediation Complete (number of release sites).....          | 4   | 0   | 3   | 0  | 10    |

General Atomics

|   |       |   |   |   |       |
|---|-------|---|---|---|-------|
| Geographic Sites Eliminated (number of sites).....          | 1     | 0 | 0 | 0 | 1     |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....      | 1,716 | 0 | 0 | 0 | 1,716 |
| Spent Nuclear Fuel Packaged for Final Disposition (MTHM)... | 1     | 0 | 0 | 0 | 1     |
| Remediation Complete (number of release sites).....         | 2     | 0 | 0 | 0 | 2     |

Inhalation Toxicology Laboratory

|  |     |   |    |   |     |
|--|-----|---|----|---|-----|
| Geographic Sites Eliminated (number of sites).....     | 1   | 0 | 0  | 0 | 1   |
| Low-Level and Mixed Low-Level Waste Disposed (m3)..... | 165 | 0 | 35 | 0 | 105 |
| Remediation Complete (number of release sites).....    | 9   | 0 | 0  | 0 | 9   |

Lawrence Berkeley National Laboratory

|   |     |   |   |    |     |
|---|-----|---|---|----|-----|
| Geographic Sites Eliminated (number of sites).....  | 0   | 0 | 0 | 1  | 1   |
| Remediation Complete (number of release sites)..... | 161 | 0 | 5 | 15 | 181 |

| Pre -<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-cycle<br>Estimates |
|------------------|--------------------|-------------------|-------------------|-------------------------|
|------------------|--------------------|-------------------|-------------------|-------------------------|

**Consolidated Business Center (con't)**

Stanford Linear Accelerator Center

|   |    |   |   |   |    |
|---|----|---|---|---|----|
| Geographic Sites Eliminated (number of sites).....  | 0  | 0 | 0 | 1 | 1  |
| Remediation Complete (number of release sites)..... | 16 | 4 | 0 | 0 | 20 |

South Valley

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| Remediation Complete (number of release sites)..... | 1 | 0 | 0 | 0 | 1 |
|---|---|---|---|---|---|

**Headquarters Operations**

Idaho National Laboratory

|   |   |   |   |   |     |
|---|---|---|---|---|-----|
| Spent Nuclear Fuel Packaged for Final Disposition (MTHM)... | 0 | 0 | 0 | 0 | 253 |
|---|---|---|---|---|-----|

Laboratory for Energy-Related Health Research

|   |     |   |   |   |     |
|---|-----|---|---|---|-----|
| Geographic Sites Eliminated (number of sites).....          | 0   | 0 | 1 | 0 | 1   |
| Industrial Facility Completions (number of facilities)..... | 0   | 1 | 0 | 0 | 1   |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....      | 944 | 0 | 0 | 0 | 948 |
| Remediation Complete (number of release sites).....         | 16  | 0 | 0 | 1 | 17  |

Oak Ridge National Laboratory

|  |       |       |       |     |       |
|--|-------|-------|-------|-----|-------|
| Low-Level and Mixed Low-Level Waste Disposed (m3)..... | 3,295 | 1,761 | 1,116 | 852 | 8,849 |
|--|-------|-------|-------|-----|-------|

**Nevada Site Office**

Nevada Offsites

|   |    |   |    |   |    |
|---|----|---|----|---|----|
| Remediation Complete (number of release sites)..... | 38 | 0 | 10 | 0 | 80 |
|---|----|---|----|---|----|

**Los Alamos Site Office**

Los Alamos National Laboratory

|  |       |    |       |       |       |
|--|-------|----|-------|-------|-------|
| Geographic Sites Eliminated (number of sites).....           | 0     | 0  | 0     | 0     | 1     |
| Low-Level and Mixed Low-Level Waste Disposed (m3).....       | 5,895 | 14 | 0     | 0     | 5,909 |
| Radioactive Facility Completions (number of facilities)..... | 0     | 0  | 0     | 0     | 1     |
| Remediation Complete (number of release sites).....          | 1,325 | 18 | 31    | 86    | 2,124 |
| Transuranic Waste Shipped for Disposal at WIPP (m3).....     | 606   | 0  | 1,400 | 1,400 | 9,200 |

## Budget Authority

### Estimates by Project Baseline Summary Category

(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|--|--|--|--------------------|
| Nuclear Material Stabilization and Disposition.....    | 728,960                                | 726,725                                | 629,091            |
| Spent Nuclear Fuel Stabilization and Disposition.....  | 302,646                                | 222,216                                | 140,698            |
| Solid Waste Stabilization and Disposition.....         | 1,088,211                              | 1,087,699                              | 731,231            |
| Radioactive Liquid Waste Stabilization and Disposition | 980,108                                | 1,202,120                              | 1,033,399          |
| Radioactive Liquid Waste Stabilization and Disposition |  |  |                    |
| Major Construction.....                                | 697,530                                | 684,480                                | 625,893            |
| Safeguards and Security.....                           | 291,124                                | 262,942                                | 287,223            |
| Soil and Water Remediation.....                        | 685,017                                | 811,494                                | 1,193,415          |
| Nuclear Facility Decontamination and                   |  |  |                    |
| Decommissioning.....                                   | 1,310,933                              | 1,210,709                              | 1,168,592          |
| Non-Nuclear Facility Decontamination and               |  |  |                    |
| Decommissioning.....                                   | 49,284                                 | 46,459                                 | 100,726            |
| Operate Waste Disposal Facility.....                   | 142,583                                | 152,410                                | 117,809            |
| Waste and Material Transportation.....                 | 23,711                                 | 29,248                                 | 37,631             |
| Other.....   | 29,728                                 | 26,242                                 | 38,502             |
| Other:   |  |  |                    |
| Community and Regulatory Support.....                  | 35,690                                 | 35,215                                 | 40,229             |
| Federal Contribution to the UE D&D Fund.....           | 449,333                                | 459,296                                | 451,000            |
| Other.....   | 277,141                                | 277,629                                | 108,717            |
| Program Direction.....                                 | 258,943                                | 250,834                                | 230,931            |
| Technology Development and Deployment.....             | 61,358                                 | 59,726                                 | 21,389             |
| Subtotal, Environmental Management.....                | 7,412,300                              | 7,545,444                              | 6,956,476          |
| Offsets.....   | -659,430                               | -491,804                               | -451,000           |
| Total, Environmental Management.....                   | 6,752,870                              | 7,053,640                              | 6,505,476          |

(dollars in thousands)

| Office/<br>Installation | Project Number | Project Name  | (dollars in thousands)     |                         |                           |                           |                    |                        |                        | Planned<br>Completion<br>Date |
|-------------------------|----------------|---|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|------------------------|------------------------|-------------------------------|
|                         |                |   | Costs                      | Budget Authority        |                           |                           |                    |                        | Unappropriated Balance |                               |
|                         |                |   | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request |                        |                        |                               |
| <b>Carlsbad</b>         |                |   |                            |                         |                           |                           |                    |                        |                        |                               |
| WIPP                    | CB-0020        | Safeguards and Security.....  | 198,863                    | 8,799                   | 3,441                     | 4,072                     | 4,223              | 178,328                | 9/30/2035              |                               |
| WIPP                    | CB-0080        | Operate Waste Disposal Facility-WIPP.....                               | 4,389,591                  | 1,040,613               | 140,278                   | 146,430                   | 111,948            | 2,950,322              | 9/30/2035              |                               |
| WIPP                    | CB-0081        | Operate Characterization Project.....                                   | 0                          | 88,557                  | 29,728                    | 26,242                    | 38,502             | See Below <sup>a</sup> | 9/30/2035              |                               |
| WIPP                    | CB-0090        | Transportation - WIPP.....  | 989,643                    | 160,614                 | 23,711                    | 29,248                    | 37,631             | 738,439                | 9/30/2030              |                               |
| WIPP                    | CB-0100        | US/Mexico/Border/Materials Partnership.....<br>Initiatives.....         | 8,991                      | 8,447                   | 2,982                     | 0                         | 0                  | See Below <sup>a</sup> | 9/30/2006              |                               |
| WIPP                    | CB-0101        | Economic Assistance to the State of New<br>Mexico.....                  | 254,582                    | 48,676                  | 22,916                    | 23,452                    | 24,548             | 134,990                | 9/30/2011              |                               |
| WIPP                    | CB-0900        | Pre-2004 Completions.....   | 7,137                      | 40,605                  | 0                         | 0                         | 0                  | 0 <sup>b</sup>         | 9/30/2003              |                               |
| Subtotal, Carlsbad..... |                |   | 5,848,807                  | 1,396,311               | 223,056                   | 229,444                   | 216,852            | 4,002,079              |                        |                               |
| <b>Chicago</b>          |                |   |                            |                         |                           |                           |                    |                        |                        |                               |
| ANL-E                   | CH-ANLE-0030   | Soil and Water Remediation - Argonne<br>National Laboratory - East..... | 30,368                     | 28,867                  | 642                       | 401                       | 415                | 43                     | 9/30/2005              |                               |
| ANL-E                   | CH-ANLE-0040   | Nuclear Facility D&D - Argonne National.....<br>Laboratory - East.....  | 48,012                     | 26,708                  | 1,297                     | 384                       | 10,072             | 9,551                  | 9/30/2009              |                               |
| ANL-W                   | CH-ANLW-0030   | Soil and Water Remediation - Argonne<br>National Laboratory - West..... | 8,758                      | 7,369                   | 200                       | 0                         | 121                | 1,068                  | 9/30/2003              |                               |
| BRNL                    | CH-BRNL-0030   | Soil and Water Remediation-Brookhaven<br>National Laboratory.....       | 222,327                    | 139,587                 | 29,119                    | 28,785                    | 6,713              | 18,123                 | 9/30/2005              |                               |
| BRNL                    | CH-BRNL-0040   | Nuclear Facility D&D-Brookhaven Graphite<br>Research Reactor.....       | 95,632                     | 34,676                  | 8,966                     | 8,385                     | 20,122             | 23,483                 | 9/30/2007              |                               |
| BRNL                    | CH-BRNL-0041   | Nuclear Facility D&D-High Flux Beam<br>Reactor.....                     | 60,083                     | 2,406                   | 1,144                     | 5,097                     | 7,443              | 43,993                 | 9/30/2009              |                               |
| BRNL                    | CH-BRNL-0100   | Brookhaven Community and Regulatory<br>Support.....                     | 2,976                      | 2,129                   | 660                       | 49                        | 50                 | 88                     | 9/30/2008              |                               |
| CH Ops                  | CH-OPS-0900    | Pre-2004 Completions.....   | 98,763                     | 108,447                 | 0                         | 0                         | 0                  | See Below <sup>a</sup> | 9/30/2003              |                               |

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b/ A portion of the Budget Authority in FY 1997-2002 includes funding for a privatization project that was cancelled and was used as a "Use of Prior Year Balance" offset in future years. Thus, there are no life-cycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.

|   |                |  | (dollars in thousands)     |                         |                           |                           |                    |                             |                               |
|---|----------------|--|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
| Office/<br>Installation                   | Project Number | Project Name   | Costs                      | Budget Authority        |                           |                           |                    |                             | Planned<br>Completion<br>Date |
|   |                |  | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| Soil and Water Remediation-Princeton Site |                |  |                            |                         |                           |                           |                    |                             |                               |
| PPPL                                      | CH-PPPL-0030   | A/B.....   | 309                        | 1,006                   | 124                       | 0                         | 0                  | See Below <sup>a</sup>      | 9/30/2004                     |
| Subtotal, Chicago.....                    |                |  | 567,228                    | 351,195                 | 42,152                    | 43,101                    | 44,936             | 96,349                      |                               |
| <b>Idaho</b>                              |                |  |                            |                         |                           |                           |                    |                             |                               |
| INL                                       | ID-0011        | NM Stabilization and Disposition.....                                      | 20,396                     | 3,500                   | 1,563                     | 1,889                     | 1,555              | 11,889                      | 9/30/2009                     |
| INL                                       | ID-0012B-D     | SNF Stabilization and Disposition - 2012<br>(Defense).....                 | 532,374                    | 419,544                 | 17,254                    | 26,365                    | 19,158             | 50,053                      | 9/30/2012                     |
| INL                                       | ID-0012B-N     | SNF Stabilization and Disposition - 2012<br>(Non-Defense).....             | 0                          | 0                       | 4,861                     | 6,681                     | 5,153              | See Below <sup>a</sup>      | 9/30/2012                     |
| INL                                       | ID-0012C       | SNF Stabilization and Disposition- 2035.....                               | 755,938                    | 0                       | 0                         | 0                         | 0                  | 755,938                     | 9/30/2035                     |
| INL                                       | ID-0013        | Solid Waste Stabilization and Disposition.....                             | 2,321,532                  | 1,165,576               | 195,045                   | 109,472                   | 140,015            | 744,424                     | 9/30/2012                     |
| INL                                       | ID-0014B       | Radioactive Liquid Tank Waste<br>Stabilization and Disposition - 2012..... | 2,359,802                  | 757,286                 | 105,496                   | 224,157                   | 149,165            | 1,123,698                   | 9/30/2012                     |
| INL                                       | ID-0014C       | Radioactive Liquid Tank Waste<br>Stabilization and Disposition - 2035..... | 2,953,554                  | 0                       | 0                         | 0                         | 0                  | 2,953,554                   | 9/30/2035                     |
| INL                                       | ID-0030B       | Soil and Water Remediation - 2012.....                                     | 1,528,419                  | 543,724                 | 156,517                   | 124,994                   | 161,489            | 541,695                     | 9/30/2012                     |
| INL                                       | ID-0030C       | Soil and Water Remediation - 2035.....                                     | 1,849,946                  | 0                       | 439                       | 1,984                     | 0                  | 1,847,523                   | 9/30/2035                     |
| INL                                       | ID-0040B       | Nuclear Facility D&D - 2012.....   | 140,049                    | 42,207                  | 17,695                    | 5,425                     | 5,026              | 69,696                      | 9/30/2012                     |
| INL                                       | ID-0040C       | Nuclear Facility D&D - 2035.....   | 11,213                     | 0                       | 0                         | 0                         | 0                  | 11,213                      | 9/30/2035                     |
| INL                                       | ID-0050B       | Non-Nuclear Facility D&D - 2012.....                                       | 292,749                    | 29,897                  | 36,181                    | 26,993                    | 39,105             | 106,573                     | 9/30/2012                     |
| INL                                       | ID-0050C       | Non-Nuclear Facility D&D - 2035.....                                       | 1,022,798                  | 0                       | 0                         | 0                         | 0                  | 1,022,798                   | 9/30/2035                     |
| INL                                       | ID-0100        | Idaho Community and Regulatory Support.....                                | 172,502                    | 23,807                  | 2,310                     | 3,088                     | 3,546              | 139,751                     | 9/30/2035                     |
| ID Ops                                    | ID-OPS-0900    | Pre-2004 Completions (Defense).....  | 309,158                    | 250,871                 | 0                         | 0                         | 0                  | 58,287                      | 9/30/2003                     |
| ID Ops                                    | ID-OPS-0900-N  | Pre-2004 Completions (Non-Defense).....                                    | 0                          | 19,468                  | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
| Subtotal, Idaho.....                      |                |  | 14,270,430                 | 3,255,880               | 537,361                   | 531,048                   | 524,212            | 9,437,092                   |                               |

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(dollars in thousands)

| Office/<br>Installation  | Project Number | Project Name  | Costs                      | Budget Authority        |                           |                           |                    |                             | Planned<br>Completion<br>Date |
|--------------------------|----------------|---|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                          |                |   | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| <b>Oak Ridge</b>         |                |   |                            |                         |                           |                           |                    |                             |                               |
| ETTP                     | OR-0011Y       | NM Stabilization and Disposition - ETTP<br>Uranium Facilities Management.....             | 54,895                     | 25,001                  | 13,406                    | 7,923                     | 1,600              | 6,965                       | 9/30/2008                     |
| ORR                      | OR-0013A       | Solid Waste Stabilization and Disposition -<br>2006.....                                  | 454,297                    | 341,896                 | 64,291                    | 39,775                    | 0                  | 8,335                       | 9/30/2006                     |
| ORR                      | OR-0013B       | Solid Waste Stabilization and Disposition -<br>2012.....                                  | 779,039                    | 619,874                 | 67,056                    | 46,744                    | 68,360             | See Below <sup>a</sup>      | 9/30/2015                     |
| ORR                      | OR-0020        | Safeguards and Security.....  | 119,734                    | 40,994                  | 20,668                    | 21,850                    | 28,855             | 7,367                       | 9/30/2015                     |
| ORR                      | OR-0030        | Soil and Water Remediation-Melton Valley.....   | 290,640                    | 165,610                 | 56,215                    | 71,099                    | 15,146             | See Below <sup>a</sup>      | 9/30/2006                     |
| ORR                      | OR-0031        | Soil and Water Remediation - Offsites.....  | 70,824                     | 23,950                  | 8,066                     | 12,753                    | 16,483             | 9,572                       | 9/30/2008                     |
| ETTP                     | OR-0040        | Nuclear Facility D&D - East Tennessee<br>Technology Park (D&D Fund).....                  | 1,857,358                  | 701,729                 | 141,972                   | 196,086                   | 259,991            | 557,580                     | 9/30/2015                     |
| Y-12                     | OR-0041        | Nuclear Facility D&D - Y-12.....  | 980,386                    | 190,631                 | 25,981                    | 27,323                    | 40,558             | 695,893                     | 9/30/2015                     |
| ORNL                     | OR-0042        | Nuclear Facility D&D - Oak Ridge National<br>Laboratory.....                              | 639,489                    | 144,272                 | 30,249                    | 19,626                    | 16,034             | 429,308                     | 9/30/2015                     |
| ETTP                     | OR-0043        | Nuclear Facility D&D - East Tennessee<br>Technology Park (Defense).....                   | 114,369                    | 51,629                  | 3,633                     | 6,540                     | 6,034              | 46,533                      | 9/30/2008                     |
| ORR                      | OR-0100        | Oak Ride Reservation Community and<br>Regulatory Support (Defense).....                   | 135,846                    | 49,455                  | 3,439                     | 3,592                     | 5,670              | 73,690                      | 9/30/2015                     |
| ORR                      | OR-0101        | Oak Ridge Contract/Post-Closure<br>Liabilities/Administration.....                        | 123,968                    | 113,454                 | 15,908                    | 14,583                    | 0                  | See Below <sup>a</sup>      | 9/30/2015                     |
| ETTP                     | OR-0102        | East Tennessee Technology Park Contract /<br>Post-Closure Liabilities/Administration..... | 363,991                    | 64,248                  | 19,330                    | 15,790                    | 21,338             | 243,285                     | 9/30/2015                     |
| ORR                      | OR-0103        | Oak Ridge Reservation Community and<br>Regulatory Support (D&D Fund).....                 | 44,229                     | 1,414                   | 1,452                     | 1,454                     | 0                  | 39,909                      | 9/30/2015                     |
| ORR                      | OR-0900-D      | Pre-2004 Completions (Defense).....   | 16,828                     | 29,941                  | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
| ORR                      | OR-0900-N      | Pre-2004 Completions (Non-Defense).....   | 616,728                    | 622,877                 | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
| Subtotal, Oak Ridge..... |                |   | 6,662,621                  | 3,186,975               | 471,666                   | 485,138                   | 480,069            | 2,118,437                   |                               |

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(dollars in thousands)

| Office/<br>Installation | Project Number | Project Name  | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|-------------------------|----------------|---|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                         |                |   | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| <b>Paducah</b>          |                |   |                            |                         |                           |                           |                    |                             |                               |
| Paducah                 | PA-0011        | NM Stabilization and Disposition - Paducah<br>Uranium Facilities Management.....  | 59,386                     | 18,150                  | 4,258                     | 4,892                     | 2,420              | 29,666                      | 9/30/2010                     |
| Paducah                 | PA-0011X       | NM Stabilization and Disposition-Depleted<br>Uranium Hexafluoride Conversion..... | 1,269,939                  | 7,757                   | 56,656                    | 50,592                    | 48,400             | 1,106,534                   | 9/30/2030                     |
| Paducah                 | PA-0013        | Solid Waste Stabilization and Disposition.....                                    | 341,479                    | 131,210                 | 14,625                    | 36,728                    | 14,340             | 144,576                     | 9/30/2010                     |
| Paducah                 | PA-0020        | Safeguards and Security.....  | 164,797                    | 13,507                  | 8,352                     | 7,760                     | 11,014             | 124,164                     | 9/30/2010                     |
| Paducah                 | PA-0040        | Nuclear Facility D&D - Paducah.....   | 2,724,396                  | 303,165                 | 96,424                    | 60,592                    | 79,816             | 2,184,366                   | 9/30/2010                     |
| Paducah                 | PA-0100        | Paducah Community and Regulatory<br>Support (Non-Defense).....                    | 10,203                     | 9,942                   | 331                       | 0                         | 0                  | See Below <sup>a</sup>      | 9/30/2010                     |
| Paducah                 | PA-0101        | Paducah Contract/Post-Closure<br>Liabilities/Administration (Non-Defense).....    | TBD                        | 0                       | 472                       | 0                         | 0                  | See Below <sup>a</sup>      | 9/30/2010                     |
| Paducah                 | PA-0102        | Paducah Contract/Post-Closure<br>Liabilities/Administration (D&D Fund).....       | 124,795                    | 27,149                  | 4,805                     | 11,456                    | 1,492              | 79,893                      | 9/30/2010                     |
| Paducah                 | PA-0103        | Paducah Community and Regulatory<br>Support (D&D Fund).....                       | 47,829                     | 2,948                   | 4,304                     | 2,504                     | 2,364              | 35,709                      | 9/30/2010                     |
| Subtotal, Paducah.....  |                |   | 4,742,824                  | 513,828                 | 190,227                   | 174,524                   | 159,846            | 3,704,908                   |                               |
| <b>Portsmouth</b>       |                |   |                            |                         |                           |                           |                    |                             |                               |
| Portsmouth              | PO-0011        | NM Stabilization and Disposition Portsmouth<br>Uranium Facilities Management..... | 95,448                     | 41,844                  | 16,461                    | 11,611                    | 10,536             | 14,996                      | 9/30/2025                     |
| Portsmouth              | PO-0011X       | NM Stabilization and Disposition-Depleted<br>Uranium Hexafluoride Conversion..... | 885,031                    | 7,757                   | 44,727                    | 55,949                    | 48,400             | 728,198                     | 9/30/2025                     |
| Portsmouth              | PO-0013        | Solid Waste Stabilization and Disposition.....                                    | 355,621                    | 174,104                 | 38,605                    | 56,213                    | 52,510             | 34,189                      | 9/30/2006                     |
| Portsmouth              | PO-0020        | Safeguards and Security.....  | 110,574                    | 36,377                  | 19,418                    | 16,009                    | 17,842             | 20,928                      | 9/30/2006                     |
| Portsmouth              | PO-0040        | Nuclear Facility D&D - Portsmouth.....  | 4,229,723                  | 213,417                 | 41,201                    | 33,936                    | 138,750            | 3,802,419                   | 9/30/2025                     |
| Portsmouth              | PO-0041        | Nuclear Facility D&D - Portsmouth GCEP.....                                       | 80,000                     | 0                       | 24,130                    | 19,840                    | 19,975             | 16,055                      | 9/30/2006                     |
| Portsmouth              | PO-0101        | Portsmouth Cold Standby.....  | 610,991                    | 179,944                 | 113,068                   | 92,355                    | 0                  | 225,624                     | 9/30/2008                     |
| Portsmouth              | PO-0103        | Portsmouth Contract/Post-Closure<br>Liabilities/Administration (D&D Fund).....    | 6,789                      | 11,962                  | 336                       | 600                       | 606                | See Below <sup>a</sup>      | 9/30/2009                     |
| Portsmouth              | PO-0104        | Portsmouth Community and Regulatory<br>Support (D&D Fund).....                    | 778                        | 272                     | 274                       | 296                       | 291                | See Below <sup>a</sup>      | 10/1/2003                     |
| Portsmouth              | PO-0900        | Pre-2004 Completions.....   | 0                          | 2,000                   | 0                         | 0                         | 0                  | See Below <sup>a</sup>      | 9/30/2003                     |

a/ The accurate unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.

(dollars in thousands)

| Office/<br>Installation | Project Number            | Project Name                                 | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|-------------------------|---------------------------|--|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                         |                           |  | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| Portsmouth              | PO-0900                   | Pre-2004 Completions.....                    | 0                          | 0                       | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
|                         | Subtotal, Portsmouth..... |  | 6,374,955                  | 667,677                 | 298,220                   | 286,809                   | 288,910            | 4,842,409                   |                               |
| <b>Ohio</b>             |                           |  |                            |                         |                           |                           |                    |                             |                               |
| Ashtabula               | OH-AB-0030                | Soil and Water Remediation - Ashtabula.....  | 149,635                    | 107,571                 | 5,977                     | 15,752                    | 16,000             | 4,335                       | 9/30/2006                     |
| Columbus                | OH-CL-0040                | Nuclear Facility D&D - West Jefferson.....   | 154,518                    | 106,673                 | 18,235                    | 19,690                    | 9,500              | 420                         | 12/31/2006                    |
|                         |                           | Solid Waste Stabilization and Disposition -  |                            |                         |                           |                           |                    |                             |                               |
| Fernald                 | OH-FN-0013                | Fernald.....                                 | 1,588,111                  | 1,162,713               | 235,592                   | 164,524                   | 48,113             | See Below <sup>a</sup>      | 12/30/2006                    |
| Fernald                 | OH-FN-0020                | Safeguards and Security.....                 | 18,173                     | 12,770                  | 3,922                     | 1,157                     | 1,391              | See Below <sup>a</sup>      | 12/30/2006                    |
| Fernald                 | OH-FN-0030                | Soil and Water Remediation - Fernald.....    | 1,329,449                  | 619,061                 | 76,278                    | 132,601                   | 216,998            | 284,511                     | 12/30/2006                    |
| Fernald                 | OH-FN-0050                | Non-Nuclear Facility D&D - Fernald.....      | 281,228                    | 146,026                 | 13,103                    | 19,466                    | 61,621             | 41,012                      | 12/30/2006                    |
| Fernald                 | OH-FN-0100                | Fernald Post-Closure Administration.....     | 405,965                    | 0                       | 0                         | 0                         | 0                  | 405,965                     | 12/30/2006                    |
|                         |                           | Fernald Community and Regulatory             |                            |                         |                           |                           |                    |                             |                               |
| Fernald                 | OH-FN-0101                | Support.....                                 | 14,060                     | 8,473                   | 1,484                     | 1,134                     | 877                | 2,092                       | 12/30/2006                    |
|                         |                           | Solid Waste Stabilization and Disposition -  |                            |                         |                           |                           |                    |                             |                               |
| Miamisburg              | OH-MB-0013                | Miamisburg.....                              | 273,591                    | 145,912                 | 34,697                    | 70,602                    | 65,426             | See Below <sup>a</sup>      | 9/30/2006                     |
| Miamisburg              | OH-MB-0020                | Safeguards and Security.....                 | 30,209                     | 24,580                  | 3,870                     | 524                       | 0                  | 1,235                       | 9/30/2006                     |
| Miamisburg              | OH-MB-0030                | Soil and Water Remediation - Miamisburg..... | 136,924                    | 78,800                  | 13,987                    | 12,599                    | 7,115              | 24,423                      | 9/30/2006                     |
| Miamisburg              | OH-MB-0040                | Non-Nuclear Facility D&D - Miamisburg.....   | 489,624                    | 398,378                 | 52,965                    | 26,358                    | 2,189              | 9,734                       | 9/30/2006                     |
| Miamisburg              | OH-MB-0100                | Miamisburg Post-Closure Administration.....  | 602,186                    | 0                       | 0                         | 0                         | 0                  | 602,186                     | 9/30/2006                     |
|                         |                           | Miamisburg Community and Regulatory          |                            |                         |                           |                           |                    |                             |                               |
| Miamisburg              | OH-MB-0101                | Support.....                                 | 8,467                      | 5,402                   | 890                       | 1,346                     | 800                | 29                          | 9/30/2006                     |
| OH Ops                  | OH-OPS-0900-D             | Pre-2004 Completions (Defense).....          | 58,287                     | 199,950                 | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
| OH Ops                  | OH-OPS-0900-N             | Pre-2004 Completions (Non-Defense).....      | 396,924                    | 259,675                 | 0                         | 0                         | 0                  | 137,249                     | 9/30/2003                     |
|                         |                           | SNF Stabilization and Disposition - West     |                            |                         |                           |                           |                    |                             |                               |
| West Valley             | OH-WV-0012                | Valley.....                                  | 32,319                     | 33,967                  | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2004                     |
|                         |                           | Solid Waste Stabilization and Disposition -  |                            |                         |                           |                           |                    |                             |                               |
| West Valley             | OH-WV-0013                | West Valley.....                             | 203,501                    | 79,853                  | 24,260                    | 40,214                    | 19,500             | 39,674                      | 9/30/2008                     |

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b/ A portion of the Budget Authority in FY 1997-2002 includes funding for a privatization project that was cancelled and was used as a "Use of Prior Year Balance" offset in future years. Thus, there are no life-cycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

| Office/<br>Installation | Project Number | Project Name  | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|-------------------------|----------------|---|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                         |                |   | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
|                         |                | Radioactive Liquid Tank Waste Stabilization<br>and Disposition - West Valley High-Level |                            |                         |                           |                           |                    |                             |                               |
| West Valley OH-WV-0014  |                | Waste Storage.....  | 594,298                    | 0                       | 0                         | 0                         | 0                  | 594,298                     | 9/30/2012                     |
| West Valley OH-WV-0020  |                | Safeguards and Security.....  | 54,489                     | 6,386                   | 2,555                     | 2,648                     | 1,800              | 41,100                      | 9/30/2012                     |
| West Valley OH-WV-0040  |                | Nuclear Facility D&D - West Valley.....   | 498,043                    | 215,992                 | 74,104                    | 33,414                    | 57,600             | 116,933                     | 9/30/2008                     |
|                         |                | Subtotal, Ohio.....   | 7,320,001                  | 3,612,182               | 561,919                   | 542,029                   | 508,930            | 2,305,196                   |                               |
| <b><u>Richland</u></b>  |                |   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0011        | NM Stabilization and Disposition - PFP.....   | 1,631,144                  | 794,149                 | 149,718                   | 172,089                   | 190,772            | 324,416                     | 9/30/2009                     |
| Hanford                 | RL-0012        | SNF Stabilization and Disposition.....  | 1,780,091                  | 1,448,700               | 181,383                   | 119,769                   | 58,479             | See Below <sup>a</sup>      | 9/30/2006                     |
|                         |                | Solid Waste Stabilization and Disposition -   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0013        | 200 Area.....   | 5,668,735                  | 748,913                 | 134,192                   | 211,117                   | 165,113            | 4,409,400                   | 9/30/2035                     |
| Hanford                 | RL-0020        | Safeguards and Security.....  | 1,193,942                  | 139,220                 | 57,187                    | 56,276                    | 82,155             | 859,104                     | 9/30/2035                     |
|                         |                | Soil and Water Remediaton -   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0030        | Groundwater/Vadose Zone.....  | 1,510,226                  | 195,692                 | 54,916                    | 48,423                    | 72,955             | 1,138,240                   | 9/30/2035                     |
|                         |                | Nuclear Facility D&D - Remainder of   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0040        | Hanford.....  | 7,014,305                  | 509,412                 | 112,123                   | 111,696                   | 70,812             | 6,210,262                   | 9/30/2035                     |
|                         |                | Nuclear Facility D&D - River Corridor   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0041        | Closure Project.....  | 3,109,027                  | 915,143                 | 147,876                   | 212,033                   | 168,501            | 1,665,474                   | 9/30/2012                     |
|                         |                | Nuclear Facility D&D - Fast Flux Test   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0042        | Facility Project.....   | 812,118                    | 177,247                 | 43,589                    | 45,715                    | 46,113             | 499,454                     | 9/30/2018                     |
| Hanford                 | RL-0080        | Operate Waste Disposal Facility.....  | 225,879                    | 50,072                  | 2,305                     | 5,980                     | 5,861              | 161,661                     | 9/30/2035                     |
|                         |                | Richland Community and Regulatory   |                            |                         |                           |                           |                    |                             |                               |
| Hanford                 | RL-0100        | Support.....  | 326,604                    | 84,749                  | 11,123                    | 12,653                    | 15,411             | 202,668                     | 9/30/2035                     |
| Hanford                 | RL-0900        | Pre-2004 Completions.....   | 129,821                    | 129,698                 | 0                         | 0                         | 0                  | 123                         | 3/30/2003                     |
|                         |                | Subtotal, Richland.....   | 23,401,892                 | 5,192,995               | 894,412                   | 995,751                   | 876,172            | 15,470,802                  |                               |

a/ The accurate unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.

(dollars in thousands)

| Office/<br>Installation         | Project Number | Project Name   | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|---------------------------------|----------------|--|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                                 |                |  | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| <b><u>River Protection</u></b>  |                |  |                            |                         |                           |                           |                    |                             |                               |
| ORP                             | ORP-0014       | Radioactive Liquid Tank Waste Stabilization<br>and Disposition.....    | 26,388,521                 | 2,396,763               | 410,744                   | 391,329                   | 301,942            | 22,887,743                  | 9/30/2032                     |
| ORP                             | ORP-0060       | Major Construction - Waste Treatment<br>Plant.....                     | 6,214,857                  | 2,246,844               | 697,530                   | 684,480                   | 625,893            | 1,960,110                   | 7/31/2011                     |
| ORP                             | ORP-0100       | River Protection Community and Regulatory<br>Support.....              | 8,432                      | 0                       | 471                       | 471                       | 471                | 7,019                       | 9/30/2032                     |
| Subtotal, River Protection..... |                |  | 32,611,810                 | 4,643,607               | 1,108,745                 | 1,076,280                 | 928,306            | 24,854,872                  |                               |
| <b><u>Rocky Flats</u></b>       |                |  |                            |                         |                           |                           |                    |                             |                               |
| RFETS                           | RF-0011        | NM Stabilization and Disposition.....                                  | 478,403                    | 259,742                 | 31                        | 0                         | 0                  | 218,630                     | 2/24/2004                     |
| RFETS                           | RF-0013        | Solid Waste Stabilization and Disposition.....                         | 777,055                    | 726,015                 | 133,994                   | 183,291                   | 2,000              | See Below <sup>a</sup>      | 12/15/2006                    |
| RFETS                           | RF-0020        | Safeguards and Security.....   | 346,673                    | 135,545                 | 28,382                    | 16,455                    | 3,200              | 163,091                     | 12/15/2006                    |
| RFETS                           | RF-0030        | Soil and Water Remediation.....  | 2,259,435                  | 1,176,153               | 106,745                   | 162,897                   | 438,350            | 375,290                     | 12/15/2006                    |
| RFETS                           | RF-0040        | Nuclear Facility D&D - North Side Facility<br>Closures.....            | 1,853,733                  | 1,482,357               | 278,356                   | 194,035                   | 123,050            | See Below <sup>a</sup>      | 12/15/2006                    |
| RFETS                           | RF-0041        | Nuclear Facility D&D - South Side Facility<br>Closures.....            | 783,083                    | 598,923                 | 105,515                   | 97,155                    | 11,000             | See Below <sup>a</sup>      | 12/15/2006                    |
| RFETS                           | RF-0100        | Rocky Flats Environmental Technology Site<br>Contract Liabilities..... | 2,828,718                  | 35,030                  | 2,367                     | 2,300                     | 2,500              | 2,786,521                   | 9/30/2070                     |
| RFFO                            | RF-0101        | Rocky Flats Community and Regulatory<br>Support.....                   | 37,578                     | 27,380                  | 2,795                     | 2,022                     | 3,050              | 2,331                       | 9/30/2070                     |
| Subtotal, Rocky Flats.....      |                |  | 9,364,678                  | 4,441,145               | 658,185                   | 658,155                   | 583,150            | 3,545,863                   |                               |
| <b><u>Savannah River</u></b>    |                |  |                            |                         |                           |                           |                    |                             |                               |
| SRS                             | SR-0011A       | NM Stabilization and Disposition - 2006.....                           | 131,362                    | 144,978                 | 208                       | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2004                     |
| SRS                             | SR-0011B       | NM Stabilization and Disposition - 2012.....                           | 4,020,224                  | 2,380,119               | 378,223                   | 378,562                   | 250,303            | 633,017                     | 9/30/2008                     |

a/ The accurate unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.

b/ A portion of the Budget Authority in FY 1997-2002 includes funding for a privatization project that was cancelled and was used as a "Use of Prior Year Balance" offset in future years. Thus, there are no life-cycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

| Office/<br>Installation                             | Project Number | Project Name   | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|---|----------------|--|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|   |                |  | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| SRS   | SR-0011C       | NM Stabilization and Disposition - 2035.....   | 1,299,368                  | 384,379                 | 63,709                    | 43,218                    | 75,105             | 732,957                     | 9/30/2020                     |
| SRS   | SR-0012        | SNF Stabilization and Disposition.....   | 339,951                    | 211,548                 | 5,840                     | 22,767                    | 11,273             | 88,523                      | 9/30/2020                     |
| SRS   | SR-0013        | Solid Waste Stabilization and Disposition.....   | 2,464,644                  | 523,235                 | 103,067                   | 88,313                    | 112,993            | 1,637,036                   | 9/30/2025                     |
|   |                | Radioactive Liquid Tank Waste Stabilization<br>and Disposition - 2035.....                         | 11,860,869                 | 2,824,126               | 463,868                   | 586,634                   | 582,292            | 7,403,949                   | 9/30/2020                     |
| SRS   | SR-0020        | Safeguards and Security.....   | 2,220,012                  | 310,391                 | 143,329                   | 136,191                   | 136,743            | 1,493,358                   | 9/30/2025                     |
| SRS   | SR-0030        | Soil and Water Remediation.....  | 2,704,455                  | 738,741                 | 96,669                    | 100,896                   | 103,665            | 1,664,484                   | 9/30/2025                     |
| SRS   | SR-0040        | Nuclear Facility D&D.....  | 1,679,695                  | 209,603                 | 63,541                    | 68,198                    | 66,516             | 1,271,837                   | 9/30/2025                     |
| SRS   | SR-0100        | Non-Closure Mission Support.....   | 574,919                    | 106,770                 | 14,010                    | 5,026                     | 5,387              | 443,726                     | 9/30/2025                     |
|   |                | Savannah River Community and Regulatory<br>Support.....  | 252,019                    | 51,527                  | 6,118                     | 6,566                     | 7,659              | 180,149                     | 9/30/2025                     |
| SR Ops  | SR-0101        | Support.....   | 252,019                    | 51,527                  | 6,118                     | 6,566                     | 7,659              | 180,149                     | 9/30/2025                     |
| SR Ops  | SR-0900        | Pre-2004 Completions.....  | 198,078                    | 365,779                 | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
| Subtotal, Savannah River.....                       |                |  | 27,745,596                 | 8,251,196               | 1,338,582                 | 1,436,371                 | 1,351,936          | 15,549,036                  |                               |
| <b><u>Technology Development and Deployment</u></b> |                |  |                            |                         |                           |                           |                    |                             |                               |
| HQ-TDD  | HQ-TD-0100     | Technology Development and Deployment.....   | 2,416,559                  | 1,440,217               | 61,358                    | 59,726                    | 21,389             | 833,869                     | 9/30/2035                     |
| <b><u>Headquarters Operations</u></b>               |                |  |                            |                         |                           |                           |                    |                             |                               |
| Multiple  | HQ-HLW-0014X   | Operations Awaiting Geologic Repository.<br>Policy, Management, and Technical<br>Support.....      | 121,627                    | 38,715                  | 0                         | 0                         | 0                  | 82,912                      | 9/30/2035                     |
| HQ  | HQ-MS-0100     | Support.....   | 1,761,529                  | 613,356                 | 29,038                    | 32,707                    | 32,600             | 1,053,828                   | 9/30/2035                     |
| HQ  | HQ-OPS-0900    | Pre-2004 Completions.....  | 0                          | 36,274                  | 0                         | 0                         | 0                  | 0                           | 9/30/2003                     |
|   |                | SNF Stabilization and Dispositon - Storage<br>Operations Awaiting Geologic Repository.....         | 2,224,718                  | 140,278                 | 29,572                    | 18,696                    | 28,368             | 2,007,804                   | 9/30/2035                     |
| Multiple  | HQ-SNF-0012X   | SNF Stabilization and Disposition -<br>New/Upgrade Facilities Awaiting Geologic<br>Repository..... | 180,800                    | 179,461                 | 43,162                    | 9,718                     | 0                  | 0                           | 9/30/2004                     |
| Multiple  | HQ-SNF-0012Y   | Solid Waste Stabilization and Disposition -<br>Science Current Generation.....                     | 155,746                    | 56,766                  | 20,574                    | 18,220                    | 18,267             | 41,919                      | 9/30/2005                     |
| Multiple  | HQ-SW-0013X    | Reimbursements to Uranium/Throium<br>Licensees.....  | 442,372                    | 264,738                 | 50,699                    | 79,360                    | 20,000             | 27,575                      | 9/30/2015                     |

b/ A portion of the Budget Authority in FY 1997-2002 includes funding for a privatization project that was cancelled and was used as a "Use of Prior Year Balance" offset in future years. Thus, there are no life-cycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

| Office/<br>Installation             | Project Number | Project Name                                | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|-------------------------------------|----------------|---|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                                     |                |   | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
|                                     |                | Nuclear Facility D&D - Laboratory for       |                            |                         |                           |                           |                    |                             |                               |
| LEHR                                | VL-LEHR-0040   | Energy - Related Health Research.....       | 39,178                     | 36,337                  | 3,273                     | 496                       | 0                  | 0 <sup>b</sup>              | 9/30/2005                     |
|                                     |                | Subtotal, Headquarters Operations.....      | 4,925,970                  | 1,365,925               | 176,318                   | 159,197                   | 99,235             | 3,214,038                   |                               |
| <b>Consolidated Business Center</b> |                |   |                            |                         |                           |                           |                    |                             |                               |
|                                     |                | Solid Waste Stabilization and Disposition - |                            |                         |                           |                           |                    |                             |                               |
| OK Ops                              | VL-FOO-0013B-D | California Sites - 2012 (Defense).....      | 6,747                      | 10,224                  | 57                        | 58                        | 60                 | See Below <sup>a</sup>      | 9/30/2014                     |
|                                     |                | Community and Regulatory Support            |                            |                         |                           |                           |                    |                             |                               |
| OK Ops                              | VL-FOO-0013B-N | 2012 (non-Defense).....                     | 2,353                      | 3,656                   | 39                        | 40                        | 40                 | See Below <sup>a</sup>      | 9/30/2008                     |
|                                     |                | Nuclear Facility D&D - Energy Technology    |                            |                         |                           |                           |                    |                             |                               |
| ETEC                                | VL-ETEC-0040   | Engineering Center.....                     | 205,163                    | 119,013                 | 18,217                    | 18,238                    | 9,000              | 40,695                      | 9/30/2007                     |
|                                     |                | Soil and Water Remediation - Inhalation     |                            |                         |                           |                           |                    |                             |                               |
| ITL                                 | VL-ITL-0030    | Toxicology Laboratory.....                  | 7,924                      | 5,761                   | 476                       | 487                       | 305                | 895                         | 9/30/1997                     |
|                                     |                | Soil and Water Remediation - Lawrence       |                            |                         |                           |                           |                    |                             |                               |
| LBNL                                | CBC-LBNL-0030  | Berkeley National Laboratory.....           | 34,157                     | 23,502                  | 3,228                     | 4,038                     | 3,900              | See Below <sup>a</sup>      | 9/30/2006                     |
| GJO                                 | CBC-GJ-0031    | Soil and Water Remediation - Moab.....      | 187,534                    | 9,206                   | 4,473                     | 7,711                     | 28,006             | 138,138                     | 9/30/2011                     |
| GJO                                 | CBC-GJ-0102    | Rocky Flats Wildlife Refuge and Museum..... | 2,662                      | 1,854                   | 1,210                     | 0                         | 246                | See Below <sup>a</sup>      | 12/15/2006                    |
|                                     |                | Soil and Water Remediation - Stanford       |                            |                         |                           |                           |                    |                             |                               |
| SLAC                                | CBC-SLAC-0030  | Linear Accelerator Center.....              | 20,184                     | 12,399                  | 2,384                     | 2,480                     | 3,500              | See Below <sup>a</sup>      | 9/30/2006                     |
| AL Ops                              | VL-FAO-0100-D  | Nuclear Material Stewardship (Defense)..... | 100,944                    | 100,382                 | 0                         | 0                         | 0                  | 562                         | 10/1/2004                     |
|                                     |                | Nuclear Material Stewardship                |                            |                         |                           |                           |                    |                             |                               |
| AL Ops                              | VL-FAO-0100-N  | (Non-Defense).....                          | 14,208                     | 0                       | 0                         | 0                         | 0                  | 14,208                      | 10/1/2004                     |
| AL Ops                              | VL-FAO-0900    | Pre-2004 Completions.....                   | 232,726                    | 219,063                 | 0                         | 0                         | 0                  | 13,663                      | 9/30/2003                     |
| OK Ops                              | VL-FOO-0900-N  | Pre-2004 Completions.....                   | 20,839                     | 22,090                  | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 10/1/2002                     |
| GA                                  | VL-GA-0012     | General Atomics.....                        | 14,522                     | 14,355                  | 0                         | 0                         | 0                  | 167                         | 9/30/2003                     |
| SV                                  | VL-SV-0100     | South Valley Superfund.....                 | 3,215                      | 5,407                   | 0                         | 0                         | 0                  | 0 <sup>b</sup>              | 9/30/2003                     |
|                                     |                | Subtotal, Consolidated Business Center..... | 853,178                    | 546,912                 | 30,084                    | 33,052                    | 45,057             | 208,328                     |                               |

a/ The accurate unappropriated balance cannot be determined until EM conducts the next life-cycle cost estimate for this project.

b/ A portion of the Budget Authority in FY 1997-2002 includes funding for a privatization project that was cancelled and was used as a "Use of Prior Year Balance" offset in future years. Thus, there are no life-cycle costs related to this privatization project resulting in a lower overall life-cycle cost than the budget authority appropriated for this PBS.

(dollars in thousands)

| Office/<br>Installation               | Project Number | Project Name   | Costs                      |                         | Budget Authority          |                           |                    |                             | Planned<br>Completion<br>Date |
|---------------------------------------|----------------|--|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|
|                                       |                |  | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |
| <b><u>D&amp;D Fund Deposit</u></b>    |                |  |                            |                         |                           |                           |                    |                             |                               |
| HQ                                    | HQ-DD-0100     | Federal Contribution to the Uranium<br>Enrichment D&D Fund.....                            | 4,669,875                  | 2,854,543               | 449,333                   | 459,296                   | 451,000            | 455,703                     | 9/30/2007                     |
| <b><u>Los Alamos Site Office</u></b>  |                |  |                            |                         |                           |                           |                    |                             |                               |
| LANL                                  | VL-LANL-0013   | Solid Waste Stabilization and Disposition -<br>LANL Legacy.....                            | 443,839                    | 166,723                 | 42,730                    | 40,648                    | 42,801             | 150,937                     | 9/30/2011                     |
| LANL                                  | VL-LANL-0030   | Soil and Water Remediation - LANL.....   | 1,034,071                  | 389,566                 | 60,847                    | 76,104                    | 99,408             | 408,146                     | 9/30/2015                     |
| LANL                                  | VL-LANL-0040   | Nuclear Facility D&D-LANL (Non-Defense)  | 17,712                     | 433                     | 447                       | 447                       | 490                | 15,895                      | 9/30/2011                     |
| Subtotal, Los Alamos Site Office..... |                |  | 1,495,622                  | 556,722                 | 104,024                   | 117,199                   | 142,699            | 574,978                     |                               |
| <b><u>Program Direction</u></b>       |                |  |                            |                         |                           |                           |                    |                             |                               |
| HQ                                    | HQ-PD-0100     | Program Direction.....   | 6,644,710                  | 2,001,856               | 258,943                   | 250,834                   | 230,931            | 3,902,146                   | 9/30/2035                     |
| <b><u>Nevada Site Office</u></b>      |                |  |                            |                         |                           |                           |                    |                             |                               |
| NV                                    | VL-NV-0030     | Soil and Water Remediaton - Nevada<br>Offsites.....  | 101,774                    | 59,729                  | 7,715                     | 7,490                     | 2,846              | 23,994                      | 9/30/2027                     |
| <b><u>NNSA Sites</u></b>              |                |  |                            |                         |                           |                           |                    |                             |                               |
| Y-12                                  | HQ-SW-0013Y    | Solid Waste Stabilization and Disposition -<br>NNSA Current Generation.....                | 203,654                    | 0                       | 0                         | 0                         | 0                  | 203,654                     | 9/30/2006                     |
| LLNL                                  | HQ-SW-0013Y    | Solid Waste Stabilization and Disposition -<br>NNSA Current Generation.....                | 299,324                    | 0                       | 0                         | 0                         | 0                  | 299,324                     | 9/30/2008                     |
| NNSA                                  | VL-FAO-0101    | Misc Programs and Agreement-in-Principle.....  | 82,197                     | 0                       | 0                         | 0                         | 0                  | 82,197                      | 9/30/2015                     |
| NNSA                                  | VL-FOO-0013B-  | Solid Waste Stabilization and Disposition -<br>Oakland Sites - 2012.....                   | 15,677                     | 0                       | 0                         | 0                         | 0                  | 15,677                      | 9/30/2014                     |
| NNSA                                  | VL-FOO-0100-D  | Oakland Community and Regulatory Support<br>(Defense).....                                 | 4,335                      | 0                       | 0                         | 0                         | 0                  | 4,335                       | 9/30/2008                     |
| KCP                                   | VL-FOO-0100-D  | Soil and Water Remediation - Kansas<br>City Plant.....                                     | 28,451                     | 0                       | 0                         | 0                         | 0                  | 28,451                      | 9/30/2006                     |
| LLNL                                  | VL-LLNL-0013   | Solid Waste Stabilization and Disposition -<br>Lawrence Livermore National Laboratory..... | 65,960                     | 0                       | 0                         | 0                         | 0                  | 65,960                      | 9/30/2006                     |

(dollars in thousands)

| Office/<br>Installation | Project Number | Project Name                                  | Costs                      | Budget Authority        |                           |                           |                    |                             | Planned<br>Completion<br>Date |  |
|-------------------------|----------------|---|----------------------------|-------------------------|---------------------------|---------------------------|--------------------|-----------------------------|-------------------------------|--|
|                         |                |   | Life-cycle<br>(current \$) | Prior Year<br>(FY97-03) | FY 2004<br>Comp<br>Approp | FY 2005<br>Comp<br>Approp | FY 2006<br>Request | Unapprop-<br>riated Balance |                               |  |
|                         |                | Soil and Water Remediation - Lawrence         |                            |                         |                           |                           |                    |                             |                               |  |
| LLNL                    | VL-LLNL-0030   | Livermore National Laboratory-Main Site.....  | 123,922                    | 0                       | 0                         | 0                         | 0                  | 123,922                     | 9/30/2006                     |  |
|                         |                | Soil and Water Remediation -                  |                            |                         |                           |                           |                    |                             |                               |  |
| LLNL                    | VL-LLNL-0031   | Livermore National Laboratory - Site 300..... | 125,404                    | 0                       | 0                         | 0                         | 0                  | 125,404                     | 9/30/2008                     |  |
|                         |                | Solid Waste Stabilization and Disposition     |                            |                         |                           |                           |                    |                             |                               |  |
| NV                      | VL-NV-0013     | Nevada Test Site.....                         | 74,092                     | 0                       | 0                         | 0                         | 0                  | 74,092                      | 9/30/2007                     |  |
|                         |                | Soil and Water Remediation - Nevada Test      |                            |                         |                           |                           |                    |                             |                               |  |
| NV                      | VL-NV-0030     | Site and Offsites.....                        | 1,942,427                  | 0                       | 0                         | 0                         | 0                  | 1,942,427                   | 9/30/2027                     |  |
| NV                      | VL-NV-0080     | Operate Waste Disposal Facility - Nevada..... | 166,250                    | 0                       | 0                         | 0                         | 0                  | 166,250                     | 9/30/2021                     |  |
|                         |                | Nevada Community and Regulatory               |                            |                         |                           |                           |                    |                             |                               |  |
| NV                      | VL-NV-0100     | Support.....                                  | 102,127                    | 0                       | 0                         | 0                         | 0                  | 102,127                     | 9/30/2027                     |  |
| PX                      | VL-PX-0030     | Soil and Water Remediation - Pantex.....      | 172,159                    | 0                       | 0                         | 0                         | 0                  | 172,159                     | 9/30/2008                     |  |
| PX                      | VL-PX-0040     | Nuclear Facility D&D - Pantex.....            | 17,222                     | 0                       | 0                         | 0                         | 0                  | 17,222                      | 9/30/2007                     |  |
| SNL                     | VL-SN-0030     | Soil and Water Remediation - Sandia.....      | 227,957                    | 0                       | 0                         | 0                         | 0                  | 227,957                     | 9/30/2006                     |  |
|                         |                | Nuclear Facility D&D - Separations Process    |                            |                         |                           |                           |                    |                             |                               |  |
| SPRU                    | VL-SPRU-0040   | Research Unit.....                            | 247,205                    | 0                       | 0                         | 0                         | 0                  | 247,205                     | 9/30/2014                     |  |
|                         |                | Subtotal, NNSA Sites.....                     | 3,898,363                  | 0                       | 0                         | 0                         | 0                  | 3,898,363                   |                               |  |
|                         |                | Subtotal, Environmental Management.....       | 163,916,893                | 44,338,895              | 7,412,300                 | 7,545,444                 | 6,956,476          | 99,038,462                  |                               |  |
|                         |                | Offsets.....                                  | 0                          | -3,523,329              | -659,430                  | -491,804                  | -451,000           |                             |                               |  |
|                         |                | Total, Environmental Management.....          | 163,916,893                | 40,815,566              | 6,752,870                 | 7,053,640                 | 6,505,476          | 99,038,462                  |                               |  |

Corporate Performance Measure Quantities by Project Baseline Summary<sup>a</sup>

| Office / Installation | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-----------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| <b><u>Chicago</u></b> |                |   |                     |                    |                   |                   |                        |
| ANL-E                 | CH-ANLE-0030   | Soil and Water Remediation - Argonne<br>National Laboratory - East<br>Remediation Complete (Number of<br>Release Sites).....      | 443                 | 0                  | 0                 | 0                 | 443                    |
| ANL-E                 | CH-ANLE-0040   | Nuclear Facility D&D - Argonne National<br>Laboratory - East<br>Radioactive Facility Completions<br>(Number of Facilities).....   | 63                  | 3                  | 0                 | 0                 | 78                     |
| ANL-W                 | CH-ANLW-0030   | Soil and Water Remediation - Argonne<br>National Laboratory - West<br>Remediation Complete (Number of<br>Release Sites).....      | 37                  | 0                  | 0                 | 0                 | 37                     |
| BNL                   | BRNL-0030      | Soil and Water Remediation - Brookhaven<br>National Laboratory<br>Radioactive Facility Completions<br>(Number of Facilities)..... | 0                   | 0                  | 3                 | 0                 | 3                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 67                  | 4                  | 4                 | 0                 | 75                     |
| BNL                   | BRNL-0040      | Nuclear Facility D&D - Brookhaven<br>Graphite Research Reactor<br>Radioactive Facility Completions<br>(Number of Facilities)..... | 3                   | 3                  | 1                 | 0                 | 7                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 1                   | 0                  | 0                 | 0                 | 1                      |

<sup>a/</sup> Figures shown are comparable based on the planned transfer of seven site to the National Nuclear Security Administration in FY 2006.

| Office / Installation | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-----------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| CH Ops                | CH-OPS-0900    | Pre-2004 Completions  |                     |                    |                   |                   |                        |
|                       |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....   | 537                 | 0                  | 0                 | 0                 | 537                    |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 30                  | 0                  | 0                 | 0                 | 30                     |
| <b>Idaho</b>          |                |   |                     |                    |                   |                   |                        |
| INL                   | ID-0011        | NM Stabilization and Disposition<br>Enriched Uranium Packaged for Long-<br>Term Storage (Number of Containers).....                                     | 260                 | 381                | 34                | 35                | 1,029                  |
|                       |                | Material Access Areas Eliminated<br>(Number of Material Access Areas).....  | 0                   | 0                  | 0                 | 0                 | 1                      |
| INL                   | ID-0013        | Solid Waste Stabilization and Disposition<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....                                      | 3,404               | 342                | 4,050             | 6,894             | 64,251                 |
|                       |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....   | 27,814              | 9,028              | 5,240             | 5,655             | 77,430                 |
| INL                   | ID-0014B       | Radioactive Liquid Tank Waste<br>Stabilization and Disposition - 2012<br>Liquid Waste in Inventory Eliminated<br>(Thousands of Gallons).....            | 0                   | 0                  | 0                 | 0                 | 900                    |
|                       |                | Liquid Waste Tanks Closed<br>(Number of Tanks).....   | 0                   | 0                  | 0                 | 1                 | 11                     |
|                       |                | Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....   | 0                   | 0                  | 0                 | 0                 | 1,130                  |
| INL                   | ID-0014C       | Radioactive Liquid Tank Waste<br>Stabilization and Disposition - 2035<br>High-Level Waste Packaged for Final<br>Disposition (Number of Containers)..... | 0                   | 0                  | 0                 | 0                 | 4,200                  |
| INL                   | ID-0030B       | Soil and Water Remediation - 2012<br>Remediation Complete (Number of<br>Release Sites).....   | 142                 | 6                  | 3                 | 0                 | 199                    |

| Office / Installation   | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-------------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| INL                     | ID-0030C       | Soil and Water Remediation - 2035<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....                                      | 0                   | 0                  | 0                 | 0                 | 758                    |
|                         |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....   | 0                   | 0                  | 0                 | 0                 | 21,120                 |
|                         |                | Remediation Complete (Number of<br>Release Sites).....  | 0                   | 0                  | 0                 | 0                 | 71                     |
| INL                     | ID-0040B       | Nuclear Facility D&D - 2012<br>Nuclear Facility Completions (Number<br>of Facilities).....  | 13                  | 2                  | 0                 | 0                 | 15                     |
| INL                     | ID-0040C       | Nuclear Facility D&D - 2035<br>Nuclear Facility Completions (Number<br>of Facilities).....  | 0                   | 0                  | 0                 | 0                 | 71                     |
| INL                     | ID-0050B       | Non-Nuclear Facility D&D - 2012<br>Radioactive Facility Completions<br>(Number of Facilities).....  | 5                   | 9                  | 1                 | 0                 | 19                     |
|                         |                | Industrial Facility Completions<br>(Number of Facilities).....  | 52                  | 48                 | 3                 | 7                 | 71                     |
| INL                     | ID-0050C       | Non-Nuclear Facility D&D - 2035<br>Radioactive Facility Completions<br>(Number of Facilities).....  | 0                   | 0                  | 0                 | 0                 | 18                     |
|                         |                | Industrial Facility Completions<br>(Number of Facilities).....  | 0                   | 0                  | 0                 | 0                 | 171                    |
| INL                     | ID-OPS-0900-D  | Pre-2004 Completions<br>Remediation Complete (Number of<br>Release Sites).....  | 233                 | 0                  | 0                 | 0                 | 233                    |
| <b><u>Oak Ridge</u></b> |                |   |                     |                    |                   |                   |                        |
| ORR                     | OR-0011Y       | NM Stabilization and Disposition - ETTP<br>Uranium Facilities Management<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters)..... | 93                  | 0                  | 0                 | 0                 | 93                     |

| Office / Installation | Project Number | Project Name / Measure   | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-----------------------|----------------|--|---------------------|--------------------|-------------------|-------------------|------------------------|
| ORR                   | OR-0013A       | Solid Waste Stabilization and Disposition -<br>2006<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....                 | 14,082              | 19,045             | 13,205            | 0                 | 48,410                 |
| ORR                   | OR-0013B       | Solid Waste Stabilization and Disposition -<br>2012<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....               | 0                   | 0                  | 0                 | 271               | 1,224                  |
|                       |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....  | 7,070               | 713                | 3,582             | 1,524             | 18,627                 |
| ORR                   | OR-0030        | Soil and Water Remediation - Melton Valley<br>Radioactive Facility Completions<br>(Number of Facilities).....                              | 2                   | 0                  | 0                 | 13                | 15                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....   | 2                   | 0                  | 0                 | 0                 | 2                      |
|                       |                | Nuclear Facility Completions<br>(Number of Facilities).....  | 0                   | 0                  | 0                 | 2                 | 2                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....   | 31                  | 19                 | 3                 | 53                | 106                    |
| ORR                   | OR-0031        | Soil and Water Remediation - Offsites<br>Remediation Complete (Number of<br>Release Sites).....  | 5                   | 0                  | 0                 | 0                 | 8                      |
| ORR                   | OR-0040        | Nuclear Facility D&D - East Tennessee<br>Technology Park (D&D Fund)<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters)..... | 5,178               | 0                  | 0                 | 0                 | 5,178                  |
|                       |                | Nuclear Facility Completions (Number<br>of Facilities).....  | 2                   | 0                  | 2                 | 0                 | 8                      |
|                       |                | Radioactive Facility Completions<br>(Number of Facilities).....  | 1                   | 0                  | 2                 | 2                 | 13                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....   | 71                  | 32                 | 8                 | 49                | 510                    |
|                       |                | Remediation Complete (Number of<br>Release Sites).....   | 19                  | 0                  | 9                 | 7                 | 163                    |

| Office / Installation | Project Number | Project Name / Measure   | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-----------------------|----------------|--|---------------------|--------------------|-------------------|-------------------|------------------------|
| ORR                   | OR-0041        | Nuclear Facility D&D -Y-12<br>Industrial Facility Completions<br>(Number of Facilities).....   | 1                   | 0                  | 0                 | 0                 | 2                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....   | 28                  | 0                  | 0                 | 0                 | 28                     |
| ORR                   | OR-0042        | Nuclear Facility D&D - Oak Ridge National<br>Laboratory<br>Nuclear Facility Completions (Number<br>of Facilities).....   | 0                   | 0                  | 0                 | 0                 | 15                     |
|                       |                | Radioactive Facility Completions<br>(Number of Facilities).....  | 3                   | 0                  | 1                 | 0                 | 26                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....   | 7                   | 0                  | 0                 | 0                 | 25                     |
|                       |                | Remediation Complete (Number of<br>Release Sites).....   | 80                  | 0                  | 0                 | 0                 | 178                    |
| ORR                   | OR-0043        | Nuclear Facility D&D - East Tennessee<br>Technology Park (Defense)<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....                      | 32,979              | 0                  | 0                 | 0                 | 32,979                 |
|                       |                | Radioactive Facility Completions<br>(Number of Facilities).....  | 0                   | 0                  | 0                 | 0                 | 17                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....   | 0                   | 2                  | 0                 | 0                 | 86                     |
| ORR                   | OR-0900-D      | Pre-2004 Completions<br>Remediation Complete (Number of<br>Release Sites).....   | 74                  | 0                  | 0                 | 0                 | 74                     |
| ORR                   | OR-0900-N      | Pre-2004 Completions<br>Industrial Facility Completions<br>(Number of Facilities).....   | 3                   | 0                  | 0                 | 0                 | 3                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....   | 23                  | 0                  | 0                 | 0                 | 23                     |
| <b><u>Paducah</u></b> |                |  |                     |                    |                   |                   |                        |
| Paducah               | PA-0011        | NM Stabilization and Disposition - Paducah<br>Uranium Facilities Management<br>Enriched Uranium Packaged for Long-<br>Term Storage (Number of Containers)..... | 0                   | 0                  | 0                 | 0                 | 182                    |

| Office / Installation    | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|--------------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| Paducah                  | PA-0011X       | NM Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion Depleted and Other Uranium Packaged for Disposition (Metric Tons).....      | 0                   | 0                  | 0                 | 0                 | 453,312                |
| Paducah                  | PA-0013        | Solid Waste Stabilization and Disposition Low-Level and Mixed Low-Level Waste Disposed (Cubic Meters).....  | 5,543               | 144                | 0                 | 116               | 16,622                 |
| Paducah                  | PA-0040        | Nuclear Facility D&D - Paducah Radioactive Facility Completions (Number of Facilities).....   | 0                   | 0                  | 0                 | 0                 | 2                      |
| Paducah                  | PA-0900        | Remediation Complete (Number of Release Sites).....   | 85                  | 1                  | 2                 | 0                 | 236                    |
| Paducah                  | PA-0900        | Pre-2004 Completions Remediation Complete (Number of Release Sites).....  | 1                   | 0                  | 0                 | 0                 | 1                      |
| <b><u>Portsmouth</u></b> |                |   |                     |                    |                   |                   |                        |
| Portsmouth               | PO-0011        | NM Stabilization and Disposition - Portsmouth Uranium Facilities Management Enriched Uranium Packaged for Long-Term Storage (Number of Containers)..... | 0                   | 0                  | 0                 | 0                 | 1,450                  |
| Portsmouth               | PO-0011X       | NM Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion Depleted and Other Uranium Packaged for Disposition (Metric Tons).....      | 0                   | 0                  | 0                 | 0                 | 205,567                |
| Portsmouth               | PO-0013        | Solid Waste Stabilization and Disposition Low-Level and Mixed Low-Level Waste Disposed (Cubic Meters).....  | 16,400              | 898                | 4,932             | 1,678             | 33,543                 |
| Portsmouth               | PO-0040        | Nuclear Facility D&D - Paducah Remediation Complete (Number of Release Sites).....  | 19                  | 0                  | 0                 | 1                 | 33                     |

| Office / Installation | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-----------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| Portsmouth            | PO-0900        | Pre-2004 Completions<br>Remediation Complete (Number of<br>Release Sites).....  | 130                 | 0                  | 0                 | 0                 | 130                    |
| <b>Ohio</b>           |                |   |                     |                    |                   |                   |                        |
| Ashtabula             | OH-AB-0030     | Soil and Water Remediation - Ashtabula<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....                 | 104                 | 0                  | 0                 | 0                 | 104                    |
|                       |                | Radioactive Facility Completions<br>(Number of Facilities).....   | 20                  | 0                  | 0                 | 5                 | 25                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....  | 1                   | 0                  | 0                 | 6                 | 7                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 0                   | 0                  | 0                 | 3                 | 3                      |
| Columbus              | OH-CL-0040     | Nuclear Facility D&D - West Jefferson<br>Nuclear Facility Completions (Number<br>of Facilities).....                          | 0                   | 0                  | 0                 | 1                 | 1                      |
|                       |                | Radioactive Facility Completions<br>(Number of Facilities).....   | 12                  | 0                  | 2                 | 0                 | 14                     |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 1                   | 0                  | 0                 | 1                 | 2                      |
| Fernald               | OH-FN-0013     | Solid Waste Stabilization and Disposition -<br>Fernald<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters)..... | 7,085               | 0                  | 0                 | 0                 | 7,085                  |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 2                   | 0                  | 1                 | 1                 | 4                      |
| Fernald               | OH-FN-0030     | Solid Waste Stabilization and Disposition -<br>Fernald<br>Remediation Complete (Number of<br>Release Sites).....              | 0                   | 0                  | 0                 | 0                 | 2                      |

| Office / Installation | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|-----------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| Fernald               | OH-FN-0050     | Non-Nuclear Facility D&D - Fernald<br>Radioactive Facility Completions<br>(Number of Facilities).....                               | 19                  | 6                  | 2                 | 2                 | 29                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....  | 0                   | 0                  | 1                 | 0                 | 1                      |
| Miamisburg            | OH-MB-0013     | Solid Waste Stabilization and Disposition -<br>Miamisburg<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....    | 3,947               | 0                  | 0                 | 0                 | 3,947                  |
| Miamisburg            | OH-MB-00030    | Soil and Water Remediation - Miamisburg<br>Remediation Complete (Number of<br>Release Sites).....                                   | 118                 | 0                  | 37                | 23                | 178                    |
| Miamisburg            | OH-MB-0040     | Nuclear Facility D&D - Miamisburg<br>Nuclear Facility Completions (Number<br>of Facilities).....                                    | 0                   | 0                  | 5                 | 3                 | 8                      |
|                       |                | Radioactive Facility Completions<br>(Number of Facilities).....   | 0                   | 2                  | 9                 | 0                 | 11                     |
|                       |                | Industrial Facility Completions<br>(Number of Facilities).....  | 74                  | 9                  | 31                | 2                 | 116                    |
| OH Ops                | OH-OPS-0900-N  | Pre-2004 Completions (Non-Defense)<br>Remediation Complete (Number of<br>Release Sites).....  | 275                 | 0                  | 0                 | 0                 | 275                    |
| West Valley           | OH-WV-0013     | Solid Waste Stabilization and Disposition -<br>West Valley<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters)..... | 0                   | 0                  | 0                 | 0                 | 692                    |
|                       |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....   | 4,022               | 527                | 9,900             | 4,600             | 23,844                 |
| West Valley           | OH-WV-0040     | Nuclear Facility D&D - West Valley<br>Liquid Waste Tanks Closed<br>(Number of Tanks).....   | 0                   | 0                  | 0                 | 0                 | 2                      |
|                       |                | Remediation Complete (Number of<br>Release Sites).....  | 0                   | 0                  | 0                 | 0                 | 1                      |

| Office / Installation  | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|------------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| <b><u>Richland</u></b> |                |   |                     |                    |                   |                   |                        |
| Hanford                | RL-0011        | NM Stabilization and Disposition - PFP<br>Plutonium Metal or Oxide Packed for<br>Long-Term Storage (Number of<br>Containers)..... | 2,600               | 500                | 0                 | 0                 | 3,300                  |
|                        |                | Plutonium or Uranium Residues<br>Packaged for Disposition (Kilograms<br>of Bulk).....   | 3,437               | 0                  | 0                 | 0                 | 3,467                  |
|                        |                | Material Access Areas Eliminated<br>(Number of Material Access Areas).....  | 0                   | 0                  | 1                 | 1                 | 2                      |
|                        |                | Nuclear Facility Completions (Number<br>of Facilities).....   | 3                   | 6                  | 4                 | 1                 | 60                     |
| Hanford                | RL-0012        | SNF Stabilization and Disposition<br>Spent Nuclear Fuel Packaged for Final<br>Disposition (Metric Tons of Heavy<br>Metal).....    | 1,443               | 645                | 28                | 0                 | 2,124                  |
| Hanford                | RL-0013        | Solid Waste Stabilization and Disposition -<br>200 Area<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....  | 337                 | 427                | 820               | 700               | 28,369                 |
|                        |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....   | 36,482              | 3,800              | 3,875             | 2,335             | 69,391                 |
| Hanford                | RL-0040        | Nuclear Facility D&D - Remainder of<br>Hanford<br>Nuclear Facility Completions (Number<br>of Facilities).....                     | 0                   | 2                  | 0                 | 7                 | 98                     |
|                        |                | Radioactive Facility Completions<br>(Number of Facilities).....   | 0                   | 3                  | 0                 | 7                 | 342                    |
|                        |                | Industrial Facility Completions<br>(Number of Facilities).....  | 156                 | 28                 | 5                 | 1                 | 636                    |
|                        |                | Remediation Complete (Number of<br>Release Sites).....  | 5                   | 0                  | 0                 | 5                 | 860                    |

a/ All work associated with this metric was accelerated and completed in FY 2003. The actual performance at completion was less the projected life-cycle under configuration control.

| Office / Installation          | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|--------------------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| Hanford                        | RL-0041        | Nuclear Facility D&D - River Corridor<br>Closure Project                                  |                     |                    |                   |                   |                        |
|                                |                | Enriched Uranium Packaged for Long-<br>Term Sotrage (Number of Containers).....           | 1,648               | 0                  | 0                 | 1,310             | 2,958                  |
|                                |                | Depleted and Other Uranium Packaged<br>for Disposition (Metric Tons).....                 | 3,100               | 0                  | 0                 | 0                 | 3,100                  |
|                                |                | Nuclear Facility Completions (Number<br>of Facilities).....                               | 0                   | 0                  | 0                 | 1                 | 14                     |
|                                |                | Radioactive Facility Completions<br>(Number of Facilities).....                           | 2                   | 4                  | 3                 | 2                 | 50                     |
|                                |                | Industrial Facility Completions<br>(Number of Facilities).....                            | 8                   | 10                 | 8                 | 7                 | 219                    |
|                                |                | Remediation Complete (Number of<br>Release Sites).....                                    | 260                 | 62                 | 49                | 57                | 758                    |
| Hanford                        | RL-0042        | Nuclear Facility D&D - Fast Flux Test<br>Facility Project                                 |                     |                    |                   |                   |                        |
|                                |                | Plutonium Metal or Oxide Packed for<br>Long-Term Storage (Number of<br>Containers).....   | 0                   | 400                | 0                 | 0                 | 400                    |
|                                |                | Spent Nuclear Fuel Packaged for Final<br>Disposition (Metric Tons of Heavy<br>Metal)..... | 0                   | 3                  | 2                 | 2                 | 7                      |
|                                |                | Radioactive Facility Completions<br>(Number of Facilities).....                           | 0                   | 0                  | 0                 | 0                 | 23                     |
| <b><u>River Protection</u></b> |                |   |                     |                    |                   |                   |                        |
| River Protection               | ORP-0014       | Radioactive Liquid Tank Waste<br>Stabilization and Disposition                            |                     |                    |                   |                   |                        |
|                                |                | Liquid Waste in Inventory Eliminated<br>(Thousands of Gallons).....                       | 0                   | 0                  | 0                 | 0                 | 54,000                 |
|                                |                | Liquid Waste Tanks Closed (Number<br>of Tanks).....                                       | 0                   | 0                  | 0                 | 0                 | 177                    |
|                                |                | High-Level Waste Packaged for Final<br>Disposition (Number of Containers).....            | 0                   | 0                  | 0                 | 0                 | 9,200                  |
|                                |                | Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....                     | 0                   | 0                  | 0                 | 0                 | 7,600                  |

| Office / Installation     | Project Number | Project Name / Measure   | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|---------------------------|----------------|--|---------------------|--------------------|-------------------|-------------------|------------------------|
| (con't)                   | ORP-0014       | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....  | 0                   | 0                  | 0                 | 2,500             | 310,000                |
|                           |                | Nuclear Facility Completions (Number<br>of Facilities).....  | 0                   | 0                  | 0                 | 0                 | 18                     |
|                           |                | Radioactive Facility Completions<br>(Number of Facilities).....  | 0                   | 0                  | 0                 | 0                 | 28                     |
|                           |                | Industrial Facility Completions<br>(Number of Facilities).....   | 0                   | 0                  | 0                 | 0                 | 102                    |
|                           |                | Remediation Complete (Number of<br>Release Sites).....   | 5                   | 0                  | 0                 | 0                 | 322                    |
| <b><u>Rocky Flats</u></b> |                |  |                     |                    |                   |                   |                        |
| RFETS                     | RF-0011        | NM Stabilization and Disposition<br>Plutonium Metal or Oxide Packed for<br>Long-Term Storage <sup>a</sup> (Number of<br>Containers)..... | 1,895               | 0                  | 0                 | 0                 | 1,700                  |
|                           |                | Plutonium or Uranium Residues<br>Packaged for Disposition (Kilograms<br>of Bulk).....  | 103,901             | 0                  | 0                 | 0                 | 103,901                |
| RFETS                     | RF-0013        | Solid Waste Stabilization and Disposition<br>Transuranic Waste Shipped for <sup>a</sup><br>Disposal at WIPP (Cubic Meters).....          | 8,275               | 4,867              | 2,402             | 0                 | 12,355                 |
|                           |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....  | 155,392             | 158,783            | 68,120            | 3,100             | 254,962                |
| RFETS                     | RF-0030        | Soil and Water Remediation<br>Remediation Complete <sup>a</sup> (Number of<br>Release Sites).....  | 197                 | 80                 | 30                | 1                 | 240                    |
|                           |                | Nuclear Facility D&D - North Side Facility<br>Closures<br>Material Access Areas Eliminated<br>(Number of Material Access Areas).....     | 6                   | 0                  | 0                 | 0                 | 6                      |
| RFETS                     | RF-0040        | Nuclear Facility Completions (Number<br>of Facilities).....  | 1                   | 0                  | 3                 | 2                 | 6                      |

a/ All work associated with this metric was accelerated and completed in FY 2003. The actual performance at completion was less the projected life-cycle under configuration control.

| Office / Installation        | Project Number | Project Name / Measure   | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|------------------------------|----------------|--|---------------------|--------------------|-------------------|-------------------|------------------------|
| (con't)                      | RF-0040        | Radioactive Facility Completions <sup>a</sup><br>(Number of Facilities).....   | 3                   | 9                  | 9                 | 1                 | 22                     |
|                              |                | Industrial Facility Completions <sup>a</sup><br>(Number of Facilities).....  | 87                  | 31                 | 38                | 0                 | 141                    |
| RFETS                        | RF-0041        | Nuclear Facility D&D - South Side Facility<br>Closures   |                     |                    |                   |                   |                        |
|                              |                | Material Access Areas Eliminated<br>(Number of Material Access Areas).....   | 1                   | 0                  | 0                 | 0                 | 1                      |
|                              |                | Radioactive Facility Completions <sup>a</sup><br>(Number of Facilities).....   | 11                  | 4                  | 17                | 0                 | 32                     |
|                              |                | Industrial Facility Completions <sup>a</sup><br>(Number of Facilities).....  | 112                 | 28                 | 36                | 0                 | 176                    |
| <b><u>Savannah River</u></b> |                |  |                     |                    |                   |                   |                        |
| SRS                          | SR-0011B       | NM Stabilization and Disposition - 2012<br>Plutonium Metal or Oxide Packed for<br>Long-Term Storage (Number of<br>Containers)..... | 54                  | 720                | 176               | 0                 | 750                    |
|                              |                | Enriched Uranium Packaged for Long-<br>term Storage (Number of Containers).....  | 146                 | 793                | 885               | 870               | 2,809                  |
|                              |                | Plutonium or Uranium Residues<br>Packaged for Disposition <sup>a</sup> (Kilograms<br>of Bulk).....                                 | 321                 | 79                 | 36                | 0                 | 414                    |
|                              |                | Depleted and Other Uranium Packaged<br>for Disposition (Metric Tons).....  | 4,551               | 1,406              | 0                 | 186               | 23,182                 |
|                              |                | Spent Nuclear Fuel Packaged for Final<br>Disposition (Metric Tons of Heavy<br>Metal).....  | 2                   | 1                  | 0                 | 0                 | 36                     |
| SRS                          | SR-0013        | Soild Waste Stabilization and Disposition<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters).....                 | 1,459               | 1,506              | 840               | 840               | 15,326                 |
|                              |                | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....  | 59,740              | 11,445             | 10,364            | 7,372             | 219,320                |

a/ All work associated with this metric was accelerted and completed in FY 2003. The actual performance at completion was less the projected life-cycle under configeration control.

| Office / Installation                 | Project Number | Project Name / Measure   | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|---------------------------------------|----------------|--|---------------------|--------------------|-------------------|-------------------|------------------------|
| SRS                                   | SR-0014C       | Radioactive Liquid Tank Waste<br>Stabilization and Disposition - 2035<br>Liquid Waste in Inventory Eliminated<br>(Thousands of Gallons).....   | 0                   | 0                  | 0                 | 888               | 33,100                 |
|                                       |                | Liquid Waste Tanks Closed (Number<br>of Tanks).....  | 2                   | 0                  | 0                 | 0                 | 51                     |
| SRS                                   | SR-0020        | High-Level Waste Packaged for Final<br>Disposition (Number of Containers).....<br>Safeguards and Security<br>Material Access Areas Eliminated<br>(Number of Material Access Areas).....  | 1,452               | 260                | 250               | 250               | 5,060                  |
| SRS                                   | SR-0030        | Soil and Water Remediation<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....  | 206                 | 0                  | 0                 | 0                 | 206                    |
| SRS                                   | SR-0040        | Remediation Complete (Number of<br>Release Sites).....<br>Nuclear Facility D&D<br>Nuclear Facility Completions (Number<br>of Facilities).....<br>Radioactive Facility Completions<br>(Number of Facilities).....<br>Industrial Facility Completions<br>(Number of Facilities)..... | 304                 | 13                 | 3                 | 11                | 515                    |
|                                       |                |  | 3                   | 2                  | 0                 | 1                 | 195                    |
|                                       |                |  | 1                   | 0                  | 1                 | 2                 | 40                     |
|                                       |                |  | 59                  | 65                 | 19                | 25                | 816                    |
| <b><u>Headquarters Operations</u></b> |                |  |                     |                    |                   |                   |                        |
| INL                                   | HQ-SNF-0012X   | SNF Stabilization and Disposition - Storage<br>Operations Awaiting Geologic Repository<br>Spent Nuclear Fuel Packaged for Final<br>Disposition (Metric Tons of Heavy<br>Metal).....  | 0                   | 0                  | 0                 | 0                 | 253                    |

| Office / Installation                         | Project Number | Project Name / Measure   | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|---|----------------|--|---------------------|--------------------|-------------------|-------------------|------------------------|
| <b><u>Headquarters Operations (con't)</u></b> |                |  |                     |                    |                   |                   |                        |
| LEHR  | LEHR-0040      | Nuclear Facility D&D - Laboratory for<br>Energy-Related Health Research<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....           | 944                 | 0                  | 0                 | 0                 | 948                    |
|   |                | Industrial Facility Completions<br>(Number of Facilities).....   | 0                   | 1                  | 0                 | 0                 | 1                      |
|   |                | Remediation Complete (Number of<br>Release Sites).....   | 16                  | 0                  | 0                 | 1                 | 17                     |
| ORR   | HQ-SW-0013X    | Solid Waste Stabilization and Disposition -<br>Science Current Generation<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....         | 3,295               | 1,761              | 1,116             | 852               | 8,849                  |
| <b><u>Consolidated Business Center</u></b>    |                |  |                     |                    |                   |                   |                        |
| California Site Office                        | CBC-CA-0013B-N | Solid Waste Stabilization and Disposition -<br>Oakland Sites - 2012 (Non-Defense)<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters)..... | 83                  | 0                  | 0                 | 0                 | 83                     |
| ITL   | CBC-ITL-0030   | Soil and Water Remediation - Inhalation<br>Toxicology Laboratory<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....                  | 165                 | 0                  | 35                | 0                 | 105                    |
|   |                | Remediation Complete (Number of<br>Release Sites).....   | 9                   | 0                  | 0                 | 0                 | 9                      |
| LBNL  | CBC-LBNL-0030  | Soil and Water Remediation - Lawrence<br>Berkeley National Laboratory<br>Remediation Complete (Number of<br>Release Sites).....                          | 161                 | 0                  | 5                 | 15                | 181                    |
| SLAC  | CBC-SLAC-0030  | Soil and Water Remediation - Stanford<br>Linear Accelerator Center<br>Remediation Complete (Number of<br>Release Sites).....                             | 16                  | 4                  | 0                 | 0                 | 20                     |

| Office / Installation                | Project Number | Project Name / Measure  | Prior to<br>FY 2004 | FY 2004<br>Actuals | FY 2005<br>Target | FY 2006<br>Target | Life-Cycle<br>Quantity |
|--------------------------------------|----------------|---|---------------------|--------------------|-------------------|-------------------|------------------------|
| ETEC                                 | CBC-ETEC-0040  | Nuclear Facility D&D - Energy Technology<br>Engineering Center<br>Low-Level and Mixed Low-Level <sup>a</sup>                        |                     |                    |                   |                   |                        |
|                                      |                | Waste Disposed (Cubic Meters).....  | 235                 | 820                | 600               | 75                | 1,335                  |
|                                      |                | Radioactive Facility Completions<br>(Number of Facilities).....   | 3                   | 1                  | 2                 | 0                 | 6                      |
|                                      |                | Industrial Facility Completions<br>(Number of Facilities).....  | 19                  | 5                  | 1                 | 0                 | 13                     |
|                                      |                | Remediation Complete (Number of<br>Release Sites).....  | 4                   | 0                  | 3                 | 0                 | 10                     |
| <b><u>NNSA Site Office</u></b>       |                |   |                     |                    |                   |                   |                        |
| NV Ops                               | NV-0030        | Soil and Water Remediation - Nevada<br>Offsites<br>Remediation Complete (Number of<br>Release Sites).....                           | 38                  | 0                  | 10                | 0                 | 80                     |
| <b><u>Los Alamos Site Office</u></b> |                |   |                     |                    |                   |                   |                        |
| LANL                                 | VL-LANL-0013   | Solid Waste Stabilization and Disposition -<br>LANL Legacy<br>Transuranic Waste Shipped for<br>Disposal at WIPP (Cubic Meters)..... | 606                 | 0                  | 1,400             | 1,400             | 9,200                  |
| LANL                                 | VL-LANL-0030   | Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....   | 469                 | 14                 | 0                 | 0                 | 483                    |
| LANL                                 | VL-LANL-0030   | Soil and Water Remediation - LANL<br>Low-Level and Mixed Low-Level<br>Waste Disposed (Cubic Meters).....                            | 5,426               | 0                  | 0                 | 0                 | 5,426                  |
| LANL                                 | VL-LANL-0040-N | Remediation Complete (Number of<br>Release Sites).....  | 1,325               | 18                 | 31                | 86                | 2,124                  |
| LANL                                 | VL-LANL-0040-N | Nuclear Facility D&D - LANL (Non-<br>Defense)<br>Radioactive Facility Completions<br>(Number of Facilities).....                    | 0                   | 0                  | 0                 | 0                 | 1                      |

a/ All work associated with this metric was accelerated and completed in FY 2003. The actual performance at completion was less the projected life-cycle under configuration control.



# **Defense Site Acceleration Completion**

# **Defense Site Acceleration Completion**

## Table of Contents

|   | Page |
|---|------|
| Appropriation Language .....                | 97   |
| 2006 Accelerated Completions .....          | 101  |
| 2012 Accelerated Completions .....          | 123  |
| 2035 Accelerated Completions .....          | 151  |
| Construction .....                          | 185  |
| Safeguards and Security .....               | 225  |
| Technology Development and Deployment ..... | 243  |



## **Defense Site Acceleration Completion**

### **Proposed Appropriation Language**

For the Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for atomic energy defense site acceleration completion activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion; [\$6,096,429,000] \$5,183,713,000 to remain available until expended (Energy and Water Development Appropriations Act 2005).

### **Explanation of Change**

None.



## Defense Site Acceleration Completion

### Funding Profile by Subprogram

(dollars in thousands)

|   | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|---|--|--------------------------------------|------------------------|--|--------------------|
| Defense Site Acceleration Completion                |  |                                      |                        |  |                    |
| 2006 Accelerated Completions.....                   | 1,196,189                              | 1,264,999                            | -55,155                | 1,209,844                              | 1,016,508          |
| 2012 Accelerated Completions.....                   | 2,205,966                              | 2,150,641                            | 42,272                 | 2,192,913                              | 1,943,139          |
| 2035 Accelerated Completions.....                   | 1,829,922                              | 1,904,339                            | 108,679                | 2,013,018                              | 1,915,454          |
| Safeguards and Security.....                        | 291,124                                | 265,059                              | -2,117                 | 262,942                                | 287,223            |
| Alternative High-Level Waste Actions.....           | 0                                      | 249,442                              | -249,442               | 0                                      | 0                  |
| High-Level Waste (Legislative).....                 | 0                                      | 291,950                              | -291,950               | 0                                      | 0                  |
| Technology Development and<br>Deployment.....       | 61,358                                 | 60,142                               | -416                   | 59,726                                 | 21,389             |
| Total, Defense Site Acceleration<br>Completion..... | 5,584,559                              | 6,186,572                            | -448,129 <sup>a</sup>  | 5,738,443                              | 5,183,713          |

#### Public Law Authorizations:

Public Law 95-91, "Department of Energy Organization Act (1977)"

Public Law 102-579, "Waste Isolation Pilot Plant Land Withdrawal Act (1992)"

Public Law 103-62, "Government Performance and Results Act of 1993"

Public Law 108-136, "National Defense Authorization Act for Fiscal Year 2004"

Public Law 108-137, "Energy and Water Development Appropriations Act, 2004"

Public Law 108-375, "Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005"

Public Law 108-447, "Consolidated Appropriations Act, 2005"

<sup>a</sup> Reflects the following adjustments:

- o Rescission reduction of -\$48,771,432.
- o Committee-directed appropriations transfer of -\$247,446,464 in a letter dated December 9, 2004, (\$169,810,560 transferred to Defense Nuclear Nonproliferation and Weapons Activities and \$77,635,904 is associated with a prior year adjustment).
- o Adjustment of \$16,141,000 from the Defense Environmental Services appropriation for Spent Nuclear Fuel activities at Idaho.
- o Adjustment of \$95,000 from the Defense Environmental Services appropriation for Richland and River Protection activities.
- o Transfer of -\$168,148,000 related to realignment of responsibility for legacy waste treatment/storage/disposal and remediation activities at seven sites (Nevada Test Site, Sandia National Laboratory, Separation Process Research Unit, Kansas City Plant, Lawrence Livermore National Laboratory [Main Site and Site 300], and Pantex); and operations of the Nevada Test Site low-level waste disposal site.

## **Mission**

The mission of EM is the safe, accelerated risk reduction and cleanup of the environmental legacy resulting from the Nations's nuclear weapons development and government-sponsored nuclear energy research. Over the last four years, the program has delivered significant risk reduction and cleanup results while ensuring the cleanup is safe for the workers, protective of the environment and respectful of the taxpayer. The program, once focused on managing risk, is demonstrating the benefits of accelerating cleanup and closure by realizing the completion of tangible results. These outcomes are providing important and valuable benefits to the public, communities, and for the generations that will follow.

The Defense Site Acceleration Completion appropriation provides for the accelerated cleanup and risk reduction for sites used in the development of nuclear weapons. This appropriation includes five accounts; 2006 Accelerated Completions; 2012 Accelerated Completions; 2035 Accelerated Completions; Safeguards and Security; and Technology Development and Deployment.

The FY 2006 request for the Defense Site Acceleration Completion appropriation is \$5,183,713,000, a decrease of \$554,730,000 from the comparable FY 2005 comparable appropriation request of \$5,738,443,000.

## **Benefits**

This appropriation provides funding to accelerate risk reduction and environmental cleanup at sites contaminated as a result of nuclear weapons production and nuclear research. As the cleanup of these sites progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

## 2006 Accelerated Completions

### Funding Schedule by Activity

(dollars in thousands)

|  | FY 2004          | FY 2005          | FY 2006          | \$ Change       | % Change      |
|--|------------------|------------------|------------------|-----------------|---------------|
| OR-0013A / Solid Waste Stabilization and Disposition - 2006.....         | 64,291           | 39,775           | 0                | -39,775         | -100.0%       |
| OR-0030 / Soil and Water Remediation - Melton Valley..                   | 56,215           | 71,099           | 15,146           | -55,953         | -78.7%        |
| OH-AB-0030 / Soil and Water Remediation - Ashtabula..                    | 5,977            | 15,752           | 16,000           | 248             | 1.6%          |
| OH-CL-0040 / Nuclear Facility D&D - West Jefferson.....                  | 18,235           | 19,690           | 9,500            | -10,190         | -51.8%        |
| OH-FN-0013 / Solid Waste Stabilization and Disposition - Fernald.....    | 235,592          | 164,524          | 48,113           | -116,411        | -70.8%        |
| OH-FN-0030 / Soil and Water Remediation - Fernald.....                   | 76,278           | 132,601          | 216,998          | 84,397          | 63.6%         |
| OH-FN-0050 / Non-Nuclear Facility D&D - Fernald.....                     | 13,103           | 19,466           | 61,621           | 42,155          | 216.6%        |
| OH-MB-0013 / Solid Waste Stabilization and Disposition - Miamisburg..... | 34,697           | 70,602           | 65,426           | -5,176          | -7.3%         |
| OH-MB-0030 / Soil and Water Remediation - Miamisburg.....                | 13,987           | 12,599           | 7,115            | -5,484          | -43.5%        |
| OH-MB-0040 / Nuclear Facility D&D - Miamisburg.....                      | 52,965           | 26,358           | 2,189            | -24,169         | -91.7%        |
| RF-0011 / NM Stabilization and Disposition.....                          | 31               | 0                | 0                | 0               | 0.0%          |
| RF-0013 / Solid Waste Stabilization and Disposition.....                 | 133,994          | 183,291          | 2,000            | -181,291        | -98.9%        |
| RF-0030 / Soil and Water Remediation.....                                | 106,745          | 162,897          | 438,350          | 275,453         | 169.1%        |
| RF-0040 / Nuclear Facility D&D - North Side Facility Closures.....       | 278,356          | 194,035          | 123,050          | -70,985         | -36.6%        |
| RF-0041 / Nuclear Facility D&D - South Side Facility Closures.....       | 105,515          | 97,155           | 11,000           | -86,155         | -88.7%        |
| SR-0011A / NM Stabilization and Disposition - 2006.....                  | 208              | 0                | 0                | 0               | 0.0%          |
| <b>Total, 2006 Accelerated Completions.....</b>                          | <b>1,196,189</b> | <b>1,209,844</b> | <b>1,016,508</b> | <b>-193,336</b> | <b>-16.0%</b> |

### Description

The 2006 Accelerated Completions program provides funding for completing cleanup and closing down facilities contaminated as a result of nuclear weapons production and nuclear weapons research. This program includes geographic sites with a planned closure date of 2006 or earlier. In addition, this program provides funding for Environmental Management sites where overall site cleanup will not be completed by 2006 but certain cleanup projects within a site (e.g., spent nuclear fuel removal, all transuranic waste shipped off-site) will be completed by 2006.

### Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at sites where cleanup will be completed by 2006 or certain cleanup projects within a site will be completed by 2006. As the cleanup of these sites and projects progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

## Funding by Site

(dollars in thousands)

|  | FY 2004   | FY 2005   | FY 2006   | \$ Change | % Change |
|--|-----------|-----------|-----------|-----------|----------|
| Oak Ridge                                      |           |           |           |           |          |
| Oak Ridge Reservation.....                     | 120,506   | 110,874   | 15,146    | -95,728   | -86.3%   |
| Ohio   |           |           |           |           |          |
| Ashtabula.....                                 | 5,977     | 15,752    | 16,000    | 248       | 1.6%     |
| Columbus.....                                  | 18,235    | 19,690    | 9,500     | -10,190   | -51.8%   |
| Fernald.....                                   | 324,973   | 316,591   | 326,732   | 10,141    | 3.2%     |
| Miamisburg.....                                | 101,649   | 109,559   | 74,730    | -34,829   | -31.8%   |
| Total, Ohio.....                               | 450,834   | 461,592   | 426,962   | -34,630   | -7.5%    |
| Rocky Flats Environmental Technology Site..... | 624,641   | 637,378   | 574,400   | -62,978   | -9.9%    |
| Savannah River Site.....                       | 208       | 0         | 0         | 0         | 0.0%     |
| Total, 2006 Accelerated Completions.....       | 1,196,189 | 1,209,844 | 1,016,508 | -193,336  | -16.0%   |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

### OR-0013A / Solid Waste Stabilization and Disposition-2006

(life-cycle estimate \$454,297K)..... **64,291**    **39,775**    **0**

This project reduces risk and storage costs by treating and disposing of approximately 46,332 m<sup>3</sup> of legacy low-level and mixed low-level waste on the Oak Ridge Reservation. Legacy waste consists of waste that was generated in the past and stored, but still needs to be disposed. The Oak Ridge Performance Management Plan, the Letter of Intent, the Oak Ridge Accelerated Cleanup Plan Agreement, the Site Treatment Plan, and the Comprehensive Waste Disposition Plan commit to the disposal of legacy low-level waste by FY 2005 and the disposal of most of the mixed low-level waste by FY 2004. This is a two-year acceleration of the targeted completion schedule. This project is a key element to the accelerated cleanup of the Oak Ridge Reservation.

The legacy waste stored in Melton Valley and at the East Tennessee Technology Park and its timely disposal is critical for accelerated cleanup. Legacy wastes in Y-12 are being dispositioned as part of the Accelerated Cleanup Plan agreement. Disposal will be in the Oak Ridge on-site disposal cell, the Nevada Test Site, and the Envirocare Facility in Utah, as appropriate and cost effective. Disposal of the legacy waste results in a significant mortgage reduction due to the elimination of storage costs.

As of September 2004, approximately 33,000 m<sup>3</sup> of legacy low-level and mixed low-level waste, and all of the legacy Resource Conservation and Recovery Act hazardous waste was disposed. Disposal of legacy low-level waste began in 2001 when the Nevada Test Site disposal facility became available.

The end-state for this PBS is the disposition, on-site, and off-site of all of the legacy mixed and low-level waste by the end of FY 2005.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- All fieldwork will be completed in FY 2005. In FY 2006, a quarterly report to the Tennessee Department of Conservation is required to be submitted (October 30, 2005).

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )  | 19,045  | 13,205  | 0       | 46,332                      | 46,332              | 100%               |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Began the disposition of legacy low-level waste located at the East Tennessee Technology Park (FY 2004).</li> <li>Legacy Mixed Low-Level Waste Disposition – Shipped for treatment/disposal all remaining mixed low-level waste except East Chestnut Ridge waste pile listed in Table 3.4 of the Site Treatment Plan (FY 2004).</li> <li>Complete the disposition of legacy low-level waste; two-year acceleration from target schedule (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

**OR-0030 / Soil and Water Remediation-Melton Valley**

**(life-cycle estimate \$290,640K)..... 56,215 71,099 15,146**

Melton Valley is located just south of the Oak Ridge National Laboratory and covers more than 1,000 acres. It was used between 1951 and 1986 for disposal of approximately 2 million curies of radioactive and mixed waste in burial grounds, unlined trenches, and deep hydrofracture injection wells.

The presence of creeks and shallow groundwater provides a ready mechanism to transport contaminants into White Oak Creek, which flows to the Clinch River, a drinking water source and recreational area. Cleanup of Melton Valley is the top priority risk reduction action on the Oak Ridge Reservation, and completion by FY 2006 is a primary goal of the Oak Ridge Performance Management Plan. The Melton Valley remediation project will focus on hydrologic isolation of 125 acres of former solid waste burial grounds, liquid waste seepage pits, and disposal trenches. Activities will also include: in-situ stabilization and/or excavation of contaminated soil and sediment; retrieval of transuranic waste; plugging and abandonment of hydrofracture injection and monitoring wells; demolition of the hydrofracture facilities and other small facilities needing to be removed to execute remedial actions; shipment of spent nuclear fuel to the Idaho National Laboratory; and stabilization of three inactive waste tanks.

The end-state for this project will result in the Melton Valley Area being designated a waste management area with access restrictions. The cleanup actions will ensure that the waste is contained; on-site surface water quality is improved to meet required standards; and off-site users of the Clinch River remain protected.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

As of September 2004, several field activities were completed including: plugging and abandonment of 115 hydrofracture injection and monitoring wells; and retrieval, repackaging and shipments of spent nuclear fuel to the Idaho National Laboratory. The remediation of the intermediate holding pond, as well as field work related to capping, is complete at Solid Waste Storage Area 4, which is one of the three major burial grounds to be capped. Capping of Solid Waste Storage Area 5 and 6 is underway. Solid Waste Storage Area 4 wetland restoration and final completion documentation will be completed in FY 2005. Work is underway on the soil and sediment remediation, transuranic waste retrieval, tank remediation (T-1, T-2, and the High Flux Isotope Reactor Tanks), and remediation of transuranic tanks and trenches.

In FY 2006, the following activities are planned:

- Complete capping at Solid Waste Storage Areas 5 and 6.
- Complete the balance of Melton Valley Caps Solid Waste Storage Area 6 Remedial Action construction.
- Complete the balance of Melton Valley Caps Solid Waste Storage Area 5 Remedial Action construction.
- Submit Transuranic Waste Trenches Construction/Remediation Completion letter to Regulators for approval.
- Decommission and decontaminate the remaining small facilities.
- Complete processing contact-handled transuranic waste.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities) | 0       | 0       | 13      | 15                          | 15                  | 100%               |
| Nuclear Facility Completions (Number of Facilities)     | 0       | 0       | 2       | 2                           | 2                   | 100%               |
| Industrial Facility Completions (Number of Facilities)  | 0       | 0       | 0       | 2                           | 2                   | 100%               |
| Remediation Complete (Number of Release Sites)          | 19      | 3       | 53      | 106                         | 106                 | 100%               |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Spent nuclear fuel shipments were completed (FY 2004).
- Completed field work related to capping (FY 2004).
- Final documentation on Solid Waste Storage Area 4 was completed (March 2005).
- The demolition of the New Hydrofracture Facility completed (August 2005).
- Complete processing and stabilization of transuranic waste tanks (August 2005).
- Complete the Melton Valley Closure Soils and Sediments Remedial Action construction (November 2005).
- Complete the balance of Melton Valley Caps Solid Waste Storage Area 6 Remedial Action construction (January 2006).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Complete the balance of Melton Valley Caps Solid Waste Storage Area 5 Remedial Action construction (May 2006).
- Complete the removal of transuranic waste from 22 Trench Area (March 2006).
- Complete contact-handled transuranic processing (June 2006).
- Submit Transuranic Waste Trenches Construction/Remediation Completion letter to Regulators for approval (July 2006).

**OH-AB-0030 / Soil and Water Remediation-Ashtabula**

**(life-cycle estimate \$149,635K)..... 5,977 15,752 16,000**

The Ashtabula Soil and Water Remediation Project consists of remediation of 32 contaminated facilities, disposition of equipment, and remediation of affected land areas and groundwater. Facility decommissioning will be by remediation and disposal of debris in licensed, off-site disposal facilities or facility demolition to free-release levels. Contaminated soil will be shipped to a low-level waste disposal site for burial. Groundwater remediation will be accomplished through source removal to on-site release limits followed by natural attenuation. Risk assessment will be conducted to confirm that natural attenuation provides adequate protection of the groundwater.

Completion will allow the Ohio Department of Health to release the site for unrestricted use to the owner, RMI Titanium Company, after resolution of remediation contract issues. The project end-state of the site will be reached by the end of FY 2006. Groundwater remediation will proceed as part of the long-term stewardship program.

As of September 2004, all major production facilities (21) were demolished, resulting in the disposition of approximately 584,000 m<sup>3</sup> of radioactive remediation generated waste.

In FY 2006, the following activities are planned:

- Complete Waste Management Unit Remediation.
- Complete the treatment of trichloroethylene-contaminated soils.
- Complete disposal of low-level and mixed low-level waste soils and debris.
- Complete installation of groundwater monitoring and collection systems.
- Complete excavation and removal of soil, underground utilities, sumps, and foundations from demolished facilities.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ) | 0       | 0       | 0       | 104                         | 104                 | 100%               |
| Radioactive Facility Completions (Number of Facilities)        | 0       | 0       | 5       | 25                          | 25                  | 100%               |
| Industrial Facility Completions (Number of Facilities)         | 0       | 0       | 6       | 7                           | 7                   | 100%               |
| Remediation Complete (Number of Release Sites)                 | 0       | 0       | 3       | 3                           | 3                   | 100%               |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

|  |  |  |  |
|--|--|--|--|
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006) |  |  |  |
| ▪  | Completed disposal of 100 percent of building remediation debris generated (FY 2004).    |  |  |
| ▪  | Complete environmental remediation activities and return site to owner (September 2006). |  |  |

**OH-CL-0040 / Nuclear Facility D&D-West Jefferson (life-cycle estimate \$154,518K)..... 18,235 19,690 9,500**

Completion of the West Jefferson site accelerated clean-up consists of: decontamination and demolition of three large buildings: JN-1, High Energy Hot Cell Facility (20,200 square feet); JN-2, Critical Assembly Building (13,000 square feet); and JN-3, Reactor Building (10,000 square feet); external areas to be cleaned include filter beds and buried utilities; waste management activities include packaging, transportation, and disposal of transuranic waste, low-level waste and contaminated soils and debris; and surveillance and maintenance requirements will decrease as site hazards are eliminated or reduced.

The end-state objective is to safely remediate facilities by the end of FY 2006 to levels of residual contamination allowing future use of the site without radiological restrictions. Battelle, the site owner, will make all future use decisions.

As of September 2004, the site completed packaging of remote-handled transuranic waste in preparation for shipment off-site; completed two transuranic waste shipments to Hanford for interim storage; decontaminated and completed closure of JN-3 Reactor Building and JN-2 Critical Assembly Building in preparation for demolition. Work is progressing well toward final decontamination and removal of equipment/materials in JN-1 High Energy Hot Cell Facility.

In FY 2006, the following activities are planned:

- Complete demobilization of equipment and site infrastructure (roadways and utilities) to support closure.
- Complete independent verification certification that appropriate residual contamination levels have been achieved for the West Jefferson site to allow for release without radiological restrictions.
- Complete off-site disposition of transuranic waste.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Nuclear Facility Completions (Number of Facilities)     | 0       | 0       | 1       | 1                           | 1                   | 100%               |
| Radioactive Facility Completions (Number of Facilities) | 0       | 2       | 0       | 14                          | 14                  | 100%               |
| Remediation Complete (Number of Release Sites)          | 0       | 0       | 1       | 2                           | 2                   | 100%               |

|  |  |  |  |
|--|--|--|--|
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006) |  |  |  |
| ▪  | Completed packaging of remote-handled transuranic waste for off-site shipment (FY 2004).   |  |  |
| ▪  | Completed two shipments of transuranic waste to Hanford for interim storage (FY 2004).   |  |  |
| ▪  | Complete decontamination/stabilizing of the fuel storage pool and transfer canal in JN-1 High Energy Hot Cell Facility (March 2005). |  |  |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Complete decontamination/stabilization of the high-bay area surfaces in JN-1 High Energy Hot Cell Facility (June 2005).
- Complete demolition and debris removal for JN-2 and JN-3 facilities (September 2005).
- Complete independent verification characterization activities to support site release from DOE back to Battelle (November 2005).
- Complete demobilization of equipment and infrastructure associated with site remediation (November 2005).
- Facilitate termination of Nuclear Regulatory Commission license for Battelle, the site owner, completing DOE/EM's responsibilities at West Jefferson (September 2006).

**OH-FN-0013 / Solid Waste Stabilization and Disposition -**

**Fernald (life-cycle estimate \$1,588,111K)..... 235,592 164,524 48,113**

The Solid Waste Stabilization and Disposition Project at Fernald includes the remediation and final disposition of all process-generated wastes from multiple sources, including high specific activity waste contained in Silos 1, 2, and 3, the Waste Pits, containerized low-level waste, and mixed wastes and soil and debris that do not meet the waste acceptance criteria for the on-site disposal facility. This project's scope includes characterization, treatment, packaging, transportation, and final disposition of the most radioactive and/or hazardous wastes on-site. The disposition of this waste represents the critical path to achieve closure of the Fernald site.

The final remediation of these waste streams will be implemented through: design and construction of needed treatment and retrieval facilities; use of off-site treatment facilities; integrated systems testing and operations; packaging and transportation of treated wastes and final disposal as required; and ultimately the safe turnover of facilities to be decontaminated and dismantled. Following completion of these remedial activities, all process-generated waste will be dispositioned, and the structures will be transferred for demolition and on-site disposal to PBS OH-FN-0050, Non-Nuclear Facility D&D-Fernald.

The future end-state will be the safe disposition of all process-generated low-level legacy wastes to allow for decontamination and dismantlement of the building complexes, followed by soils remediation, and closure of the Fernald site.

Upon completion of the waste pits excavation, the approximate 40,000 tons of soil and debris not meeting the on-site waste acceptance criteria will be loaded and shipped off-site in 372 railcars. Liquid mixed waste (428,441 gallons) was shipped to the Toxic Substance Control Act incinerator; 994 m<sup>3</sup> of mixed waste was shipped off-site for treatment and disposal; 4,958 MTU of nuclear product was sold or shipped to Portsmouth for storage; and 46,638 m<sup>3</sup> of remediation waste was shipped to the Nevada Test Site leaving approximately 52,406 m<sup>3</sup> for off-site disposition.

As of September 2004, Fernald achieved start up and approval to operate Silo 3 Treatment Facility; start up and operation of Accelerated Waste Retrieval Project; removed/transferred 10 percent of Silo 1 material into transfer tanks; removed all nuclear materials; completed 94 percent of the waste pits remediation; and shipped 124 unit trains to Envirocare (60 railcars per train).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**Congressionally Directed Activities..... 577 0 0**

Oversight of accelerated cleanup projects (portion of \$2.5M Congressionally Directed Activities)

In FY 2006, the following activities are planned:

- Complete disposition of Silos 1 and 2 waste at an off-site disposal facility.
- Complete waste disposition and silos facility shutdown.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ) | 0       | 0       | 0       | 7,085                       | 7,085               | 100%               |
| Remediation Complete (Number of Release Sites)                 | 0       | 1       | 1       | 4                           | 4                   | 100%               |

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- Completed construction of Silos 1 and 2 treatment facility that will stabilize the Silo material (FY 2004).
- Completed construction of Silos 1, 2, and 3 retrieval facilities (FY 2004).
- Processed and shipped by rail 150,000 tons of waste pit material of the total of 900,000 tons to a permitted commercial facility (FY 2004).
- Complete waste pits remedial action operations/complete Waste Pits project (May 2005).
- Begin dispositioning Silos 1 and 2 material (September 2005).
- Complete container loading of Silos 1 and 2 material (January 2006).

**OH-FN-0030 / Soil and Water Remediation-Fernald (life-cycle estimate \$1,329,449K)..... 76,278 132,601 216,998**

The Soil and Water Remediation Project includes the characterization, remediation, and certification of all environmental media (soil, below-grade debris, and water). This scope of work includes excavation, hauling, and final disposition of all contaminated soils and below-grade debris that exceed the "final remedial levels" for cleanup at Fernald. The contaminated soils, below-grade debris, and debris generated from decontamination and dismantlement activities will be placed in the On-Site Disposal Facility for final disposal. Soil and debris that exceed the On-Site Disposal Facility waste acceptance criteria will be transferred for disposition off-site. In addition, natural resource restoration activities are performed to return the site to its natural state following remediation.

This project also contains the scope to confine and extract uranium from the Great Miami Aquifer, a sole source aquifer under the Fernald site, as well as the scope for management of storm water, operations of sewage treatment facilities, and groundwater monitoring. The completion of the scope within this project represents a significant portion of the critical activities required to close the Fernald site.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

The future end-state of this project will be the final cleanup of environmental media at the Fernald site, including soil and below grade debris excavation, hauling, and disposal into the On-Site Disposal Facility by December 31, 2006. By the end of FY 2005, the construction of the On-Site Disposal Facility Cell 7 and 8 liners will be completed to prepare for waste placement. Once the soil and debris are placed in the On-Site Disposal Facility, the Facility will be closed and monitored, and the site will be certified to ensure site remediation levels have been achieved. Additionally, the groundwater infrastructure will remain in place for the completion of post-closure aquifer remediation.

As of September 2004, Fernald excavated 1,629,643 cubic yards (781,636 cubic yards in FY 2004) of soil and placed 1,771,951 cubic yards (609,366 cubic yards in FY 2004) of soil and debris in the On-site Disposal Facility; certified 758 (109 in FY 2004) acres clean; and completed construction of the On-Site Disposal Facility Cell 6 liner at Fernald.

In FY 2006, the following activities are planned:

- Complete caps for Cells 6, 7, and expansion and capping of cell 8 of the On-Site Disposal Facility.
- Complete soil excavation in the former production area and selected soils of the silos facilities area, and in the administration area.
- Complete natural resource restoration in areas excavated with final grading and planting trees and other vegetation native to the area.
- Continue operations of the Converted Advanced Waste Water Treatment Facility.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)  | 0       | 0       | 0       | 0                           | 2                   | 0%                 |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Complete construction of the On-Site Disposal Facility Cell 6 liner to prepare cell for waste placement (FY 2004).</li> <li>▪ Complete the construction of the On-Site Disposal Facility Cell 3 and 4 Caps (September 2005).</li> <li>▪ Place 600,000 m<sup>3</sup> of material in the On-Site Disposal Facility (September 2005).</li> <li>▪ Excavate 600,000 cubic yards (459,000 m<sup>3</sup>) of soils and below grade debris to reduce contamination levels (September 2005).</li> <li>▪ Complete Area 7 Silos general area excavation (February 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**OH-FN-0050 / Non-Nuclear Facility D&D-Fernald (life-cycle estimate \$281,228K)..... 13,103 19,466 61,621**

The Non-Nuclear Facilities Decontamination and Dismantlement Project is responsible for: the decontamination and dismantlement of 29 Radiological Facility complexes and one Industrial Facility Complex (over 200 above-grade structures) of Operable Unit 3 (former Production Area and related buildings and equipment); design/engineering/planning to support decontamination and dismantlement; and management of debris resulting from decontamination and dismantlement. Debris management includes: containerization, off-site disposal of wastes unsuitable for disposal in the On-Site Disposal Facility, recycling and/or release of materials, delivery of debris to interim storage, and delivery of the On-Site Disposal Facility-bound debris to identified staging/queuing areas.

The decontamination and decommissioning of the Advanced Waste Water Treatment facility is included in this PBS and scheduled for completion in FY 2006. Ultimate responsibility for the dismantlement of the Converted Advanced Waste Water Treatment facility will be transferred to Legacy Management to be accomplished following operations associated with long-term stewardship activities.

The end-state of facility decontamination and dismantlement is the removal and disposition of all former production-related buildings and support structures, leaving only trailers supporting post closure activities.

As of September 2004, Fernald decontaminated and demolished 67 percent of facilities (171 of 255 buildings) and completed six facilities.

In FY 2006, the following activities are planned:

- Complete decontamination and dismantlement of miscellaneous structures (including trailers, guard posts, storage buildings, and electrical stations) across the site.
- Complete decontamination and decommissioning of Silos 1, 2, and 3 treatment facilities/and associated support structures/facilities.
- Complete decontamination and decommissioning of the Advanced Waste Water Treatment facility.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities) | 6       | 2       | 2       | 29                          | 29                  | 100%               |
| Industrial Facility Completions (Number of Facilities)  | 0       | 1       | 0       | 1                           | 1                   | 100%               |

**Key Accomplishments (FY 2006) / Planned Milestones (FY 2005/FY2006)**

- The decontamination and dismantlement of six radioactive facilities were completed (FY 2004).
- Complete Operable Unit 1 complex demolition (August 2005).
- Complete the decontamination and dismantlement of two radioactive facilities and one industrial facility (February 2005 / September 2005).
- Complete decontamination and dismantlement of miscellaneous structures (Phase 11) (May 2006).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**OH-MB-0013 / Solid Waste Stabilization and Disposition-  
 Miamisburg (life-cycle estimate \$273,591K)..... 34,697 70,602 65,426**

Solid waste stabilization and disposition activities at the Miamisburg Closure Project involve the management of legacy and/or remediation generated low-level waste, mixed low-level waste, transuranic waste, hazardous waste, and solid waste streams. This includes interim waste storage, shipment of waste to federal and commercial disposal facilities, and, in some cases, minor treatments. All legacy nuclear materials and chemical and radioactive waste streams have been dispositioned. The site operates six facilities and a rail staging area to manage waste streams, which are dispositioned when generated. Newly discovered transuranic waste will be shipped to the Savannah River Site pursuant to an agreement between the Department of Energy and the State of South Carolina.

The end-state for this project is the disposition of all waste streams to approved disposal sites by March 31, 2006.

The Miamisburg Closure Project Performance Management Plan (August 2003) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Miamisburg Closure Project by the end of 2006. The plan contains two objectives for accelerating waste disposition: 1) ship waste when generated and 2) reduce exposure to the workers and public. To achieve these objectives, the Miamisburg Closure Project has modified the rail spur to improve volume and efficiency in rail shipments and is combining contaminated building debris with contaminated soil, thereby shipping waste faster and cheaper.

As of September 2004, 75 percent (169,438 m<sup>3</sup>) of the total estimated life-cycle volume (227,237 m<sup>3</sup>) for all waste streams, including legacy low-level and mixed low-level waste and remediation generated wastes, were shipped.

In FY 2006, the following activities are planned:

- Ship the remaining 191 m<sup>3</sup> of remediation waste to Envirocare in support of site removal actions.
- Disposition additional soils due to accelerated remediation activities.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 0       | 0       | 0       | 3,947                       | 3,947               | 100%               |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Shipment of 7,243 m<sup>3</sup> remediation waste to the Nevada Test Site and 51,657 m<sup>3</sup> of remediation waste to Envirocare were completed (FY 2004).</li> <li>▪ Complete the shipment of 1,783 m<sup>3</sup> of remediation waste to the Nevada Test Site for disposal (September 2005).</li> <li>▪ Complete the shipment of 60,643 m<sup>3</sup> of remediation waste to Envirocare for disposal (September 2005).</li> <li>▪ Dispose of 7,054 m<sup>3</sup> of hazardous waste (September 2005).</li> <li>▪ Complete the shipment of 191 m<sup>3</sup> of remediation waste to Envirocare (March 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Dispose of additional soils (September 2006).

**OH-MB-0030 / Soil and Water Remediation-Miamisburg (life-cycle estimate \$136,924K)..... 13,987 12,599 7,115**

This project remediates contaminants that were released into the environment during operation of the Mound Plant from 1940 through 1994. As a result of these past activities, the soil and groundwater are contaminated with radioactive and hazardous chemicals. The U.S. Environmental Protection Agency placed the site on the National Priority List in 1989 because of chemical contamination present in the site's groundwater and the site's proximity to a sole-source aquifer.

The end-state for this project is the completion of: the remediation of all contaminated soil areas (Potential Release Sites); two groundwater treatment systems; and all associated Comprehensive Environmental Response, Compensation and Liability Act documentation required to close the site and effect transfer of the property to the local community by the end of FY 2006.

The Miamisburg Closure Project Performance Management Plan (August 2003) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Miamisburg Closure Project by 2006. The plan contains one objective for accelerating soil remediation by the completion of all potential release sites by November 2005. To achieve this objective, the Miamisburg Closure Project is reducing the duration of final remedial design through a parallel review cycle for key stakeholders and streamlining process requirements and operations.

As of September 2004, 66 percent of the Potential Release Sites (118 of 178) were completed.

In FY 2006, the following activities are planned:

- Continue excavations and verification of Potential Release Sites.
- Transfer remaining 114 acres of land to Miamisburg Mound Community Improvement Corporation.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)   | 0       | 37      | 23      | 178                         | 178                 | 100%               |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Complete the restoration of Potential Release Site 66, which is the largest excavation activity in the baseline (September 2005).</li> <li>Complete Potential Release Site 76 excavation and verification (October 2005).</li> <li>Complete the excavation and verification of Potential Release Site 131 (Soil beneath Buildings R, SW, and B Slab) (March 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**OH-MB-0040 / Nuclear Facility D&D-Miamisburg (life-cycle estimate \$489,624K)..... 52,965 26,358 2,189**

The Nuclear Facility D&D project involves the deactivation, decontamination, decommissioning, and demolition or transfer of all facilities and other structures located within the Miamisburg Closure Project. The Mound Plant supported the defense nuclear weapons and energy research programs until 1994 and, as a result of these past operations, many of the facilities are contaminated with radioactive and/or hazardous chemicals. There were 135 facilities/structures remaining on the site after FY 1996 – eight were nuclear facilities, eleven were radiological facilities, and the balances were industrial facilities. Of the 135 facilities/structures, 111 are to be demolished and 24 transferred to the Miamisburg Mound Community Improvement Corporation to support industrial reuse of the site.

The end-state for this project will be: the successful transition of 24 facilities to the Miamisburg Mound Community Improvement Corporation; the demolition of all remaining facilities and structures; the removal of all aboveground utilities; and the restoration of the associated grounds to a natural state by the end of FY 2006.

The Miamisburg Closure Project Performance Management Plan (August 2003) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all Environmental Management activities at the Miamisburg Closure Project by 2006.

As of September 2004, 85 facilities were demolished or transferred to the Miamisburg Mound Community Improvement Corporation, leaving 50 facilities still to be demolished or transferred to the Miamisburg Mound Community Improvement Corporation. Of these 50 facilities, 17 are radiologically contaminated, and most of the remaining 33 facilities have some industrial contamination, all of which require decontamination and decommissioning. One of the transition buildings (Building T, which is a heavily reinforced subterranean concrete structure) must undergo extensive decommissioning and decontamination before transfer. The R and SW buildings, which are Nuclear Category 2 buildings, have significant radiological contamination that must be mitigated prior to demolition. By the end of December 2005, all facilities at the Miamisburg Closure Project will have been either physically demolished or transferred or readied for transfer to the Miamisburg Mound Community Improvement Corporation.

In FY 2006, the following activities are planned:

- Demolish three nuclear facilities totaling 104,000 square feet of floor space and 2 industrial facilities totaling 480 square feet of floor space. This completes the last remaining demolition activities on-site.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Nuclear Facility Completions (Number of Facilities)     | 0       | 5       | 3       | 8                           | 8                   | 100%               |
| Radioactive Facility Completions (Number of Facilities) | 2       | 9       | 0       | 11                          | 11                  | 100%               |
| Industrial Facility Completions (Number of Facilities)  | 9       | 31      | 2       | 116                         | 116                 | 100%               |

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- Continue the reduction of source term in the nuclear facilities to minimize risk for the project and to accelerate work in nuclear facilities resulting in improvements in the critical path schedule for the Miamisburg Closure Project (FY 2004/ September 2005).
- Completed the structural demolition of seven radioactive facilities and 15 industrial facilities (six industrial facilities were completed in FY 2003 ahead of schedule) (FY 2004).
- Complete the verification of residual contamination for T Building (173,000 square feet), which will be transferred to the Miamisburg Mound Community Improvement Corporation (September 2005).
- Complete the demolition of Buildings R/SW and Building 58 (includes slab and underground line removal) (December 2005).

**RF-0011 / NM Stabilization and Disposition (life-cycle estimate \$478,403K).....**

**31            0            0**

The scope of this PBS is to put plutonium metals and oxides and other highly radioactive materials in containers and packages that reduce the radioactive risk to the public, the environment, and the co-located worker. It includes activities necessary for stabilizing and repackaging nearly 104,000 kilograms of plutonium bearing residues located in Buildings 707 and 371, stabilizing and packaging 9.8 metric tons of plutonium metals and oxides for long-term storage, and packaging 6.7 metric tons of uranium for disposition. Completion of these stabilization and packaging activities allows the site to deactivate, decontaminate, and decommission the facilities where the materials were located, and reduce the safeguards and security activities necessary to properly protect these materials.

From FY 2001 through FY 2003, the site stabilized and packaged plutonium metals and oxides in the Plutonium Stabilization and Packaging System located in Building 371. This system produced sealed stainless steel cans containing plutonium metals and oxides. These cans meet DOE Standard 3013 for the long-term (50+ years) storage of these materials. As of the end of FY 2003, the site completed this activity by packaging 1,895 cans. Another 962 kilograms of low purity plutonium oxide was packaged for disposal at the Waste Isolation Pilot Plant, instead of being processed through the Plutonium Stabilization and Packaging System. The site also size-reduced 163 weapons parts as part of the effort to complete removal of special nuclear material. Operation of the Plutonium Stabilization and Packaging System was completed in July 2003.

In FY 2006, the following activities are planned:

- Activity is complete in FY 2004. No funding requested.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Plutonium Metal or Oxide Packaged for Long-Term Storage (Number of Containers)  | 0       | 0       | 0       | 1,895*                      | 1,700               | 111%               |
| Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)  | 0       | 0       | 0       | 103,901                     | 103,901             | 100%               |
| *All work associated with this metric has been completed. The actual performance at completion exceeded the projected life-cycle under configuration control. |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Nuclear material stabilization and disposition activities were completed (FY 2004).</li> </ul>                         |         |         |         |                             |                     |                    |

**RF-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$777,055K)..... 133,994 183,291 2,000**

The scope of this PBS is to safely and efficiently stabilize all waste generated during demolition of site buildings or through the remediation of under building soils and to dispose of the material in an approved and licensed off-site facility. Waste types include transuranic and transuranic mixed waste with an estimated life-cycle total of 12,355 m<sup>3</sup>, low-level and mixed low-level waste with an estimated life-cycle total of 254,962 m<sup>3</sup>; and sanitary (landfill) waste with an estimated life-cycle total of 16,300 shipments, as well as hazardous and medical waste. This PBS scope also includes activities for the operation, maintenance, safety controls, compliance, and stabilization/hazard reduction of facilities utilized for storage, characterization, preparation, and shipment of waste. The facilities include pads, tents, and eight buildings. Also included is site-wide support of procurement systems and standards, and traffic and transportation services.

Low-level and mixed low-level waste will be disposed at both commercial and DOE facilities. At the end of September 2004, 314,175 m<sup>3</sup> of low-level and mixed low-level waste was shipped for disposal and 12,953 m<sup>3</sup> of the transuranic waste was shipped for disposal. Sanitary waste will be disposed at off-site commercial landfill(s). Hazardous waste will be treated and disposed at off-site commercial treatment, storage, and disposal facilities. Waste stabilization and disposition will continue into 2006.

In FY 2006, the following activities are planned:

- Complete disposal of legacy and newly generated waste at a rate to maintain the accelerated closure project.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> )   | 4,678   | 2,402   | 0       | 15,355*                     | 12,355              | 124%               |
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 158,783 | 68,120  | 3,100   | 385,395*                    | 254,962             | 151%               |
| *The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control. |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- The FY 2004 regulatory milestone for disposition of low-level and mixed low-level waste was completed (FY 2004).
- More than 158,000 m<sup>3</sup> of legacy low-level/mixed low-level waste was disposed (FY 2004).
- Complete site deinventory of legacy transuranic waste to off-site disposal (September 2005).
- Complete site deinventory of legacy low-level/mixed low-level waste to off-site disposal (September 2006).

**RF-0030 / Soil and Water Remediation (life-cycle estimate**

**\$2,259,435K)..... 106,745 162,897 438,350**

The scope of this PBS is to complete the environmental characterization, remediation, and restoration of the Rocky Flats site in accordance with the Rocky Flats Cleanup Agreement, and to provide technical support services necessary to achieve site closure. Site closure requires environmental characterization, remediation of contaminated soil and water, and restoration of the site as necessary. Remediation or disposition of all individual hazardous substance sites includes: 1) documentation when individual sites require no further action; 2) removal of pavement and building foundations; 3) conversion of ponds to a post-closure configuration; 4) wetlands mitigation; and 5) recontouring, regrading and revegetation, all of which must be accomplished to achieve the final site closure.

Ongoing closure support activities include: 1) operation of groundwater wells and surface water monitoring systems until decontamination and decommissioning and restoration activities are complete; 2) operation of the ponds; 3) pollutant source controls including actinide migration evaluations; and 4) design, construction, and operation of groundwater containment and treatment systems.

Environmental remediation and restoration of all individual hazardous substance sites must support the final comprehensive site remedy pursuant to an approved Corrective Action Decision/Remedial Action Decision and deletion of the Site from the National Priority List.

Technical support services provide the quality assurance, health, safety, environmental stewardship, nuclear safety, and training necessary to support site closure. Conditional target incentive fee, as well as pension and retiree medical/life insurance payments are also included in this PBS.

In FY 2006, the following activities are planned:

- Complete remediation of any remaining release sites.
- Provide conditional and final target incentive fee.
- Provide required pension and retiree medical and life insurance payments.
- Provide support for completing final Record of Decision and completing certification of final project closeout.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)   | 80      | 30      | 1       | 308*                        | 240                 | 128%               |
| *The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control. |         |         |         |                             |                     |                    |

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- Eighty environmental release sites were completed (FY 2004).
- Complete remediation of 30 release sites (including 903 Pad Lip and Americium Zone, the East Firing Range, completion of the Original Landfill Cap construction, and restoration of Ponds B-1, B-2, and B-3) (September 2005).
- Complete remediation of remaining release site (September 2006).

**RF-0040 / Nuclear Facility D&D-North Side Facility Closures (life-cycle estimate \$1,853,733K)..... 278,356 194,035 123,050**

The scope of this PBS is to decontaminate and decommission all facilities on the north side of the Rocky Flats site. This decontamination and decommissioning activity includes all facility closure activities, including demolition of four nuclear building complexes. The nuclear building complexes included in this PBS are: Building 371/374 Cluster, Building 707 Cluster, Building 776/777 Cluster, and Building 771/774 Cluster. The total square footage of the facilities included in this PBS is approximately one million square feet. The activities that will be performed include building stabilization/deactivation, decontamination, demolishment, and dismantlement. This PBS includes 6 Material Access Areas, 6 Nuclear Facilities, 22 Radioactive Facilities, and 141 Industrial Facilities. In addition to the decontamination and decommissioning activity, this PBS also provides technical support for the Rocky Flats Field Office, site utilities, and Government Furnished Services/Items.

Building stabilization includes: 1) removing a building from operation, 2) placing the building in a safe and stable condition that eliminates or mitigates hazards, and 3) ensuring adequate protection to the workers and the environment. Building deactivation builds on stabilization by removing systems and equipment contaminated by Special Nuclear Material. Decommissioning completes the facility closure process by removing any remaining process systems and structures, packaging and preparing all wastes and property for disposal, decontaminating the structure, and demolishing the building. Demolition includes dismantlement of walls, roofs, foundations, and connecting structures (breezeways, tunnels, and overhead walkways). Subsurface concrete is removed three feet below the existing grade (unless the building-specific Rocky Flats Cleanup Agreement decision document specifies otherwise). Upon completion of decommissioning, any required remediation in the area of the building footprint is included in PBS RF-0030, Soil and Water Remediation.

At the end of September 2004, the site had eliminated 118 Industrial Facilities (84 percent). The demolition is scheduled to end in 2006.

In FY 2006, the following activities are planned:

- Complete the demolition of Buildings 371, 776, and 777.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Material Access Areas Eliminated (Number of Areas)      | 0       | 0       | 0       | 6                           | 6                   | 100%               |
| Nuclear Facility Completions (Number of Facilities)     | 0       | 3       | 2       | 6                           | 6                   | 100%               |
| Radioactive Facility Completions (Number of Facilities) | 9       | 9       | 1       | 22                          | 22                  | 100%               |
| Industrial Facility Completions (Number of Facilities)  | 31      | 38      | 0       | 156*                        | 141                 | 111%               |

\*The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control.

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- Demolition of Building 771 was completed (FY 2004).
- Complete decontamination and decommissioning of remaining industrial facilities (September 2005).
- Complete decontamination and decommissioning of remaining radioactive and nuclear facilities (September 2006).

**RF-0041 / Nuclear Facility D&D-South Side Facility Closures**

**(life-cycle estimate \$783,083K)..... 105,515 97,155 11,000**

The scope of this PBS is to decontaminate and decommission all facilities on the south side of the Rocky Flats site. There are 32 Radioactive Facilities and 176 Industrial Facilities included in this PBS with a total of about five million square feet of space and one Material Access Area. The activities that will be performed include building stabilization and decommissioning.

Building stabilization includes: 1) removing a building from operation, 2) placing the building in a safe and stable condition that eliminates or mitigates hazards, and 3) ensuring adequate protection to the workers and the environment. Specific stabilization activities include: 1) removing hazardous and non-hazardous materials; 2) draining fluids from equipment; 3) abating or encapsulating asbestos; 4) dispositioning excess property; and 5) reducing building fire loading. Decommissioning activities include: 1) removing the building from site infrastructure; 2) packaging all wastes; 3) disposing of property and waste; 4) decontaminating the structure, and 5) demolishing the building. Demolition includes dismantlement of walls, roofs, foundations, and connecting structures (breezeways, tunnels, and overhead walkways). Subsurface concrete is removed three feet below the existing grade (unless the building-specific Rocky Flats Cleanup Agreement decision document specifies otherwise).

Upon completion of decommissioning, final below grade remediation and/or closeout the building footprint is included in PBS RF-0030, Soils and Water Remediation.

At the end of September 2004, the site had completed removal of 140 Industrial Facilities (80 percent). The final scope of this PBS is expected to be complete in 2006.

In FY 2006, the following activities are planned:

- Complete the decontamination and decommissioning of any remaining major facilities.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Material Access Areas Eliminated (Number of Areas)   | 0       | 0       | 0       | 1                           | 1                   | 100%               |
| Radioactive Facility Completions (Number of Facilities)  | 4       | 17      | 0       | 32                          | 32                  | 100%               |
| Industrial Facility Completions (Number of Facilities)   | 28      | 36      | 0       | 176                         | 176                 | 100%               |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Completed decontamination and decommissioning of four radioactive facilities (FY 2004).</li> <li>▪ Complete decontamination and decommissioning of 17 radioactive and 36 industrial facilities (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

**SR-0011A / NM Stabilization and Disposition-2006 (life-cycle estimate \$131,362K)..... 208 0 0**

At the end of the Cold War, the nuclear materials complex at the Savannah River Site contained a large inventory of nuclear materials in various forms and stored in many locations (raw materials, in-process, finished products, vaults, reactor basins, etc.) in several facilities. Many of these nuclear materials were never intended to stay in their existing form and location when the national security mission ceased. Materials Stabilization activities began with the issuance of the Defense Nuclear Facilities Safety Board recommendation 94-1 to stabilize “at-risk” nuclear materials which might pose a significant risk to the safety of the workers, the public, and/or the environment. The Defense Nuclear Facilities Safety Board Recommendation 2000-1 was issued to amplify the concern, and the current Savannah River Site Program Performance Management Plan is intended to accelerate removal of the risks posed by these materials.

This PBS scope provides construction funding for two projects to modify several facilities so that they can operate safely through their remaining life-cycle and so that they can stabilize and package plutonium materials for safe storage pending disposition. The Canyon Exhaust Upgrade project is complete and the FB-Line Packaging and Stabilization project is being accelerated with completion in FY 2004. Operation of these facilities is covered in PBS SR-011B, Nuclear Material Stabilization and Disposition-2012.

Construction of the FB-Line Packaging and Stabilization project began in October 2001. Construction is complete and operations began in April 2003 for metals. In addition, construction was completed and operations began in November 2003 for oxides. The commitment in the Department’s Implementation Plan for the Defense Nuclear Facilities Safety Board Recommendation 2000-1 is to complete these stabilization activities by December 2005. Construction of the Canyon Exhaust Upgrade project began in March 1996. Phase One, completed in mid-1997, rerouted the FB-Line exhaust and F-Canyon recycle vessel vent exhaust to the sand filter. Phase Two, completed in late 1998, replaced F- and H-Area diesel fuel tanks to conform to state and federal regulations for diesel fuel storage. Physical construction of Phase Three, the final phase, is complete. Final project close-out was approved on May 16, 2003.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- No funding requested in FY 2006.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ FB-Line (02-D-420) – Completed construction activities, began start-up system testing and system turnover to operations (Critical 4B for packaging oxides) (FY 2004).</li> </ul> |         |         |         |                             |                     |                    |

**Total, 2006 Accelerated Completions..... 1,196,189 1,209,844 1,016,508**

### Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**OR-0013A / Solid Waste Stabilization and Disposition-2006**

- Decrease in funding reflects completion of disposition of mixed low-level waste and low-level waste in FY 2005. .... -39,775

**OR-0030 / Soil and Water Remediation-Melton Valley**

- Decrease in funding reflects ramp-down to completion of cleanup in Melton Valley in FY 2006. .... -55,953

**OH-AB-0030 / Soil and Water Remediation-Ashtabula**

- No significant change. .... 248

**OH-CL-0040 / Nuclear Facility D&D-West Jefferson**

- Decrease in funding reflects ramp-down due to cleanup completion at the West Jefferson Site in the first quarter of FY 2006, supporting completion of the Columbus Closure Project in FY 2006. .... -10,190

**OH-FN-0013 / Solid Waste Stabilization and Disposition-Fernald**

- Decrease in funding is due to the completion of Waste Pits Project, Accelerated Waste Retrieval System, and Silos 1 and 2 operations. .... -116,411

**OH-FN-0030 / Soil and Water Remediation-Fernald**

- Increase in funding is due to increased activities associated with completion of waste placement and capping of Cell 7 and expansion and capping of Cell 8 in the On-Site Disposal Facility; increase in volume of remediation waste for disposal including contaminated equipment; and workforce transition including severance payments. ... 84,397

**OH-FN-0050 / Non-Nuclear Facility D&D-Fernald**

- Increase in funding is due to the accelerated decontamination and dismantlement of the 18-Building Silos Complex and the 22-Building miscellaneous structures (Phase 11). ..... 42,155

**OH-MB-0013 / Solid Waste Stabilization and Disposition-Miamisburg**

- Decrease in funding reflects additional disposition of soils due to accelerated remediation activities completed in FY 2005. .... -5,176

**OH-MB-0030 / Soil and Water Remediation-Miamisburg**

- Decrease in funding reflects the accelerated completion of 37 potential release sites in FY 2005, maintaining the FY 2006 closure schedule. .... -5,484

**OH-MB-0040 / Nuclear Facility D&D-Miamisburg**

- Decrease in funding is due to the substantial ramp-down in facility demolition work as part of the Mound cleanup completion in FY 2006 and an associated decrease in support (indirect) cost allocation. .... -24,169

**RF-0013 / Solid Waste Stabilization and Disposition**

- Decrease in funding reflects closure acceleration through FY 2005 and minimal low-level and mixed low-level waste disposal in FY 2006. .... -181,291

**RF-0030 / Soil and Water Remediation**

- Increase in funding is due to the resulting increase in Incentive Fee Payments in FY 2006 resulting from accelerated closure activities through FY 2005 (fee payment accelerated from FY 2007) and completing all documentation certification for project closure. .... 275,453

**RF-0040 / Nuclear Facility D&D-North Side Facility Closures**

- Decrease reflects ramp-down of closure activities as part of Rocky Flats cleanup completion in FY 2006. .... -70,985

**RF-0041 / Nuclear Facility D&D-South Side Facility Closures**

- Decrease reflects ramp-down of closure activities as part of Rocky Flats cleanup completion in FY 2006. .... -86,155

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**Total Funding Change, 2006 Accelerated Completions..... -193,336**



## 2012 Accelerated Completions

### Funding Schedule by Activity

|  | (dollars in thousands) |                  |                  |                 |               |
|--|------------------------|------------------|------------------|-----------------|---------------|
|  | FY 2004                | FY 2005          | FY 2006          | \$ Change       | % Change      |
| ID-0011 / NM Stabilization and Disposition.....  | 1,563                  | 1,889            | 1,555            | -334            | -17.7%        |
| ID-0012B-D / SNF Stabilization and Disposition - 2012<br>(Defense).....                                | 17,254                 | 26,365           | 19,158           | -7,207          | -27.3%        |
| ID-0013 / Solid Waste Stabilization and Disposition.....   | 195,045                | 109,472          | 140,015          | 30,543          | 27.9%         |
| ID-0014B / Radioactive Liquid Tank Waste Stabilization<br>and Disposition - 2012.....                  | 105,496                | 224,157          | 149,165          | -74,992         | -33.5%        |
| ID-0030B / Soil and Water Remediation - 2012.....  | 156,517                | 124,994          | 161,489          | 36,495          | 29.2%         |
| ID-0040B / Nuclear Facility D&D - 2012.....  | 17,695                 | 5,425            | 5,026            | -399            | -7.4%         |
| ID-0050B / Non-Nuclear Facility D&D - 2012.....  | 36,181                 | 26,993           | 39,105           | 12,112          | 44.9%         |
| OR-0013B / Solid Waste Stabilization and Disposition -<br>2012.....                                    | 67,056                 | 46,744           | 68,360           | 21,616          | 46.2%         |
| OR-0031 / Soil and Water Remediation - Offsites.....   | 8,066                  | 12,753           | 16,483           | 3,730           | 29.2%         |
| OR-0043 / Nuclear Facility D&D - East Tennessee<br>Technology Park (Defense).....                      | 3,633                  | 6,540            | 6,034            | -506            | -7.7%         |
| RL-0011 / NM Stabilization and Disposition - PFP.....  | 149,718                | 172,089          | 190,772          | 18,683          | 10.9%         |
| RL-0012 / SNF Stabilization and Disposition.....   | 181,383                | 119,769          | 58,479           | -61,290         | -51.2%        |
| RL-0041 / Nuclear Facility D&D-River Corridor<br>Closure Project.....                                  | 147,876                | 212,033          | 168,501          | -43,532         | -20.5%        |
| ORP-0060 / Major Construction - Waste Treatment<br>Plant.....  | 697,530                | 684,480          | 625,893          | -58,587         | -8.6%         |
| SR-0011B / NM Stabilization and Disposition - 2012.....  | 378,223                | 378,562          | 250,303          | -128,259        | -33.9%        |
| VL-LANL-0013 / Solid Waste Stabilization and<br>Disposition-Los Alamos National Laboratory Legacy..... | 42,730                 | 40,648           | 42,801           | 2,153           | 5.3%          |
| <b>Total, 2012 Accelerated Completions.....</b>  | <b>2,205,966</b>       | <b>2,192,913</b> | <b>1,943,139</b> | <b>-249,774</b> | <b>-11.4%</b> |

### Description

The 2012 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear weapons production, where overall site cleanup will not be completed by 2012 but certain cleanup projects within a site (e.g., spent nuclear fuel removal, all transuranic waste shipped off-site) will be completed by 2012.

### Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at sites where certain cleanup projects within a site will be completed by 2012. As the cleanup of these projects progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

## Funding by Site

(dollars in thousands)

|   | FY 2004          | FY 2005          | FY 2006          | \$ Change       | % Change      |
|---|------------------|------------------|------------------|-----------------|---------------|
| <b>Idaho</b>                                    |                  |                  |                  |                 |               |
| Idaho National Laboratory.....                  | 529,751          | 519,295          | 515,513          | -3,782          | -0.7%         |
| <b>Oak Ridge</b>                                |                  |                  |                  |                 |               |
| East Tennessee Technology Park.....             | 3,633            | 6,540            | 6,034            | -506            | -7.7%         |
| Oak Ridge Reservation.....                      | 75,122           | 59,497           | 84,843           | 25,346          | 42.6%         |
| <b>Total, Oak Ridge.....</b>                    | <b>78,755</b>    | <b>66,037</b>    | <b>90,877</b>    | <b>24,840</b>   | <b>37.6%</b>  |
| <b>Richland</b>                                 |                  |                  |                  |                 |               |
| Hanford Site.....                               | 478,977          | 503,891          | 417,752          | -86,139         | -17.1%        |
| River Protection.....                           | 697,530          | 684,480          | 625,893          | -58,587         | -8.6%         |
| Savannah River Site.....                        | 378,223          | 378,562          | 250,303          | -128,259        | -33.9%        |
| <b>Los Alamos Site Office</b>                   |                  |                  |                  |                 |               |
| Los Alamos National Laboratory.....             | 42,730           | 40,648           | 42,801           | 2,153           | 5.3%          |
| <b>Total, 2012 Accelerated Completions.....</b> | <b>2,205,966</b> | <b>2,192,913</b> | <b>1,943,139</b> | <b>-249,774</b> | <b>-11.4%</b> |

## Detailed Justification

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**ID-0011 / NM Stabilization and Disposition (life-cycle estimate \$20,396K).....** **1,563      1,889      1,555**

The Idaho National Laboratory currently stores special nuclear material at several locations. To strengthen the safeguards and security and decrease the national security risk associated with special nuclear material, this PBS consolidates approximately 2,771 kgs (total uranium) of special nuclear material stored at the Idaho National Laboratory at off-site location(s) with controlled storage. Such consolidation not only provides better security of these materials, but also reduces the annual maintenance and security costs by eliminating unnecessary special nuclear material storage locations.

The consolidation of special nuclear material is the primary activity in achieving the objectives of DOE's strategy to transfer all EM-managed special nuclear material off-site. This requires: 1) the safe and secure surveillance, monitoring and storage of special nuclear material in its current storage configuration; 2) development of shipping and receiving agreements with the appropriate program office(s) and/or location(s); 3) appropriate repackaging of the special nuclear material for shipment; and 4) final shipment and/or dispositioning with the agreed upon program office(s) at appropriate location(s).

The end-state for this PBS is to complete transfer of all the special nuclear material to an off-site location(s) or disposition it to other program sponsors by the end of FY 2009, in accordance with the Performance Management Plan for accelerating cleanup of the Idaho National Laboratory.

As of September 30, 2004, the Idaho National Laboratory completed the denitrator product repackaging campaign with 311 containers being repackaged and shipped off-site for safe, secure storage.

In FY 2006, the following activities are planned:

- Complete the repackaging and/or shipment of 35 containers of enriched uranium for off-site long-term storage.
- Continue surveillance and monitoring activities to ensure security and maintenance of special nuclear materials remaining in storage.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Enriched Uranium Packaged for Long-Term Storage (Number of Containers)   | 381     | 34      | 35      | 710                         | 1,029               | 69%                |
| Material Access Areas Eliminated (Number of Areas)   | 0       | 0       | 0       | 0                           | 1                   | 0%                 |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Complete the transfer of all denitrator products to the Savannah River Site and Nuclear Fuel Services (FY 2004).</li> <li>▪ Disposition 34 containers of special nuclear material containing uranium (September 2005).</li> <li>▪ Package 35 containers of special nuclear material containing uranium (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**ID-0012B-D / SNF Stabilization and Disposition-2012**

**(life-cycle estimate \$532,374K)..... 17,254 26,365 19,158**

The purpose of this PBS is to stabilize legacy spent nuclear fuel through 2012. This project will be complete when all EM-managed spent nuclear fuel is safely transferred from wet to dry storage and consolidated to secure dry storage at the Idaho Nuclear Technology and Engineering Center. The Idaho National Laboratory currently stores approximately 180 metric tons heavy metal (legacy and non-legacy) spent nuclear fuel and expects to receive an additional 1.4 metric tons of spent nuclear fuel for interim storage pending shipment to the monitored geologic repository during FY 2006 through FY 2012. Approximately 22 metric tons of spent nuclear fuel is stored in water-filled pools within Chemical Processing Plant-666. In accordance with the Performance Management Plan, this project accelerates the consolidation of legacy spent nuclear fuel at the Idaho Nuclear Technology and Engineering Center in FY 2005.

Environmental Management now manages spent nuclear fuel in dry storage at three facilities within the Idaho Nuclear Technology and Engineering Center: Chemical Processing Plant-603, Irradiated Fuel Storage Facility; Chemical Processing Plant-749; and 2707. Management of approximately 15 metric tons of spent nuclear fuel presently stored at Fort St. Vrain in Colorado and approximately 82 metric tons of spent nuclear fuel presently stored on-site in the Three Mile Island Independent Spent Fuel Storage Installations is budgeted in the Non-Defense Site Acceleration Completion, 2012 Accelerated Completions budget.

This project also accelerates the transfer of legacy spent nuclear fuel from wet to dry storage by the end of FY 2012, 11 years ahead of the previous baseline date of 2023. Accordingly, the last EM-managed spent nuclear fuel wet storage basin will be emptied by FY 2012. This project also supports non-EM programs by continued receipt and storage of Navy and Advanced Test Reactor spent nuclear fuel into the Chemical Processing Plant-666 fuel storage pool and eventual transfer of Navy spent nuclear fuel to the Naval Reactor Facility Expended Core Facility. In addition, this project supports the National Spent Nuclear Fuel Program, which is responsible for ensuring inclusion of the complex-wide DOE-owned spent nuclear fuel in the geologic repository. This project is the primary interface that provides the packaging requirements necessary for disposal of DOE-owned spent nuclear fuel in the mined geologic repository.

As of September 30, 2004, the Idaho National Laboratory has removed all spent nuclear fuel from the site's last three aging basins and put into dry storage. Also, the Idaho National Laboratory completed receipt and unloading of seven Advanced Test Reactor shipments.

The Peach Bottom spent nuclear fuel was repackaged and placed in interim dry storage. This fuel type will be the initial repackaging campaign under the Dry Storage Project, covered by PBS HQ-SNF-0012X, SNF Stabilization and Disposition – Storage Operations Awaiting Geologic Repository, under the Defense Environmental Services, Non-Closure Environmental Activities account.

In FY 2006, the following activities are planned:

- Continue spent nuclear fuel transfers from Chemical Processing Plant-666/Basin (wet storage) to Chemical Processing Plant-603/Irradiated Fuel Storage Facility (dry storage).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Completed analysis of DOE spent nuclear fuel to support inclusion in the monitored geologic repository license application (FY 2004).</li> <li>▪ Completed the consolidation of all EM-owned spent nuclear fuel at the Idaho National Laboratory to the Idaho Nuclear Technology and Engineering Center (FY 2004).</li> <li>▪ Manage the movement of spent nuclear fuel for safer, consolidated storage, including completing the transfer of fuel from the Advanced Test Reactor to the Chemical Processing Plant-666 (September 2005).</li> <li>▪ Initiate repackaging into and storage of repository-ready standard canisters for shipment to the repository (December 2005).</li> <li>▪ Continue spent nuclear fuel transfers from wet storage to dry storage (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**ID-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$2,321,532K)..... 195,045 109,472 140,015**

This waste treatment and disposal activity accelerates the disposition of stored transuranic waste, low-level waste, Resource Conservation and Recovery Act hazardous waste, and mixed low-level waste backlog; closes on-site low-level waste disposal facilities at the Radioactive Waste Management Complex; and accelerates the consolidation of waste management facilities to reduce operating costs. The various waste inventories to be dispositioned by this project were generated primarily by other DOE sites and also by active operations at the Idaho National Laboratory. Approximately 65,000 m<sup>3</sup> of stored transuranic waste comprised of both contact-handled and remote-handled waste will be characterized, treated, and shipped to the Waste Isolation Pilot Plant. A backlog of 2,250 m<sup>3</sup> of mixed low-level waste has been treated and dispositioned.

Contact-handled transuranic waste will be processed in the Advanced Mixed Waste Treatment Facility and shipped to the Waste Isolation Pilot Plant for disposal. Remote-handled transuranic waste (approximately 360 m<sup>3</sup>) will be dispositioned separately from the Advanced Mixed Waste Treatment Project and is expected to be characterized and shipped to the Waste Isolation Pilot Plant for disposal by the end of FY 2011. On-site low-level waste disposal at the Radioactive Waste Management Complex will continue through 2008 for contact-handled low-level waste and 2009 for remote-handled low-level waste. Subsequently, on-site disposal at the Radioactive Waste Management Complex will cease and the low-level waste disposal pit will be included in the Comprehensive Environmental Response, Compensation and Liability Act closure of the Subsurface Disposal Area of Radioactive Waste Management Complex. Additionally, this project performs environmental monitoring and compliance activities for air, water, waste, soils and biota surveillances; and supports the Environmental Oversight and Monitoring Agreement within the State of Idaho.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

The future end-state for this project will be achieved when all stored transuranic waste is disposed by the end of 2012, six years ahead of the DOE commitment to the State of Idaho under the Settlement Agreement. Several treatment units and storage facilities have been Resource Conservation and Recovery Act closed, including the Waste Experimental Reduction Facility incinerator.

As of September 30, 2004, the Advanced Mixed Waste Treatment Facility was authorized to start transuranic waste operations and is expected to receive certification to ship waste treated in the facility during FY 2005. Also, the site met the project goal for treating and disposing (over 2,200 m<sup>3</sup>) the containerized mixed low-level waste backlog two years ahead of schedule. The Radioactive Waste Management Complex continued with on-going disposal of contact-handled low-level waste and remote-handled low-level waste.

|  |              |          |          |
|--|--------------|----------|----------|
| <b>Congressionally Directed Activities.....</b>  | <b>1,035</b> | <b>0</b> | <b>0</b> |
| Oversight of accelerated cleanup projects (portion of \$2,500,000 Congressionally Directed Activities) |              |          |          |

In FY 2006, the following activities are planned:

- Advanced Mixed Waste Treatment Facility operations will be in its third year of operations and will continue waste characterization, inventory dispositioning, treating, packaging, and shipping transuranic waste to the Waste Isolation Pilot Plant in meeting State Agreement commitments.
- Continue with program activities that support waste characterization, packaging, and transportation of remote-handled transuranic waste to the Waste Isolation Pilot Plant.
- Continue actions to support startup of remote-handled transuranic waste repackaging facility.
- Continue disposal operations of contact-handled and remote-handled low-level waste at the Radioactive Waste Management Complex Subsurface Disposal Area.
- Continue disposition of 245 m<sup>3</sup> of Resource Conservation and Recovery Act hazardous waste to off-site facilities.
- Dispose of 100,000 lbs of mixed waste lead via a commercial treatment and disposal facility and recycle another 100,000 lbs of lead.
- Continue environmental monitoring of air, water, soils, and biota surveillance.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> ) | 342     | 4,050   | 6,894   | 14,690                      | 64,251              | 23%                |
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 9,028   | 5,240   | 5,655   | 47,737                      | 77,430              | 62%                |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Commenced treatment operations of the Advanced Mixed Waste Treatment Facility to accelerate contact-handled transuranic waste shipments to the Waste Isolation Pilot Plant (FY 2004).
- Completed the Resource Conservation and Recovery Act Closure of the Waste Reduction Operations Complex (FY 2004).
- Continue waste management operations including dispositioning nearly 4,050 m<sup>3</sup> of transuranic waste and more than 5,200 m<sup>3</sup> of low-level and mixed low-level wastes (September 2005).
- Complete the construction and startup of repackaging capability of stored remote-handled transuranic waste (September 2006).

**ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012 (life-cycle estimate \$2,359,802K)..... 105,496 224,157 149,165**

The overall objective of this project is to treat and dispose of the sodium-bearing tank wastes, close the tank farm tanks, and perform initial tank soils remediation work. The major investment and primary focus will be design, construction and operation of a facility that will retrieve and treat the sodium-bearing liquids and associated tank solids for disposal at a federal waste repository. The type of facility constructed to treat sodium-bearing waste will be determined with award of a new cleanup contract in FY 2005. The final selection of the primary technology will be completed during FY 2005, with design of the treatment facility starting in late FY 2005, pending issuance of the Record of Decision. Other activities include facility maintenance and operations of the Idaho Nuclear Technology and Engineering Center and accelerated cleaning and closure of the tank farm tanks and associated equipment by 2012.

This PBS also includes those activities to support preparing the stored high-level waste calcine for final disposition at the repository. These activities include: 1) demonstration of bin set retrieval technology; 2) Resource Conservation and Recovery Act regulatory initiatives to allow disposal of calcine; 3) issuance of a record of decision by 2009 and calcine treatment technology selection and development; 4) conceptual and preliminary design; and 5) submission of a Resource Conservation and Recovery Act Part B Permit in 2012 for a calcine retrieval and packaging facility.

Some tank waste activities planned in FY 2004 were deferred because of the July 3, 2003, Idaho District Court Judgment "National Resources Defense Council, et.al. vs. Spencer Abraham." The activities impacted by the District Court judgment were presented in the FY 2005 Congressional Budget Request, "High-Level Waste Proposal" under the Defense Site Acceleration Completion appropriation. The FY 2006 budget reflects the favorable outcome contained in the FY 2005 Ronald W. Reagan National Defense Authorization Act and once again includes funding for such activities in this PBS.

As of September 30, 2004, the Idaho National Laboratory has emptied and cleaned all five pillar and panel (single shell) and the four 30,000 gallon tanks. Most of these tanks have also had their cooling coils flushed and sampled, along with their secondary containment systems. The Idaho National Laboratory completed leaching of the first of the remaining radioactive high-efficiency particulate air filters. The Idaho National Laboratory submitted a Resource Conservation and Recovery Act Part B permit application for certification for calcine storage in the Calcined Solids Storage Facility.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2004 this PBS includes an appropriation of \$20,379,050 for design of the Sodium Bearing Waste Treatment Facility under line-item 04-D-414, Project Engineering and Design. In FY 2005, \$24,700,800 was appropriated as part of the High-Level Waste Proposal. In FY 2006, \$9,200,000 is requested in this PBS to complete the design of the Sodium Bearing Waste Treatment Facility, and \$15,000,000 is requested to begin construction under line-item 06-D-401, Sodium Bearing Waste Treatment Project.

In FY 2006, the following activities are planned:

- Complete design of sodium-bearing waste treatment technology/method and submit permit applications to the State of Idaho for this technology/method.
- Complete associated sodium-bearing waste treatment facility design work.
- Close tank WM-184.
- Continue development of calcine retrieval and characterization technologies and complete a sample retrieval and characterization by year end.
- Continue providing the Idaho Nuclear Technology and Engineering Center utilities, maintenance and operations for process waste system, support labs, and existing process facilities.
- Continue the Idaho Nuclear Technology and Engineering Center capital improvements.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Liquid Waste in Inventory Eliminated (thousands of gallons)      | 0       | 0       | 0       | 0                           | 900                 | 0%                 |
| Liquid Waste Tanks Closed (Number of Tanks)                      | 0       | 0       | 1       | 1                           | 11                  | 9%                 |
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> ) | 0       | 0       | 0       | 0                           | 1,130               | 0%                 |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Completed the characterization of remaining liquids and solids in the 11 underground sodium bearing waste tanks (FY 2004).
- Completed Resource Conservation and Recovery Act Part B permit application for bin set storage of calcine and permit modification request for Volume 21 (December 2004).
- Cease receipt of Newly Generated Liquid Waste in the 11 high-level waste farm tanks (September 2005).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**ID-0030B / Soil and Water Remediation-2012 (life-cycle estimate \$1,528,419)..... 156,517 124,994 161,489**

The objective of this project is to accelerate remediation of contaminated soil and groundwater and closure of legacy Resource Conservation and Recovery Act issues at the Idaho National Laboratory to eliminate risk to the Snake River Plain Aquifer. The technical approach is based on achieving compliance with the cleanup requirements of the Federal Facility Agreement/Consent Order. The project also addresses the Voluntary Consent Order actions. The Comprehensive Environmental Response, Compensation, and Liability Act project remediates contaminated soils and debris from various waste sites across the Idaho National Laboratory, transports, and permanently disposes of these wastes.

This project also includes all environmental monitoring to confirm effectiveness of selected record of decision remedies for protection of the Snake River Plain Aquifer and maintenance of institutional controls. Assessment of the contamination present, the risk to the aquifer from contamination and the technical approaches available to achieve risk reduction will continue in FY 2006. Remediation activities have removed chemical contamination, stabilized short-lived radioactive contamination, controlled access through institutional controls, consolidated mixed waste in the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility, implemented bioremediation of groundwater contamination, and implemented long-term compliance required monitoring of the aquifer and ecosystem.

By 2012, active remediation of Waste Area Group 1, Test Area North soils, Waste Area Group 2, Test Reactor Area, Waste Area Group 4, Central Facility Area, Waste Area Group 5, Power Burst Facility/Auxiliary Reactor Area, and Waste Area Group 6, Experimental Reactor/BORAX Reactor Area will be complete, and all noncompliance items covered by the Voluntary Consent Order will be addressed. Waste Area Group 1, Test Area North, remediation of groundwater will continue until 2012. All Waste Area Group 10 soil actions will also be complete by 2012. The remediation of Waste Area Group 3, Idaho Nuclear Technology and Engineering Center and Waste Area Group 7, Radioactive Waste Management Complex will continue beyond 2012.

As of September 30, 2004, the Idaho National Laboratory has completed physical remediation of Waste Area Group 4. The Glovebox Excavator Method retrieval action was completed at Pit 9 in Waste Area Group 7 and grout was placed in the hole. The facility was placed in warm standby awaiting the start of the Accelerated Retrieval Project operations. The Accelerated Retrieval project completed engineering, procurement, and construction of the retrieval facility and is on track to start facility operations in November 2004 in Pit 4.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in the PBS is an additional \$3,900,000 for the use of Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts to accelerate outyear environmental remediation projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- Waste Area Group 1 (Test Area North): continue groundwater treatment and monitoring, seed native vegetation over previously remediated areas.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Waste Area Group 2 (Test Reactor Area); Waste Area Group 4 (Central Facility Area); Waste Area Group 5 (Power Burst Facility/Auxiliary Reactor Area); and Waste Area Group 6 (Experimental Breeder Reactor/BORAX): maintenance of remedies.
- Waste Area Group 3 (Idaho Nuclear Technology and Engineering Center): as buildings are demolished complete soil characterization and remove soils as necessary; remove SFE-20 tank system; operate Comprehensive Environmental Response, Compensation, and Liability Act landfill; and complete Remedial Investigation/Feasibility Study for Tank Farm. \*Note: Group 3, sets 1, 2, and 3 soils; all other Waste Area Group 3 activities described above.
- Waste Area Group 7 (Radioactive Waste Management Complex): Complete retrieval actions within Area G of Pit 4. Continue removal actions in the subsurface disposal area and complete Feasibility Study and Proposed Plan for selection of final remedy and continue vadose zone removal of volatile organic compounds.
- Voluntary Consent Order: secure tank removal schedule from the state based on FY 2005 tank characterizations and expect three to five tank system removals.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites) | 6       | 3       | 0       | 151                         | 199                 | 76%                |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Completed Glovebox Excavator Method Project (Pit 9) Critical Decision 4 for start of operations to excavate (FY 2004).
- Completed the excavation of transuranic waste under Glovebox Excavator Method Project (Pit 9) (FY 2004).
- Completed physical remediation of Waste Area Group 5 (FY 2004).
- Completed Central Facilities Area Waste Area Group 4 closeout and transfer to surveillance and maintenance project (FY 2004).
- Complete the Idaho Comprehensive Environmental Response, Compensation, and Liability Act Disposal Facility Cell 2 Construction (August 2005).
- Complete the Remedial Investigation/Feasibility Study for remedy selection of the Radioactive Waste Management Complex (September 2005).
- Submit 10 percent design for retrieval of remainder of Pit 9 (September 2005).
- Complete the Waste Area Group 1 project final remedial actions (September 2005).
- Site Tank 005: Perform hazardous waste and empty determination of 100 percent of Voluntary Consent Order tanks (September 2005).
- Removal and sampling of SFE-20 Hot Waste Tank (December 2005).
- Submit for review the Operable Unit 10-08 Idaho National Laboratory Site Wide Groundwater DRAFT Remedial Investigation/Feasibility Study record of decision (December 2005).
- Submit for review the Operable Unit 7-13/14 Draft Feasibility Study and the comprehensive draft feasibility study based on the approved remedial investigation and baseline risk assessment (December 2005).
- Submit draft Waste Area Group Remedial Action Report (January 2006).
- Submit draft Waste Area Group 5 Operations and Maintenance Report (February 2006).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Submit for review the Operable Unit 7-13/14 Draft Proposed Plan and comprehensive draft proposed plan (March 2006).
- Submit draft Waste Area Group 1, Groups 1 and 3 Remedial action Report (March 2006)
- Submit draft Waste Area Group 10-04 UXO Remedial Design/Remedial Action Work Plan (July 2006).

**ID-0040B / Nuclear Facility D&D-2012 (life-cycle estimate \$140,049K)..... 17,695 5,425 5,026**

The Idaho National Laboratory is an 890 square mile government owned site with nine major facility areas including the Naval Reactor Facility, Argonne National Laboratory-West, and the Idaho Falls Facilities. Over the last several decades these areas have been dedicated to nuclear energy related reactor and nuclear material processing operations. In support of these operations the types of buildings required were designated as industrial, radiological, and nuclear. Many of the buildings used to support this work have reached the end of their useful life. During the years of operation many of the activities involved hazardous and radiological contaminants. The EM program is responsible for the eventual disposition of these buildings.

This project focuses on deactivation of high-risk radiologically contaminated Idaho National Laboratory nuclear buildings. The scope includes deactivation of four spent fuel storage pools, deactivation of three excess nuclear test reactors, and deactivation of a nuclear fuel reprocessing building. The spent nuclear fuel storage pools have had spent fuel removed, but are a risk because they contain contaminated water, which could leak to the Snake River Plain Aquifer, which is a critical concern of the stakeholders. The total contaminated water volume in the four pools is nearly 2.5 million gallons.

The future end-state of this project is the removal of radiologically contaminated water from four nuclear fuel storage pools, deactivation of three nuclear reactors, and deactivation of a fuel reprocessing building, specifically involving: 1) the spent nuclear fuel pools at Test Area North 607, Materials Testing Reactor 603, Power Burst Facility 620, and Chemical Processing Plant-603; 2) the nuclear reactors at the Materials Testing Reactor, Engineering Test Reactor, and the Power Burst Facility; 3) the Chemical Processing Plant-601/627/640 nuclear fuel reprocessing building; and 4) final disposition of two nuclear facilities.

As of September 30, 2004, the Idaho National Laboratory has completed spent nuclear fuel removal and sludge, debris, and water removal at the Test Area North 607 pool, the Materials Testing Reactor Canal, and the Power Burst Facility Canal. The decontamination and material removals were accomplished by the use of underwater divers. The water removal and subsequent evaporation completes one of the higher risk reduction actions over the Snake River Plan Acquirer.

In FY 2006, the following activities are planned:

- Initiate deactivation and decommissioning of reactors.
- Continue facility isolation activities for Chemical Processing Plant-601 (Fuel Process Building) Complex.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Nuclear Facility Completions (Number of Facilities)  | 2       | 0       | 0       | 15                          | 15                  | 100%               |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Deactivated Materials Test Reactor Canal to the proposed end-state (FY 2004).</li> <li>▪ Deactivated Test Area North-607 pool to the proposed end-state (FY 2004).</li> <li>▪ Complete the environmental assessment for deactivation, decontamination, and decommissioning of Materials Test Reactor, Environmental Test Reactor, and Power Burst Facility Reactor (September 2005).</li> <li>▪ Complete the Power Burst Facility-620 reactor deactivation (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**ID-0050B / Non-Nuclear Facility D&D-2012 (life-cycle estimate \$292,749K)..... 36,181 26,993 39,105**

The Idaho National Laboratory is an 890 square mile government owned site with nine major facility areas including the Nuclear Regulatory Facility, Argonne National Laboratory-West, and the Idaho Falls Facilities. Over the last several decades these areas have been dedicated to nuclear energy related reactor and nuclear material processing operations. In support of these operations the types of buildings required were designated as industrial, radiological, and nuclear. Many of the buildings used to support this work have reached the end of their useful and necessary life. During the years of operation many of the activities involved hazardous and radiological contaminates.

In FY 2003 the Idaho National Laboratory complex consisted of 526 buildings. Responsibility to maintain and eventually disposition 243 of these buildings was transferred to Nuclear Energy. The remaining 283 buildings are the responsibility of EM to maintain and eventually disposition. Of these 283 buildings, 228 are classified as non-nuclear in support of industrial and/or radiological-related work directly related to reactors or spent nuclear fuel storage and reprocessing. This project will disposition 39 of these buildings to their final end-state. A total of 189 of the buildings will be dispositioned under PBS ID-0050C, Non-Nuclear Facility D&D-2035. Two of the buildings will be dispositioned under PBS ID-0040B, Nuclear Facility D&D-2012, and the remaining will be dispositioned beyond 2012 under PBS ID- 0040C, Nuclear Facility D&D-2035.

The work associated with this project includes removal and disposal of hazardous materials and radioactive contamination and the dispositioning of 39 buildings to their final end state (demolish, dismantle, entomb).

The Idaho National Laboratory has established specific procedures and processes for determining the desired end-state of each facility area. As of September 30, 2004, the Idaho National Laboratory has demolished 250,000 square feet (10 percent) of the EM assigned buildings and structures, including one of Test Area North’s largest buildings at the Power Burst Facility.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$1,560,000 for the use of Indefinite Quantity/Indefinite Delivery (ID/IQ) contracts to accelerate outyear decontamination and decommissioning projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- In addition to the planned facility completions, the Idaho National Laboratory will also deactivate 15 facilities at the Idaho Nuclear Technology and Engineering Center and Test Reactor Area. Deactivation is a process where the intent is to minimize the risks, hazards, and associated costs for a facility in order to make that facility available for potential reuse or eventual decontamination and decommissioning. These actions do not constitute a facility completion because that is not the planned end-state of these 14 facilities.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities) | 9       | 1       | 0       | 15                          | 19                  | 79%                |
| Industrial Facility Completions (Number of Facilities)  | 48      | 3       | 7       | 110*                        | 71                  | 155%               |

\* The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Demolition of four industrial buildings and structures at Test Area North, two of which are large above ground oil storage tanks were completed (FY 2004).
- The consolidation and reconfiguration of the Test Area North to determine long-term responsibility for facilities were completed (FY 2004).
- Inactivate an additional 52 EM buildings to a condition that is cold, dark, and dry (power, water, and heat disconnected) (September 2005).
- Complete deactivation of the Water Research Reactor Test Facility Buildings and structures (May 2006).

**OR-0013B / Solid Waste Stabilization and Disposition-2012**

**(life-cycle estimate \$779,039K)..... 67,056 46,744 68,360**

This PBS funds storage, treatment and disposal of low-level, mixed low-level, hazardous, industrial, and sanitary waste from the East Tennessee Technology Park and polychlorinated biphenyl Federal Facility Compliance Agreement mixed waste from Y-12. It also includes the operation of the Toxic Substances Control Act Incinerator, the Central Neutralization Facility, management of the Reservation's 1,224 m<sup>3</sup> of transuranic waste and the design, construction, and operation of the Transuranic Waste Treatment Facility. It partially funds East Tennessee Technology Park infrastructure services, including fire protection; utility services; environmental, safety, and health programs; real property management; power operations and maintenance; and capital improvements and repairs.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Both newly generated low-level waste and hazardous waste (Resource Conservation and Recovery Act) require disposal within one year of generation. This project addresses waste generated at the East Tennessee Technology Park under the Oak Ridge accelerated cleanup project through 2008, while the companion project (PBS OR-0013A, Solid Waste Stabilization and Disposition-2006) addresses all low-level and mixed low-level waste disposed of prior to 2006.

The end-state for this PBS is the shut down and transfer for the decontamination and decommissioning of the Toxic Substances Control Act Incinerator and the Central Neutralization Facility and the disposition of all legacy radioactive and polychlorinated biphenyl Federal Facility Compliance Act Waste. Transuranic waste treatment will continue at the Transuranic Waste Treatment Facility until the current inventory of transuranic and liquid low-level supernate is dispositioned.

As of September 2004, all legacy hazardous waste and 7,783 m<sup>3</sup> of low-level/mixed low-level waste have been dispositioned. The project has treated over 1,134,000 kg of liquid waste and 340,200 kg of solid waste from Tennessee and out-of-state DOE sites from FY 2001 through 2003 at the Toxic Substance Control Incinerator. In addition, Oak Ridge has shipped for treatment and disposal approximately 8,500 kgs of “lab pack type” polychlorinated biphenyl Federal Facility Compliance Act waste and started operations at the Transuranic Waste Treatment Facility for low-level waste supernate waste processing. Only 750 m<sup>3</sup> of legacy industrial waste and 100 m<sup>3</sup> of polychlorinated biphenyl waste remain for disposal.

In FY 2006, the following activities are planned:

- Newly Generated Transuranic Waste – Collect and store newly generated transuranic waste generated on the Oak Ridge Reservation primarily received from the Oak Ridge National Laboratory.
- Initiate contact-handled transuranic waste processing at the Transuranic Waste Treatment Facility.
- Complete the treatment of the inventory of liquid and solid wastes at the Toxic Substances Control Act Incinerator and make a final determination whether or not to shut the facility down for subsequent closure. Decommissioning will be performed under PBS OR-0043, Nuclear Facility D&D-East Tennessee Technology Park.
- Treat a total of 35,000,000 gallons of wastewater per year in the waste streams at Central Neutralization Facility and treat wastewater from the Environmental Management Waste Management Facility as needed, then shut the facility down for subsequent closure, decontamination and decommissioning.
- Continue disposition of the East Tennessee Technology Park polychlorinated biphenyl Federal Facility Compliance Agreement Waste.
- Complete the disposition of legacy industrial waste.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> )   | 0       | 0       | 271     | 271                         | 1,224               | 22%                |
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 713     | 3,582   | 1,524   | 12,889                      | 18,627              | 69%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ The Site Treatment Plan milestone for West End Treatment Facility sludge was completed (FY 2004).</li> <li>▪ Completed contact-handled-debris construction/operational testing at the Transuranic Waste Treatment Facility (September 2005).</li> <li>▪ Complete the treatment of Liquid Low-Level Waste Supernate at the Transuranic Waste Treatment Facility and disposal of the dried supernate product at the Nevada Test Site (October 2005).</li> <li>▪ Initiate contact-handled transuranic waste processing at the Transuranic Waste Treatment Facility (November 2005).</li> <li>▪ Complete legacy industrial waste disposition (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**OR-0031 / Soil and Water Remediation-Offsites (life-cycle estimate \$70,824K)..... 8,066 12,753 16,483**

This project reduces risk and accelerates the cleanup of three privately owned properties that were contaminated due to the sale of contaminated materials from the DOE to private companies. DOE is responsible for the cleanup of these sites under the Tennessee Superfund law. The three sites are the Atomic City Auto Parts Site in Oak Ridge and the David Witherspoon, Inc. 901 and 1630 sites in Knoxville. The properties, which cover 64 acres combined, are in residential and commercial areas and are accessible to the public. Primary contaminants include uranium, polychlorinated biphenyls, and heavy metals. The Oak Ridge Performance Management Plan commits to the completion of these three sites by FY 2008. The cleanup actions at these sites will consist of removing, treating, and disposing of contaminated materials, equipment, soil, and sediment; demolishing facilities; and remediating groundwater actions. The scope also includes Offsite Program Site Evaluations, which are dependent on the results of a study scheduled for release in FY 2005 by the Agency for Toxic Substances and Disease Registry.

At completion all three sites are expected to be suitable for future industrial use. The cleanup of the Witherspoon sites will be completed by 2008.

As of September 2004, the cleanup of the Atomic City Auto Parts Site has been completed. The David Witherspoon Inc, 901 Site Project completed the removal of highly contaminated items from the site (e.g., transformers and radioactively contaminated materials); completed remedial investigations and feasibility study; and initiated field work.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$2,340,000 for the use of Indefinite Deliver/Indefinite Quantity (ID/IQ) contracts to accelerate outyear environmental remediation projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- Initiate revision of the Remedial Investigation/Feasibility Study based on the removal action at the Atomic City Auto Parts in the City of Oak Ridge by the Tennessee Department of Environment and Conservation to ensure a “No Further Action” Record of Decision.
- Complete field work for the remediation on the David Witherspoon 901 site.
- Start field work on the David Witherspoon 1630 site.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)  | 0       | 0       | 0       | 5                           | 8                   | 63%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Completed the Atomic City Auto Parts Site (FY 2004).</li> <li>▪ Continued the David Witherspoon, Inc. site cleanups (FY 2004).</li> <li>▪ Complete the David Witherspoon 901 field work (May 2006).</li> </ul> |         |         |         |                             |                     |                    |

**OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense) (life-cycle estimate \$114,369K)..... 3,633 6,540 6,034**

This PBS scope covers decontamination, decommissioning, and remedial actions for the East Tennessee Technology Park facilities that were not involved in enriching uranium for commercial clients (per the Energy Policy Act of 1992). This project, in combination with PBS OR-0040, Nuclear Facility D&D-East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund), will complete the East Tennessee Technology Park cleanup by 2008 and will allow the closure of this major DOE site. The main activities will include decommissioning of the centrifuge development facilities at the site and the Toxic Substances Control Act Incinerator. The centrifuge facilities subproject includes 32 facilities covering 234,000 square feet. The Toxic Substances Control Act Incinerator facilities include 39 facilities and 59,000 square feet.

This scope also includes removal of centrifuge equipment that is stored inside the K-25 building. This equipment must be removed prior to K-25 demolition. The K-25 demolition is on the East Tennessee Technology Park site critical path and represents a major mortgage reduction opportunity. The project also includes surveillance and maintenance at the centrifuge and Toxic Substances Control Act Incinerator facilities while they await decontamination and decommissioning.

Finally, this project funds a portion of the site infrastructure services. The infrastructure services include fire protection; utility services; environmental, safety and health programs; real property management; power operations; and maintenance; and capital improvements and repairs.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

As of September 2004, no release sites and only two facilities have been completed because the Toxic Substances Control Act Incinerator and the Central Neutralization Facility are still active and operated under PBS OR-0013B, Solid Waste Stabilization and Disposition-2012. However, hazardous materials and equipment have been removed from the Centrifuge Facilities and the K-25 Building.

In FY 2006, the following activities are planned:

- Continue management, surveillance, inspection, testing, and maintenance of the East Tennessee Technology Park.
- Initiate the field work on the Centrifuge Facilities decontamination and decommissioning project.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ) | 0       | 0       | 0       | 32,979                      | 32,979              | 100%               |
| Industrial Facility Completions (Number of Facilities)         | 2       | 0       | 0       | 2                           | 86                  | 2%                 |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Perform surveillance and maintenance on the centrifuge facilities (FY 2004/September 2005).
- Complete centrifuge equipment removal from K-25 and K-27 (February 2005).
- Continue management, surveillance of the East Tennessee Technology Park. (September 2005).
- Begin decontamination and decommissioning of the centrifuge facilities (September 2005).
- Issue Centrifuge Facilities decontamination and decommissioning notice to proceed (June 2006).

**RL-0011 / NM Stabilization and Disposition-PFP (life-cycle estimate \$1,631,144K) ..... 149,718 172,089 190,772**

The Plutonium Finishing Plant Complex consists of several buildings that were used for defense production of plutonium nitrates, oxides and metal from 1950 through early 1989. The bulk of the plutonium bearing materials at the Plutonium Finishing Plant are stored in vaults. This PBS implements actions to: place the special nuclear materials and residues in a suitable form for long-term storage; cleanout the facilities and demolish them to slab-on-grade; and transition the below grade structures to PBS RL-0040, Nuclear Facility D&D-Remainder of Hanford. These actions can be grouped in the following key categories: 1) stabilization, packaging and shipment of the special nuclear materials and residues from the Plutonium Finishing Plant Complex; 2) maintaining the facilities in a safe and secure manner until the completion of demolition; and 3) cleanout and demolition of facilities.

As of September 2004, the Plutonium Finishing Plant has packaged 2,250 containers that meet DOE Standard 3013 (50-year container design life) and completed repackaging of over 3,400 kilograms of bulk plutonium residues. This completed stabilization and packaging of all plutonium bearing materials covered under the Defense Nuclear Facilities Safety Board Recommendation 2000-1. Demolition of six nuclear facilities was completed. Legacy plutonium holdup is 40 percent complete.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

The end-state for this PBS is dismantlement of the Plutonium Finishing Plant Complex to slab-on-grade. In FY 2006, the following activities are planned:

- Continue deactivation and decommissioning of 234-5Z, 236-Z, 242-2, and other nuclear facilities within the Plutonium Finishing Plant Complex.
- Maintain Plutonium Finishing Plant Complex facilities including vaults.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 <sup>a</sup> | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|--|---------------------|--------------------|
| Plutonium Metal or Oxide Packaged for Long-Term Storage (Number of Containers)   | 500     | 0       | 0       | 3,100 <sup>a</sup>                       | 3,000               | 103%               |
| Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)   | 0       | 0       | 0       | 3,437 <sup>b</sup>                       | 3,467               | 99%                |
| Materials Access Areas Eliminated (Number of Areas)  | 0       | 1       | 1       | 2  | 2                   | 100%               |
| Nuclear Facility Completions (Number of Facilities)  | 6       | 4       | 1       | 14                                       | 60                  | 23%                |
| <sup>a/</sup> All work associated with this metric was completed in FY 2004. For this PBS the actual performance at completion exceeded the projected life-cycle under configuration control.                      |         |         |         |  |                     |                    |
| <sup>b/</sup> All work associated with this metric was accelerated and completed in FY 2003. For this PBS the actual performance at completion was less than the projected life-cycle under configuration control. |         |         |         |  |                     |                    |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Completed repackaging of residues and transport them to the Central Waste Complex (FY 2004).
- Defense Nuclear Facilities Safety Board 94-1/2000-1 Plutonium bearing material stabilized and packaged (FY 2004).
- Glovebox cleanout and removal activities in Building 234-5Z was started (FY 2004).
- Complete legacy holdup removal and packaging/disposition of material/waste (September 2005).
- Dismantle 232-Z facility to slab-on-grade (September 2006).

**RL-0012 / SNF Stabilization and Disposition (life-cycle estimate \$1,780,091K)..... 181,383 119,769 58,479**

This project will package and move approximately 2,100 metric tons of degrading spent nuclear fuel, and up to 60 m<sup>3</sup> of radioactive sludge (estimated to weight approximately 18 metric tons) generated by the degrading fuel, from wet storage in the K Basins near the Columbia River to safe, dry interim storage on the 200 Area Central Plateau. The K Basin facilities are well past their design lives and are a major threat to the environment due to the potential for release of radioactive basin water to the surrounding soil and the Columbia River.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

The end-state of this PBS is the removal of all spent nuclear fuel from the K Basins, and subsequent repackaging, drying and transporting to interim on-site storage at the Canister Storage Building; removal of radioactive sludge from the K Basins; permanent disposal of debris from the K Basins in the 200 Area; transportation of K-Basin water to the 200 Area for treatment and disposal; and consolidation of all non defense production spent nuclear fuel in the Central Hanford 200 Area pending final disposition. All 100 Area facilities will be transitioned to the River Corridor Contractor (PBS RL-0041, Nuclear Facility Decontamination and Decommissioning-River Corridor Closure Project) for final disposition.

Construction of the Sludge and Removal Water System has been completed and final preparations for sludge removal from K-East Basin are underway. Debris/empty fuel canister removal is continuing. Final debris and water removal is to follow, supporting complete removal of all fuel, sludge, debris, and water from K-East Basin by January 31, 2006, and from K-West Basin by August 2008. This eliminates a significant risk to the Columbia River and public. All of the 100 Area K facilities will be deactivated and transitioned to PBS RL-0041, Nuclear Facility D&D-River Corridor Closure Project. This project's completion will mean the removal of more than 55 million curies of radioactivity - more than 95 percent of the radioactivity in Hanford's River Corridor.

As of September 2004, full scale sludge and water removal from K-East Basin was initiated. All spent nuclear fuel was removed from K Basins as of October 2004.

In FY 2006, the following activities are planned:

- Provide surveillance and maintenance of K-East and K-West Basins systems. Assure that aging and deteriorating basins are maintained in a safe condition until sludge removal operations are complete.
- Remove, treat, and prepare K-East and K-West sludge for disposition. Transfer and transport all waste products from K-East and K-West to interim or final disposition facilities.
- Deactivate assigned 100 K Area facilities sufficient to achieve end-point criteria for facility transfer to River Corridor Closure contractor.
- Operate and maintain the Canister Storage Building for staging and interim storage of approximately 2,100 metric tons of irradiated metallic uranium fuel, following the removal of the fuel from K Basins. Operation and maintenance of the Canister Storage Building equipment includes the Multi-Canister Overpack Handling Machine, gas sampling of Multi-Canister Overpacks and welding of the Multi-Canister Overpacks.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Spent Nuclear Fuel Packaged for Final Disposition (MTHM) | 645     | 28      | 0       | 2,116                       | 2,124               | 100%               |

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- Transfer completed of all K-East fuel to K-West Basin for subsequent processing and removal (FY 2004).
- K-East Basin sludge removal initiated (FY 2004).
- Full scale K-East Basin water removal initiated (FY 2004).
- Complete K-East Sludge Containerization (March 2005).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Complete the cleanout of K-East Basin (fuel, sludge, debris, and water) (June 2005).
- Complete the cleanout of K-West Basin (fuel, sludge, debris, and water) (September 2005).
- Deactivation and transition the 100 K Facilities to River Corridor Closure Project (September 2005).
- Complete removal of K-East Sludge (January 2006).
- Complete containerization of K-West Sludge (June 2006).

**RL-0041 / Nuclear Facility D&D-River Corridor Closure Project (life-cycle estimate \$3,109,027K)..... 147,876 212,033 168,501**

The River Corridor Closure Project will complete remediation of 758 contaminated waste sites, (including 50 burial grounds), the decontamination, decommissioning, and demolition of 283 facilities that are adjacent to the Columbia River and place eight reactors into interim safe storage condition. This cleanup will be completed in accordance with the interim Record of Decision. The work includes digging up contaminated soil, constructing interim safe storage (cocooning) for the reactors, demolishing facilities in the old reactor complexes and facilities in the 300 Area, disposing of waste in the Environmental Restoration Disposal Facility, and construction of surface barriers/caps, when needed, over contaminated sites. Operation of the Environmental Restoration Disposal Facility is funded under this PBS due to the River Corridor Closure Project being the primary user of the disposal facility through that time.

At completion, DOE will seek approval to delist from the National Priority List the project sites cleaned up according to interim Record of Decisions. There will be limited DOE activities remaining in the River Corridor after completion. The River Corridor project has the goal of ensuring that the land is sufficiently clean to support transfer to the Department of Interior. At that time, the footprint of active Hanford cleanup will be reduced from the present 586 square miles to about 75 square miles.

At the end of September 2004, activities completed included: cocooning 4 of 8 reactors (the 9<sup>th</sup> reactor, “B Reactor” may become a museum); remediation of approximately 322 of the 758 life-cycle waste sites and burial grounds, and 22 of 283 excess facilities, the removal of 2.2 metric tons of spent nuclear fuel from the 300 Area, which is near the river and local community; and disposal of a total of 5 million metric tons of remediation waste in the Environmental Restoration Disposal Facility. With the planned award of a new performance based contract in FY 2005, this project accelerates the completion of the River Corridor cleanup more than 20 years earlier than previously planned.

In FY 2006, the following activities are planned:

- Complete waste site remediations bringing the cumulative total to 428.
- Complete the decommissioning/demolition of a cumulative total of 11 Radiological Facilities, 33 Industrial Facilities, and one nuclear facility.
- Complete remaining activities for Interim Safe Storage of the H Reactor to ensure completion by December 31, 2005.
- Continue operation of the Environmental Restoration Disposal Facility, receiving more than 300,000 tons of remediation waste.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Continue surveillance and maintenance of radioactively contaminated facilities.
- Provide safe storage of approximately 825 metric tons of unirradiated uranium fuel in the 300 Area facilities and begin preparations for shipping.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Enriched Uranium Packaged for Long-Term Storage (Number of Containers)  | 0       | 0       | 1,310   | 2,958                       | 2,958               | 100%               |
| Depleted and Other Uranium Packaged for Disposition (metric tons)   | 0       | 0       | 0       | 3,100                       | 3,100               | 100%               |
| Nuclear Facility Completions (Number of Facilities)   | 0       | 0       | 1       | 1                           | 14                  | 7%                 |
| Radioactive Facility Completions (Number of Facilities)   | 4       | 3       | 2       | 11                          | 50                  | 22%                |
| Industrial Facility Completions (Number of Facilities)  | 10      | 8       | 7       | 33                          | 219                 | 15%                |
| Remediation Complete (Number of Release Sites)  | 62      | 49      | 57      | 428                         | 758                 | 56%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ The 105-D Reactor Interim Safe Storage activities were completed (FY 2004).</li> <li>▪ The excavation/removal of 100 B/C Process Effluent Pipeline was completed (FY 2004).</li> <li>▪ The remedial action of 37 waste sites were completed (FY 2004).</li> <li>▪ Disposed 500,000 tons of remediation waste in the Environmental Restoration Disposal Facility (FY 2004).</li> <li>▪ Complete backfill of 100 B/C process effluent pipeline excavations (February 2005).</li> <li>▪ Initiate remedial actions for remaining waste sites for 100 F Area (July 2005).</li> <li>▪ Complete construction of cells 5 and 6 at the Environmental Restoration Disposal Facility (September 2005).</li> <li>▪ Complete remediation action of 49 release sites (September 2005).</li> <li>▪ Complete decommissioning/demolition of three Radiological Facilities and eight Industrial Facilities (September 2005).</li> <li>▪ Complete closure of non-permitted mixed waste units in 324 Building Rec. B&amp;D Cells (October 2005).</li> <li>▪ Complete deactivation, decontamination, decommissioning, and demolition of the 313 and 314 facilities (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**ORP-0060 / Major Construction-Waste Treatment Plant (life-cycle estimate \$6,214,857K)..... 697,530 684,480 625,893**

This PBS will design, construct, and commission the line-item project 01-D-416, Waste Treatment and Immobilization Plant. This facility is critical to the completion of the Hanford tank waste program by 2032 by providing the primary facility to immobilize (vitrify) the radioactive tank waste at the Hanford Site. The Waste Treatment and Immobilization Plant Complex includes five major facilities: Pretreatment facility, Low Activity Waste facility, High-Level Waste facility, Analytical Laboratory, and the Balance of Facilities. The Pretreatment facility will separate the Hanford radioactive tank waste into low activity and high-level fractions. The high-level fraction will be sent to the High-Level Waste facility for immobilization (i.e., into glass), ready for disposal at a national geologic repository. A substantial portion of the low activity fraction will be sent to the Low Activity Waste facility for immobilization and disposal at the Hanford Site. The Analytical Laboratory will provide real-time analytical support for plant operations. Office facilities, chemical storage, site utilities, and infrastructure are provided as part of the Balance of Facilities.

The Waste Treatment and Immobilization Plant construction began in July 2002 and will be completed in 2008. After completion of integrated water testing, commissioning of major facilities will begin in 2009 and be completed in 2011.

The end-state of this project will be the completion of the Waste Treatment and Immobilization Plant Hot Commissioning in FY 2011. At the end of FY 2004, approximately 70 percent of facility design, and 30 percent of the construction were completed.

In FY 2006, the following activities are planned:

- Fabricate and deliver high-level waste melters #1 and #2.
- Complete design of the Low Activity Waste Facility.
- Continue the Waste Treatment and Immobilization Plant design and engineering.
- Continue the Waste Treatment and Immobilization Plant facility construction.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Placed 47 percent (of a total 240,000 cubic yards) of structural concrete; installed 1 percent of 21,000 tons of structural steel; installed the first 1 percent of the process pipe (a total of 700,000 linear feet); and installation of 5 percent of 3,760,000 pounds of heating, ventilation, and air conditioning ductwork (FY 2004).</li> <li>▪ Continued design and engineering to 72 percent complete (FY 2004).</li> <li>▪ Continued the Waste Treatment and Immobilization Plant construction to 30 percent complete (FY 2004).</li> <li>▪ Initiate construction of the Analytical Laboratory (FY 2004).</li> <li>▪ Fabricate and deliver high-level waste melters #1 and #2 (February 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Continue the Waste Treatment and Immobilization Plant design and engineering (September 2006).
- Continue Waste Treatment and Immobilization Plant facility construction (September 2006).

**SR-0011B / NM Stabilization and Disposition-2012 (life-cycle estimate \$4,020,224K)..... 378,223 378,562 250,303**

The Savannah River Site will deactivate the F-Area facilities by FY 2006, an acceleration of one year from the previous plan. The H Area facilities will continue to stabilize and disposition legacy nuclear materials through FY 2010; they will be deactivated by the end of FY 2014. Other DOE program offices are funding some activities concurrently with EM mission work in H Canyon (e.g., National Nuclear Security Administration highly enriched uranium blend down).

The remaining stabilization activities in F-Area involve stabilizing and packaging plutonium to DOE Standard 3013. The deactivation involves the transfer of cold chemical makeup to H Canyon; shutdown of major processing equipment; disposition of depleted uranium solutions; relocation of PUREX solvent; disposition of depleted uranium oxide from 221-12F, 221-21F, 728-F and 730-F; and elimination of infrastructure and safeguards and security requirements for most of F-Area. The remaining materials to be stabilized/dispositioned in H Area include: plutonium-239 solutions; highly enriched uranium solutions; neptunium solutions; Savannah River Site spent fuel assemblies; unirradiated Mk-22 tubes; miscellaneous fuels; Savannah River Site plutonium residues; enriched uranium residues; and other legacy materials identified by DOE.

This PBS scope also includes the Receiving Basin for Off-Site Fuels, which will be deinventoried and deactivated in FY 2004; design and construction of the 3013 Container Surveillance and Storage Capability; and an Operating Expense Project to upgrade exhaust systems in the 221-H facility.

As of September 2004, the Savannah River Site has completed more than 91 percent of the scheduled nuclear materials to be stabilized (129,863 of 143,311 items) and 50 of the 54 Defense Nuclear Facilities Safety Board commitments. Deinventory and deactivation of the F Area facilities is 43 percent complete. Deactivation of Receiving Basin for Off-Site Fuels is 40 percent complete. Critical Decision-1 approval for the 3013 Container Surveillance and Storage Capability line-item has been received. The 221-H Facility Exhaust Upgrades design has been started.

This PBS includes funding in FY 2004 of \$10,247,000, and FY 2005 \$2,976,015, for Project Engineering and Design, 04-D-414, and \$11,213,000 in FY 2004, and \$20,475,000 in FY 2005 for construction of the 3013 Container Surveillance and Storage Capability (04-D-423).

The end-states for this project consist of F and H Area facilities and Receiving Basin for Off-site Fuel deactivation and turn over to PBS SR-040, Nuclear Facility D&D, for long term surveillance, maintenance and decommissioning. After decommissioning, these facilities will be transitioned to PBS SR-0030, Soil and Water Remediation, Defense 2035 Site Acceleration Completion account, for area closures.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Complete de-inventory and deactivation of the F Area nuclear materials processing facilities including F Canyon, FB Line and F Outside Facilities. This includes completing stabilization and packaging plutonium to DOE Standard 3013 in FB Line.
- Continue H Canyon dissolution of unirradiated Mk22 tubes, begin H Canyon processing of other legacy materials identified by DOE, continue H Canyon support of the National Nuclear Security Administration-funded efforts to blend highly enriched uranium solutions to low enriched uranium, package and ship the low enriched uranium to the Tennessee Valley Authority, and complete H Canyon support of the processing of Np solutions to oxide in HB Line Phase II.
- Continue HB Line Phase I dissolution of materials identified by DOE.
- Complete processing neptunium solutions to oxide in HB Line Phase II and begin transition to processing certain remaining materials at the Savannah River Site.
- Complete the installation and startup of Old HB Line Exhaust Upgrades.
- Complete the turnover of the Receiving Basin for Off-site Fuels to PBS SR-0040, Nuclear Facility Decontamination and Decommissioning, for long-term surveillance, maintenance and decommissioning.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Plutonium Metal or Oxide Packaged for Long-Term Storage (Number of Containers) | 720     | 176     | 0       | 950*                        | 750                 | 127%               |
| Enriched Uranium Packaged for disposition (Number of Containers)               | 793     | 855     | 870     | 2,664                       | 2,809               | 95%                |
| Plutonium or Uranium Residues Packaged for Disposition (kg/bulk)               | 79      | 36      | 0       | 437*                        | 414                 | 105%               |
| Depleted and Other Uranium Packaged for Disposition (metric tons)              | 1,406   | 0       | 186     | 6,143                       | 23,182              | 26%                |
| Spent Nuclear Fuel Packaged for Final Disposition (MTHM)                       | 1       | 0       | 0       | 3                           | 36                  | 9%                 |

\*The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Began FB-Line Packaging and Stabilization of Plutonium Oxide (FY 2004).
- Continued Mk-16/22 multi-year dissolution campaign (FY 2004).
- Completed MK 16/22 legacy spent nuclear fuel dissolutions (FY 2004).
- De-inventoried fuel from Receiving Basin for Off-site Fuels basin (November 2004).
- Begin processing neptunium solutions (March 2005).
- Complete F Canyon deinventory of depleted uranium and FB Line stabilization and packaging of plutonium to DOE 3013 Standards (September 2005).
- Complete the deactivation of FB Line (June 2006).
- Complete H Canyon Mk-16/22 dissolutions (September 2006).
- Complete disposition of Neptunium solutions (September 2006).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**VL-LANL-0013 / Solid Waste Stabilization and Disposition – LANL Legacy (life-cycle estimate \$443,839K)..... 42,730 40,648 42,801**

The PBS scope comprises the treatment, storage, and/or disposal of all legacy transuranic and mixed low-level waste generated before fiscal year 1999 at Los Alamos National Laboratory. This waste was generated at 33 Technical Areas and is treated, stored, and disposed in compliance with applicable federal and state requirements. The end-state for this project is the disposal of all legacy transuranic waste from Los Alamos National Laboratory. The decontamination and decommissioning of the storage and treatment facilities is not included in this scope. The Performance Management Plan displays Los Alamos National Laboratory’s commitment to complete transuranic waste disposition by fiscal year 2010. The accelerated cleanup efforts will shorten the previous schedule by 20 years. The cornerstone to the planned completion is Revision 19a to the Nuclear Regulatory Commission Safety Analysis Report for the TRUPACT-II (transuranic waste shipping container) transportation requirements. Revision 19a enables the Los Alamos National Laboratory to ship 2,000 aboveground high-activity drums to the Waste Isolation Pilot Plant with reduced repackaging due to wattage limits. Another Nuclear Regulatory Commission exemption similar to Revision 19a will be required to minimize repackaging when shipping below-grade high-wattage transuranic waste.

The baseline accelerated schedule includes: decontaminating and reducing the volume of the oversized boxes containing transuranic waste; characterizing and shipping 100 percent of transuranic waste inventory including transferring Sandia National Laboratory and the Inhalation Toxicology Laboratory transuranic waste to the Los Alamos National Laboratory. The baseline schedule also includes completing treatment and disposition of legacy mixed low-level waste. Finally, the Los Alamos National Laboratory acceptance of the Inhalation Toxicology Laboratory and the Sandia National Laboratory transuranic waste is on the critical path to EM closure at these sites.

In FY 2006, the following activities are planned:

- Initiate retrieval of legacy transuranic waste stored below ground.
- Provide necessary capabilities to meet the volume commitments.
- Supply the majority of the labor for characterization and shipping, and for all labor and facilities for retrieval and repackaging.
- Decontaminate and volume reduce oversized transuranic waste items to make eligible for disposal at the Waste Isolation Pilot Plant.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> )   | 0       | 1,400   | 1,400   | 3,406                       | 9,200               | 37%                |
| Low-Level and Mixed Low-Level Disposed (m <sup>3</sup> )   | 14      | 0       | 0       | 483                         | 483                 | 100%               |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Complete disposal of all 483 m<sup>3</sup> of mixed low-level waste (FY 2004).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Complete characterization and packaging of Quick-to-Waste Isolation Pilot Plant waste (September 2005).
- Decrease legacy transuranic waste by 1,400 m<sup>3</sup> (September 2005/September 2006).
- Initiate retrieval of legacy transuranic waste stored below ground (September 2006).

**Total, 2012 Accelerated Completions .....**      **2,205,966    2,192,913    1,943,139**

### Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**ID-0011 / NM Stabilization and Disposition**

- No significant change. .... -334

**ID-0012B-D / SNF Stabilization and Disposition-2012 (Defense)**

- Decrease reflects completion of consolidation of EM-owned spent nuclear fuel from the Test Area North to the Idaho Nuclear Technology and Engineering Center, which eliminates the Test Area North fuel maintenance, oversight, and security costs. Decrease also reflects the suspension of the Nuclear Energy Advanced Test Reactor Spent Nuclear Fuel receipts and the deferral of preparation operations for the transfer of Navy spent nuclear fuel from the Chemical Processing Plant-666 to the Naval Reactor Facility Expended Core Facility. .... -7,207

**ID-0013 / Solid Waste Stabilization and Disposition**

- Increase reflects first full year of characterization, packaging, and transportation of remote-handled transuranic waste to the Waste Isolation Pilot Plant. Increase also reflects consolidation of the Idaho National Laboratory waste management operations to the Radioactive Waste Management Complex, which will reduce costs by eliminating the EM footprint elsewhere at the Idaho National Laboratory. .... 30,543

**ID-0014B / Radioactive Liquid Tank Waste Stabilization and Disposition-2012**

- Decrease reflects Idaho Nuclear Technology and Engineering Center operational efficiencies since FY 2005 and reduced funding requirements for sodium bearing waste design, project management, engineering, and technology development in support of final design activities. .... -74,992

**ID-0030B / Soil and Water Remediation-2012**

- Increase reflects retrieval action in the Subsurface Disposal Area (Waste Area Group 7). An additional \$3,900,000 is provided for the use of the ID/IQ contracts to accelerate outyear environmental remediation activities to further accelerate risk reduction. .... 36,495

**ID-0040B / Nuclear Facility D&D-2012**

- No significant change. .... -399

**ID-0050B / Non-Nuclear Facility D&D-2012**

- Increase reflects final disposition activities for many of the facilities at the Idaho Test Reactor Area. An additional \$1,560,000 is provided for the use of the ID/IQ contracts to accelerate outyear decontamination and decommissioning activities to further accelerate risk reduction. .... 12,112

**OR-0013B / Solid Waste Stabilization and Disposition-2012**

- Increase associated with contact-handled transuranic waste processing at the Transuranic Waste Treatment Facility and increased transuranic waste transfers due to the completion of Melton Valley cleanup in FY 2006. .... 21,616

**OR-0031 / Soil and Water Remediation-Offsites**

- Increase reflects the start of the remediation (soil removal) at the David Witherspoon 1630 Site project and completion of the 901 Site field work. The increased funds will accelerate the completion of these off-site projects and reduce the risk to the public. An additional \$2,340,000 is provided for the use of the ID/IQ contracts to accelerate outyear environmental remediation activities of this project to further accelerate risk reduction. .... 3,730

**OR-0043 / Nuclear Facility D&D-East Tennessee Technology Park (Defense)**

- No significant change. .... -506

**RL-0011 / NM Stabilization and Disposition-PFP**

- Increase reflects the need to maintain existing storage for special nuclear material and the protected area and dismantlement of more facilities. .... 18,683

**RL-0012 / SNF Stabilization and Disposition**

- Decrease reflects completion of fuel removal from Basins in FY 2005. .... -61,290

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**RL-0041 / Nuclear Facility D&D-River Corridor Closure Project**

- Decrease reflects completion of the H-Reactor cocooning in early FY 2006 and concludes the ongoing reactor work for the immediate future. Decreased remediation waste volumes planned for disposal at the Environmental Restoration Disposal Facility represent a shift in the remediation activities from primarily high volume liquid waste soil sites to lower volume solid waste burial grounds. .... -43,532

**ORP-0060 / Major Construction-Waste Treatment Plant**

- Decrease due to slow-down of construction while certain design issues (e.g. new seismic data) are resolved. Most schedule impacts are expected to be recovered. .... -58,587

**SR-0011B / NM Stabilization and Disposition-2012**

- Decrease primarily due to the completion of deactivation of the F Canyon and related F Area facilities such as FB Line. .... -128,259

**VL-LANL-0013 / Solid Waste Stabilization and Disposition-Los Alamos National Laboratory Legacy**

- Increase for initiation of retrieval of legacy transuranic waste. .... 2,153

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**Total Funding Change, 2012 Accelerated Completions..... -249,774**

## 2035 Accelerated Completions

### Funding Schedule by Activity

(dollars in thousands)

|   | FY 2004          | FY 2005          | FY 2006          | \$ Change      | % Change     |
|---|------------------|------------------|------------------|----------------|--------------|
| CB-0080 / Operate Waste Disposal Facility-WIPP...                                     | 140,278          | 146,430          | 111,948          | -34,482        | -23.5%       |
| CB-0081 / Central Characterization Project.....                                       | 29,728           | 26,242           | 38,502           | 12,260         | 46.7%        |
| CB-0090 / Transportation-WIPP.....  | 23,711           | 29,248           | 37,631           | 8,383          | 28.7%        |
| ID-0030C / Soil and Water Remediation-2035.....                                       | 439              | 1,984            | 0                | -1,984         | -100.0%      |
| NV-0030 / Soil and Water Remediation-Nevada<br>Offsites.....                          | 7,715            | 7,490            | 2,846            | -4,644         | -62.0%       |
| OR-0041 / Nuclear Facility D&D-Y-12.....  | 25,981           | 27,323           | 40,558           | 13,235         | 48.4%        |
| OR-0042 / Nuclear Facility D&D-Oak Ridge<br>National Laboratory.....                  | 30,249           | 19,626           | 16,034           | -3,592         | -18.3%       |
| RL-0013 / Solid Waste Stabilization and<br>Disposition - 200 Area.....                | 134,192          | 211,117          | 165,113          | -46,004        | -21.8%       |
| RL-0030 / Soil and Water Remediation -<br>Groundwater/Vadose Zone.....                | 54,916           | 48,423           | 72,955           | 24,532         | 50.7%        |
| RL-0040 / Nuclear Facility D&D-Remainder of   | 112,123          | 111,696          | 70,812           | -40,884        | -36.6%       |
| RL-0080 / Operate Waste Disposal Facility.....  | 2,305            | 5,980            | 5,861            | -119           | -2.0%        |
| ORP-0014 / Radioactive Liquid Tank Waste<br>Stabilization and Disposition.....        | 410,744          | 391,329          | 301,942          | -89,387        | -22.8%       |
| SR-0011C / NM Stabilization and Disposition -<br>2035.....                            | 63,709           | 43,218           | 75,105           | 31,887         | 73.8%        |
| SR-0012 / SNF Stabilization and Disposition.....                                      | 5,840            | 22,767           | 11,273           | -11,494        | -50.5%       |
| SR-0013 / Solid Waste Stabilization and<br>Disposition.....                           | 103,067          | 88,313           | 112,993          | 24,680         | 27.9%        |
| SR-0014C / Radioactive Liquid Tank Waste<br>Stabilization and Disposition - 2035..... | 463,868          | 586,634          | 582,292          | -4,342         | -0.7%        |
| SR-0030 / Soil and Water Remediation.....   | 96,669           | 100,896          | 103,665          | 2,769          | 2.7%         |
| SR-0040 / Nuclear Facility D&D.....   | 63,541           | 68,198           | 66,516           | -1,682         | -2.5%        |
| VL-LANL-0030 / Soil and Water Remediation -<br>Los Alamos National Laboratory.....    | 60,847           | 76,104           | 99,408           | 23,304         | 30.6%        |
| <b>Total, 2035 Accelerated Completions.....</b>                                       | <b>1,829,922</b> | <b>2,013,018</b> | <b>1,915,454</b> | <b>-97,564</b> | <b>-4.8%</b> |

#### Description

The 2035 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear weapons production. This program provides funding for site closures and site specific cleanup and closure projects that are expected to be completed after 2012. Environmental Management has established a goal of completing cleanup at all its sites by 2035.

## Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at sites where cleanup will be completed by 2035. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

### Funding by Site

|  | (dollars in thousands) |           |           |           |          |
|--|------------------------|-----------|-----------|-----------|----------|
|  | FY 2004                | FY 2005   | FY 2006   | \$ Change | % Change |
| Carlsbad                                 |                        |           |           |           |          |
| Waste Isolation Pilot Plant.....         | 193,717                | 201,920   | 188,081   | -13,839   | -6.9%    |
| Idaho                                    |                        |           |           |           |          |
| Idaho National Laboratory.....           | 439                    | 1,984     | 0         | -1,984    | -100.0%  |
| Oak Ridge                                |                        |           |           |           |          |
| Oak Ridge National Laboratory.....       | 30,249                 | 19,626    | 16,034    | -3,592    | -18.3%   |
| Y-12 Plant.....                          | 25,981                 | 27,323    | 40,558    | 13,235    | 48.4%    |
| Total, Oak Ridge.....                    | 56,230                 | 46,949    | 56,592    | 9,643     | 20.5%    |
| Richland                                 |                        |           |           |           |          |
| Hanford Site.....                        | 303,536                | 377,216   | 314,741   | -62,475   | -16.6%   |
| River Protection.....                    | 410,744                | 391,329   | 301,942   | -89,387   | -22.8%   |
| Savannah River Site.....                 | 796,694                | 910,026   | 951,844   | 41,818    | 4.6%     |
| Nevada Site Office                       |                        |           |           |           |          |
| Nevada Offsites.....                     | 7,715                  | 7,490     | 2,846     | -4,644    | -62.0%   |
| Los Alamos Site Office                   |                        |           |           |           |          |
| Los Alamos National Laboratory.....      | 60,847                 | 76,104    | 99,408    | 23,304    | 30.6%    |
| Total, 2035 Accelerated Completions..... | 1,829,922              | 2,013,018 | 1,915,454 | -97,564   | -4.8%    |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**CB-0080 / Operate Waste Disposal Facility-WIPP (life-cycle estimate \$4,389,591K)..... 140,278 146,430 111,948**

The Waste Isolation Pilot Plant, in Carlsbad, New Mexico, is the nation's mined geologic repository for the permanent disposal of defense-generated transuranic waste. The Carlsbad Field Office was created to serve as the focal point to lead the nation's transuranic waste management efforts. Transuranic waste is currently stored at 21 sites across the country. Transuranic waste has been removed from another six sites (all transuranic waste from ARCO Medical Products Company, Energy Technology Engineering Center, Missouri University Research Reactor; and legacy contact-handled transuranic waste from Mound, Argonne National Laboratory-East, and Lawrence Berkeley National Laboratory). The defense-generated transuranic waste from all of the generator sites eligible for Waste Isolation Pilot Plant disposal must ultimately come to the Waste Isolation Pilot Plant for receipt, handling, and disposal. The Carlsbad Field Office has the responsibility for management of the National Transuranic Waste Program, whose mission is the implementation and management of a national system that safely and cost-effectively provides for the disposal of this waste.

This PBS supports all activities related to the disposal of transuranic waste at the Waste Isolation Pilot Plant. Key elements of this system are: 1) operation of the disposal facility—including mining, waste handling, and the infrastructure to safely maintain the facility and operations in compliance with all Federal and state laws, regulations, and environmental requirements; 2) Environmental Compliance—maintenance of compliance certification through monitoring and verifying the performance of the system's sensitive parameters; and 3) National Transuranic Waste Management Program—integration and infrastructure activities required to certify the transuranic waste and coordinate all activities across the transuranic waste complex for shipments of waste to the Waste Isolation Pilot Plant.

End-States: By 2015, all legacy transuranic waste across the DOE complex will be disposed of at the Waste Isolation Pilot Plant. Receipt of newly generated waste will continue until 2030. Decommissioning of the surface facilities and permanent closure of the underground will be complete in 2035. The surface area will remain under institutional controls for 100 years after the disposal phase ends.

|  |              |               |          |
|--|--------------|---------------|----------|
| <b>Congressionally Directed Activities.....</b>  | <b>5,920</b> | <b>12,896</b> | <b>0</b> |
| Community Education Support, Infrastructure Improvements, etc.....                       | 3,448        | 3,472         | 0        |
| Consolidated Record Archives Relevant to the Waste Isolation Pilot Plant Operations..... | 1,478        | 4,960         | 0        |
| Waste Isolation Pilot Plant Hazardous Waste Permit.....                                  | 994          | 992           | 0        |
| Center of Excellence for Hazardous Materials Management...                               | 0            | 1,984         | 0        |
| Neutrino Research at Waste Isolation Pilot Plant.....                                    | 0            | 1,488         | 0        |
| <b>Total Congressionally Directed Activities.....</b>                                    | <b>5,920</b> | <b>12,896</b> | <b>0</b> |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Maintain facility and infrastructure to dispose of waste from 87 TRUPACT-IIs and/or other shipping containers per week supporting the Corporate Performance Measure for disposal of 10,000 m<sup>3</sup> (1,300 shipments) of transuranic waste.
- Prepare for and begin disposal of remote-handled transuranic waste.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Compliance recertification application to Environmental Protection Agency submitted (FY 2004).</li> <li>▪ Panel 3 mining completed (FY 2004).</li> <li>▪ Completed hot cell facility modifications to support remote-handled program (FY 2004).</li> <li>▪ Completed Panel 1 Closure (FY 2004).</li> <li>▪ Complete disposal of all contact-handled waste from Rocky Flats (May 2005).</li> <li>▪ Begin waste emplacement in Panel 3 (May 2005).</li> <li>▪ Complete placement of contact-handled waste in Panel 2 (May 2005).</li> <li>▪ Receive Environmental Protection Agency recertification that repository is in compliance with the radioactive waste disposal standards (August 2005).</li> <li>▪ Prepare for receipt of remote-handled waste in FY 2006 (September 2005).</li> <li>▪ Start large box characterization (April 2006).</li> <li>▪ Begin initial boring of remote-handled waste holes (May 2006).</li> <li>▪ Declaration of remote-handled readiness (June 2006).</li> <li>▪ Begin placement of remote-handled waste (June 2006).</li> </ul> |         |         |         |                             |                     |                    |

**CB-0081 / Central Characterization Project (life-cycle estimate \$TBD) ..... 29,728 26,242 38,502**

This PBS provides labor, materials and supplies for operation of a mobile waste characterization system that is deployed to Department of Energy generator sites for characterization of transuranic waste to be disposed at the Waste Isolation Pilot Plant. These services include acceptable knowledge compilation and reporting, data generation, project level validation and verification, records management, and document control; non-destructive examination, non-destructive assay, headspace gas sampling and analysis, mobile visual examination and repackaging, and mobile loading support. The use of mobile systems provides host sites with a highly regulated program that has already been certified for use.

End-States: By 2015, all legacy transuranic waste requiring use of the Central Characterization Project across the DOE complex will be disposed of at the Waste Isolation Pilot Plant.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Maintain contact-handled waste characterization rates by continuing to operate mobile/modular units at Hanford, Los Alamos National Laboratory, Idaho National Laboratory, and the Savannah River Site to facilitate accelerated cleanup.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| <b>Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)</b> <ul style="list-style-type: none"> <li>▪ Provided characterization services to Hanford, Los Alamos National Laboratory, Savannah River Site, Nevada Test Site, Lawrence Livermore National Laboratory, Lawrence Berkeley National Laboratory, and Argonne National Laboratory-East (FY 2004).</li> <li>▪ Completed removal of EM legacy transuranic waste at Argonne National Laboratory-East and Lawrence Berkeley National Laboratory (FY 2004).</li> <li>▪ Provide characterization services to Nevada Test Site, Savannah River Site, and Los Alamos National Laboratory (September 2005).</li> <li>▪ Complete characterization of available legacy waste drums at Nevada Test Site (September 2005).</li> <li>▪ Provide characterization services to Hanford, Los Alamos National Laboratory, Idaho National Laboratory, and the Savannah River Site to facilitate accelerated cleanup (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**CB-0090 / Transportation-WIPP (life-cycle estimate**

**\$989,643K) ..... 23,711 29,248 37,631**

This PBS includes all transportation activities required to support the disposal of both contact-handled and remote-handled transuranic waste at the Waste Isolation Pilot Plant, including carrier services, transportation packaging, shipping coordination, and stakeholder interfaces related to transportation. As required in the Waste Isolation Pilot Plant Land Withdrawal Act, provide for technical assistance for the purpose of training public safety officials and other emergency responders as described in part 1910.120 of Title 29, CFR, in any State or Indian tribal land through whose jurisdiction DOE plans to transport transuranic waste to or from the Waste Isolation Pilot Plant.

End-States: The Carlsbad Field Office has the capability to transport and receive 34 shipments per week. All shipping activities are scheduled to end in 2030.

In FY 2006, the following activities are planned:

- Continue shipment of contact-handled transuranic waste.
- Begin shipping remote-handled transuranic waste.
- Begin testing TRUPACT-III (for shipping larger size waste containers) test articles during FY 2006 for submittal of packaging application to Nuclear Regulatory Commission in FY 2007.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Completed Lawrence Berkeley National Laboratory Shipment (intersite to Lawrence Livermore National Laboratory) (FY 2004).</li> <li>▪ Carrier capacity from 25 to 34 shipments per week was increased (FY 2004).</li> <li>▪ Completed the TRUPACT II fabrication to obtain fleet of 84 TRUPACTS (FY 2004).</li> <li>▪ The Nevada Test Site contact-handled waste shipments were initiated (FY 2004).</li> <li>▪ Removal of transuranic waste from Lovelace Respiratory Research Institute was completed (FY 2004).</li> <li>▪ Lawrence Livermore National Laboratory contact-handled waste shipments were initiated (October 2004).</li> <li>▪ Complete Rocky Flats shipments (April 2005).</li> <li>▪ Start Oak Ridge National Laboratory contact-handled waste shipments (February 2006).</li> <li>▪ Begin shipment of remote-handled waste (June 2006).</li> <li>▪ Procure 11 remote-handled trailers for a total of 14 (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**ID-0030C / Soil and Water Remediation-2035 (life-cycle estimate \$1,849,946K)..... 439 1,984 0**

The Idaho National Laboratory is an 890 square mile government-owned site with nine major facility areas. The Idaho National Laboratory was placed on the National Priorities List and is committed to achieving cleanup under a Comprehensive Environmental Response, Compensation, and Liability Act agreement with the State of Idaho and Environmental Protection Agency.

EM is responsible for addressing the cleanup of chemical and radioactive contamination to soil and groundwater. Most soil contamination is confined to the nine facility areas, while groundwater contamination is being addressed to prevent off-site releases from ever exceeding drinking water standards. This project accelerates remediation of contaminated soil and groundwater and closure of legacy tank systems to protect the sole source Snake River Plain Aquifer.

The future end-state for this project is completion of all Comprehensive Environmental Response, Compensation, and Liability Act cleanup actions to enable reuse of the land consistent with current and future missions, as assigned. This project provides for the completion of any remedies that are not completed by 2012 and for the long-term maintenance of remedies, monitoring of groundwater and the ecosystem, records management and other tasks required to address waste left on the site.

This PBS encompasses remediation of Waste Area Group 3, Idaho Nuclear Technology and Engineering Center and Waste Area Group 7, Radioactive Waste Management Complex, which will be actively managed beyond 2012. The remedial approach for Waste Area Group 3 has been selected. Implementation will continue beyond 2013. The remedial approach for Waste Area Group 7 will not be selected until 2007.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

By 2013 all Comprehensive Environmental Response, Compensation, and Liability Act Records of Decision will be signed, and all commitments in 21 of the Record of Decisions will be met, allowing closure of most Idaho National Laboratory facility areas. All Voluntary Consent Order legacy tanks will have been dispositioned.

|   |            |              |          |
|---|------------|--------------|----------|
| <b>Congressionally Directed Activities.....</b>                             | <b>439</b> | <b>1,984</b> | <b>0</b> |
| Title V air permitting fees "...consistent with prior year levels..." ..... | 439        | 0            | 0        |
| Idaho National Laboratory Modular Phase Low Cost Nanoparticle.....          | 0          | 1,984        | 0        |
| <b>Total Congressionally Directed Activities.....</b>                       | <b>439</b> | <b>1,984</b> | <b>0</b> |

- There are no activities planned for FY 2006.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Disposed (m <sup>3</sup> )                           | 0       | 0       | 0       | 0                           | 758                 | 0%                 |
| Low-Level/Mixed Low-Level Waste Disposed (m <sup>3</sup> )             | 0       | 0       | 0       | 0                           | 21,120              | 0%                 |
| Remediation Complete (Number of Release Sites)                         | 0       | 0       | 0       | 0                           | 71                  | 0%                 |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)     |         |         |         |                             |                     |                    |
| No Key Accomplishments or Planned Milestones associated with this PBS. |         |         |         |                             |                     |                    |

**NV-0030 / Soil and Water Remediation - Nevada Offsites (life-cycle estimate \$101,7747K)..... 7,715 7,490 2,846**

Historic atmospheric and underground nuclear tests at six sites in Alaska, Colorado, Mississippi, Nevada, and New Mexico resulted in contaminated support facilities, soils and groundwater. Cleanup is complex, due to the number of sites, nature/extent of contamination, site size/location and numerous state regulators. Risk associated with these contaminated sites is due to institutional control being outside of DOE control.

Overall solution to remediate the Nevada Offsites:

- Complete remediation activities to support regulatory closures at eight former nuclear testing sites in Alaska, Colorado, Mississippi, Nevada, and New Mexico. Off-site surface closure eliminates potential access to contamination by removal and clean closure or closure in place, capping and establishing appropriate use restrictions. The focus for most off-site surface closures will be clean closure to allow unrestricted use by site landlords. Subsurface closure includes completing predictive flow models and establishing monitoring networks where necessary to ensure that contaminated groundwater remains within expected boundaries—associated use restrictions and institutional controls will be in place within the predicted contaminant boundaries to preclude inadvertent contact with subsurface contaminants. Under strategic

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

initiative number four in the Nevada Performance Management Plan, the Offsites Project is accelerated by one year to FY 2014 from FY 2015.

**Congressionally Directed Activities..... 1,336 0 0**

Amchitka Island, Alaska activities

In FY 2006, the following activities are planned:

- For subsurface activities off the Nevada Test Site, the Nevada Site Office plans to submit the Corrective Action Decision Document/Corrective Action Plan for Rio Blanco, Colorado, and Gasbuggy, New Mexico, and receive State approval. For the Rulison, Colorado, subsurface, the flow and transport analysis and radioactive risk analysis will be completed. For Shoal and the Central Nevada Test Area, the Resource Management Model will be completed. Closure of the Gnome, New Mexico, surface will be completed.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)  | 0       | 10      | 0       | 48                          | 80                  | 60%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Complete the closure of the Amchitka Island subsurface (September 2005).</li> <li>UGTA Pahute Mesa (May 2006).</li> <li>Industrial Site Closures (September 2006).</li> <li>Complete the closure of the Gnome surface (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**OR-0041 / Nuclear Facility D&D-Y-12 (life-cycle estimate \$980,386K)..... 25,981 27,323 40,558**

The scope of this PBS reduces risk by accelerating the cleanup at the Y-12 National Security Complex; designs, builds, operates, and closes the on-site Environmental Management Waste Management Facility; and performs surveillance and maintenance of surplus facilities at the Y-12 National Security Complex.

The Y-12 National Security Complex is located in a water-rich environment. Y-12 is a significant contributor of mercury, radionuclides, and volatile organic compound contamination to Upper East Fork Poplar Creek, which flows through the City of Oak Ridge. In addition, Bear Creek Valley, which is located just west of the Y-12 plant, is the site of numerous liquid and solid waste disposal areas. As a result, several high-risk reduction projects are planned for completion by 2008. These include construction and operation of a water treatment system to remediate mercury contamination in surface water, remediation of the East End Volatile Organic Compound Plume to prevent further migration off-site, and excavation of the Boneyard/Burnyard burial ground to reduce the source of uranium contamination migration into surface water. After FY 2008, the remaining cleanup activities at Y-12, including facility deactivation and decommissioning and soil/sediment removal, will be completed.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Surveillance and maintenance activities for the Y-12 National Security Complex, and the coordination of environmental monitoring throughout the Oak Ridge Reservation to assess the effectiveness of cleanup actions, is included in the scope.

The scope also includes the operation and maintenance of the Oak Ridge Reservation Landfills consisting of Sanitary/Industrial and Construction/Demolition, which accepts and disposes waste from all on-site DOE program offices.

Finally, this scope also includes operation of the Environmental Management Waste Management Facility and modular design and construction for expansions beyond 1,200,000 cubic yards. The Environmental Management Waste Management Facility will receive approximately 1.7 million cubic yards of waste for disposal from Oak Ridge Reservation cleanup projects. Payments to the State of Tennessee will fund the perpetual care of the Environmental Management Waste Management Facility. For more information, see the expense funded subproject in the Appendix.

By 2014, all cleanup actions at Y-12 will be completed, allowing for the continued use of the site as an industrial facility.

As of September 2004, one facility and 28 release sites have been completed including the S-3 Ponds (Western Plume Pathways 1 and 2) and the boneyard/burnyard burial ground.

In FY 2006, the following activities are planned:

- Initiate the construction of the final expansion of the Environmental Management Waste Management Facility.
- Continue the operations at the Environmental Management Waste Management Facility to dispose of waste received from remedial action/decontamination and decommissioning projects from all of the Oak Ridge Reservation.
- Continue on-going operations of the Oak Ridge Reservation landfills and design, construct, open, and close landfill areas as required to maintain capacity.
- Continue the remediation of the East End Organic Compound Plume.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Industrial Facility Completions (Number of Facilities)   | 0       | 0       | 0       | 1                           | 2                   | 50%                |
| Remediation Complete (Number of Release Sites)   | 0       | 0       | 0       | 28                          | 138                 | 20%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Complete Upper East Fork Poplar Creek soils record of decision (August 2005).</li> <li>▪ Submit the Upper East Fork Poplar Creek Soils D2 Record of Decision to Regulators for approval (December 2005).</li> <li>▪ Expand Environmental Management Waste Facility (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory (life-cycle estimate \$639,489K)..... 30,249 19,626 16,034**

Due to the many multi-disciplinary research activities conducted over the years at the Oak Ridge National Laboratory, environmental media and facilities became contaminated as a result of operations, leaks, spills, and past waste disposal practices. The presence of creeks and shallow groundwater provides a ready transport mechanism of contaminants into White Oak Creek, which flows to the Clinch River, a major drinking water source and recreational area.

Areas requiring remediation include more than 50 inactive facilities (including six inactive research reactors), three former solid waste burial grounds, three significant plumes of contaminated groundwater, contaminated surface water, and numerous areas of soil and sediment contamination. The strategy is to complete high-risk reduction activities by 2008 as committed to in the Oak Ridge Performance Management Plan. These projects include: remediation of the source of the most significant groundwater contaminant plume at the Oak Ridge National Laboratory (i.e., the Core Hole 8 plume); excavation of highly contaminated sediments from surface impoundments located adjacent to White Oak Creek; and decontamination and decommissioning of high-priority facilities to ensure worker safety and mitigate the potential for contaminant release. In addition, the Molten Salt Reactor Experiment facility will undergo removal of the fuel and flush salts, which is an important and challenging activity required for eventual demolition of the facility. Cleanup of all remaining contaminated areas at the Oak Ridge National Laboratory will be completed by 2015, including the decontamination and decommissioning of remaining inactive facilities, capping of buried waste areas, bioremediation of groundwater contamination, and soil/sediment removal.

This project also includes surveillance and maintenance activities to maintain contaminated sites and facilities in a safe and compliant state prior to cleanup to ensure protectiveness following cleanup, and to perform monitoring to assess the effectiveness of cleanup actions at the Oak Ridge National Laboratory. Upon completion of this project, the Oak Ridge National Laboratory will continue its mission as a premier national science laboratory.

As of September 2004, 10 facilities and 80 release sites have been completed. These include the Main Plant Surface Impoundments, including clean-out and stabilization of the eight large Gunitite Tanks, and the Metal Recovery Facility.

In FY 2006, the following activities are planned:

- Complete Molten Salt Reactor Experiment defueling stabilization.
- Continue surveillance and maintenance - provide oversight of surveillance and maintenance contractor, perform annual safety document updates, implement safety documents, and dispose of waste off-site at DOE and commercial disposal facilities.
- Continue monitoring the Oak Ridge National Laboratory Water Quality Program.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Nuclear Facility Completions (Number of Facilities) | 0       | 0       | 0       | 0                           | 15                  | 0%                 |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|   |   |   |   |    |     |     |
|---|---|---|---|----|-----|-----|
| Radioactive Facility Completions (Number of Facilities) | 0 | 1 | 0 | 4  | 26  | 15% |
| Industrial Facility Completions (Number of Facilities)  | 0 | 0 | 0 | 7  | 25  | 28% |
| Remediation Complete (Number of Release Sites)          | 0 | 0 | 0 | 80 | 178 | 45% |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- The Molten Salt Reactor Experiment flush salt removal from Drain Tank No. 2 was completed (January 2005).
- Complete Molten Salt Reactor Experiment fuel salt removal from fuel drain Tank Number 1 and complete processing and packaging of fuel and flush salts (May 2005).
- Perform surveillance and maintenance on various surplus and inactive facilities (FY 2004 and September 2005).
- Complete the Molten Salt Reactor Experiment stabilization de-fueling (July 2006).

**RL-0013 / Solid Waste Stabilization and Disposition-200 Area**

**(life-cycle estimate \$5,668,735K)..... 134,192 211,117 165,113**

Scope of this PBS includes storage of spent nuclear fuel, transuranic waste, mixed low-level waste, and low-level waste generated at the Hanford Site and other DOE and Department of Defense facilities. It also includes the transfer of 72 Shippingport spent nuclear fuel elements to the Canister Storage Building. A small amount of spent nuclear fuel will be retrieved and transferred to the Canister Storage Building during transuranic waste retrieval operations. This PBS also maintains 1,936 cesium and strontium (Cs and Sr) capsules, stored in the Waste Encapsulation and Storage Facility, in dry storage, which are awaiting shipment to a geological repository.

Retrieval of suspect transuranic waste has begun in the low-level burial grounds. About 14,500m<sup>3</sup> of suspect transuranic waste will be retrieved by 2018 with an expectation that about half will be disposed as transuranic waste and half as low-level waste and mixed low-level waste. About 27,000m<sup>3</sup> of transuranic waste is to be processed and shipped to the Waste Isolation Pilot Plant, including transuranic waste in storage, retrieval operations, Area 618-10/11 remediation, and facility decontamination and decommissioning. Additional sources of transuranic waste may include pre-1970 burial ground remediation, canyon demolition, and tank waste, which could change the forecast volume. Processing of transuranic waste for shipment to the Waste Isolation Pilot Plant will occur in the Waste Receiving and Processing facility or the M-91 facility.

About 70,000m<sup>3</sup> of mixed low-level waste will be treated as necessary to meet regulatory requirements and disposed in the mixed waste trenches or other facilities such as the Environmental Restoration Disposal Facility. This mixed low-level waste is either currently in storage, retrieved from the low-level waste burial ground, facility demolition, or from other on-site/off-site sources. Over 200 defueled naval reactor compartments will be disposed in a dedicated trench. About 130,000m<sup>3</sup> of low-level waste will be disposed through site closure. This low-level waste is to be retrieved from the low-level waste burial ground, facility demolition, or from other on-site/off-site sources. Effluent Treatment Facility, Liquid Effluent Retention Facility, and Treated Effluent Disposal Facility provide treatment of cleanup-generated liquid waste. Also technical support is provided to all waste generators for all waste types. Other site-wide storage and disposal facilities will be transferred to this PBS in order to consolidate similar activities.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Mixed Low-Level Waste: Treat 1,200 m<sup>3</sup> and dispose of approximately 2,300 m<sup>3</sup> of mixed low-level waste. Provide interim storage of mixed low-level and transuranic waste prior to treatment/disposal.
- Transuranic Waste: Ship approximately 700 m<sup>3</sup> of transuranic waste to the Waste Isolation Pilot Plant. Increase retrieval of transuranic waste from 1,500 m<sup>3</sup> in FY 2005 to 1,800 m<sup>3</sup>. Operate the Waste Receiving and Processing facility to provide certification and repackaging of transuranic waste for disposal at the Waste Isolation Pilot Plant.
- Waste Management Facilities: Store, treat, and/or dispose of liquid effluents in the 200-Area Liquid Effluent Retention Facility, Effluent Treatment Facility, and the Treated Effluent Disposal Facility. Provide waste disposal services. Provide interim storage of cesium/strontium capsules at the Waste Encapsulation and Storage Facility. Utilize T Plant for support of various waste management missions including repackaging of mixed low-level and transuranic wastes. Prepare T Plant to support Tri-Party Agreement M-91 milestone requirements for repackaging of large/remote handled mixed low-level and transuranic wastes.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> )   | 427     | 820     | 700     | 2,284                       | 28,369              | 8%                 |
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 3,800   | 3,875   | 2,335   | 46,492                      | 69,391              | 67%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Low-Level Waste: Disposed of 1,446 m<sup>3</sup> on-site and off-site generated low-level waste (FY 2004).</li> <li>▪ Mixed Low-Level Waste: Disposed of 1,877 m<sup>3</sup> of mixed low-level waste to reduce inventory (FY 2004).</li> <li>▪ Treat 3,260 m<sup>3</sup> contact-handled mixed low-level waste (December 2005).</li> <li>▪ Retrieve approximately 1,800 m<sup>3</sup> of transuranic waste (September 2006).</li> <li>▪ Treat and dispose of approximately 2,300 m<sup>3</sup> of mixed low-level and low-level waste (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone (life-cycle estimate \$1,510,226K) ..... 54,916 48,423 72,955**

This PBS provides for groundwater/vadose zone management, sampling and analysis, monitoring, and remediation activities that address groundwater contamination by carbon tetrachloride, chromium, technetium 99, strontium, and uranium plumes, and protection of the groundwater resources on Hanford Site. The objective of this PBS is to complete final active remedial actions for six groundwater plumes by 2012 and to complete the Comprehensive Environmental Response, Compensation, and Liability Act process for five other operable units that have either no remediation action, or natural attenuation, as the final remedial approach. The PBS scope also addresses the vadose zone contamination at 800 waste sites that can potentially result in future groundwater plumes in the central plateau area of the site.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

The end-state and exit strategy for the groundwater issues will be fully developed by 2006 and implemented by 2012. Groundwater completion activities will follow waste tank and waste site closure activities through the 2024 time frame. By 2024, approximately 2,500 abandoned wells will be decommissioned.

As of September 2004: 1) remedial action objective concentrations have been achieved in all but one well for the 100-HR3H groundwater cleanup site (the remaining well is expected to reach the remedial action objective by mid 2005); 2) completed decommissioning of 92 high-risk wells to eliminate these pathways for contamination reaching the groundwater; 3) initiated the carbon tetrachloride Dense Non-Aqueous Phase Liquid investigation in the 200-West Area; and 4) started operations at the newly constructed pump and treatment system for groundwater remediation in the 100-D Area. The five key elements are: 1) Remediate High-Risk Waste Sites; 2) Shrink the Contaminated Area; 3) Reduce Recharge; 4) Remediate Groundwater; and 5) Monitor Groundwater.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$4,680,000 for the use of Indefinite Quantity/Indefinite Delivery (ID/IQ) contracts to accelerate outyear environmental remediation projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- Prevent contaminants from reaching the groundwater by decommissioning an additional 140 high-risk wells.
- Implement upgrades to the carbon tetrachloride remediation system in 200 West (ZP-1).
- Complete the upgraded remediation system for 100 D Area chromium plume.
- Implement the remedial alternative for N Springs and UP-1 groundwater remediation.
- Complete installation of integrated monitoring and well systems (Revised Tri-Party Agreement Milestone 24 – revision date March 2004).
- Reach remedial action objective for 100 HR-3 H Area chromium plume.
- Monitor 700 plus wells for contaminants of concern above drinking water standards.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Perform groundwater and vadose zone sampling and analysis for 1,000 plus wells on the Hanford Site (FY 2004).</li> <li>▪ Complete installation of high priority wells in 200 Area to gather additional data to support groundwater remediation strategy development by 2006 (FY 2004).</li> <li>▪ Complete decommissioning of 140 high-risk wells (September 2005).</li> <li>▪ Complete installation of high priority wells (September 2005).</li> <li>▪ Complete upgraded remediation system for 100 D area chromium plume (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Complete installation of the Integrated Monitoring Well Network (60 wells) (September 2006).

**RL-0040 / Nuclear Facility D&D-Remainder of Hanford**

**(life-cycle estimate \$7,014,305K) ..... 112,123 111,696 70,812**

One legacy of Hanford operations is a significant waste inventory of radioactive and regulated chemical materials. Past releases of these materials have contaminated Hanford's facilities, groundwater, soils, and environment. Over 625,000 m3 of solid waste were buried in Hanford site soils, while more than 1.7 trillion liters of liquid waste containing radioactive and chemical contamination have been discharged to the ground. This PBS implements various Hanford Site cleanup initiatives: accelerating cleanup of radioactivity and chemical contamination in about 800 waste sites, and approximately 1,000 facilities on the Central Plateau and South Hanford Industrial Area; accelerating cleanup and protection of Hanford Groundwater; continuing support for Hanford downwinder litigation activities; and operations of Hanford's infrastructure to complete the Hanford EM mission.

Life-cycle workscope includes: decontamination, decommissioning, dismantlement, and disposition of surplus facilities and remediation of high risk waste sites containing large inventories of mobile contaminants that are migrating into groundwater plumes; remediation of the canyon facilities, remediation of all 200 Area waste sites and construction of surface barrier caps over waste sites; deactivation and disposition of contaminated equipment; final disposition of Cold War legacy wastes and DOE facilities remaining at the Pacific Northwest National Laboratory; sampling of the Hanford environment to protect public health and safety and ecological and cultural resources; provide minimum safe operations to facilities awaiting to be deactivated and demolished; and repair infrastructure to remedy failing or failed systems.

The PBS end-state will be at the completion of the following activities: facilities demolished and debris buried in the Environmental Restoration Disposal Facility; canyons buried, or have roof replacements for use as above ground radioactive waste disposal for maximum isolation from the environment; waste sites remediated; and Cold War legacy wastes disposed and facilities remediated. Remedial investigations of waste sites in the 200 Area have been initiated and will be completed in FY 2008.

This PBS also funds design and construction of the A-8 Electrical Substation Upgrade. The appropriation in FY 2004 was \$1,004,000 and \$7,690,000 in FY 2005. The request in FY 2006 is \$4,393,000. For more information on this subproject, a Subproject Detail description is included in the Appendix.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$3,900,000 for the use of Indefinite Quantity/Indefinite Delivery (ID/IQ) contracts to accelerate outyear decontamination and decommissioning projects. Base PBS funding will also be used to support these ID/IQ projects.

|   |               |          |          |
|---|---------------|----------|----------|
| <b>Congressionally Directed Activities.....</b> | <b>10,217</b> | <b>0</b> | <b>0</b> |
| PILT (Payment-in-Lieu-of-Taxes).....            | 3,566         | 0        | 0        |
| State of Oregon Payment.....                    | 739           | 0        | 0        |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|  |       |   |   |
|--|-------|---|---|
| HAMMER (charged to all Richland PBSs, but shown here for ease of display.....) | 5,912 | 0 | 0 |
|--|-------|---|---|

|   |               |          |          |
|---|---------------|----------|----------|
| <b>Total Congressionally Directed Activities.....</b> | <b>10,217</b> | <b>0</b> | <b>0</b> |
|---|---------------|----------|----------|

In FY 2006, the following activities are planned:

- Prepare Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act decision documentation for waste sites and surplus facilities and continue follow on design activities for cleanup.
- Operate Environmental Management facilities at the Pacific Northwest National Laboratory and continue operations of the 325 Radiochemical Processing Laboratory Facility for analytical operations in support of Hanford cleanup activities.
- Provide surveillance and maintenance.
- Provide for activities such as continuing support for downwinder litigation, and services contracts for laundry and steam.
- Continue upgrades to the A-8 electrical substation.
- Complete B/C Cribs remediation.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Nuclear Facility Completions (Number of Facilities)     | 2       | 0       | 7       | 9                           | 98                  | 9%                 |
| Radioactive Facility Completions (Number of Facilities) | 3       | 0       | 7       | 10                          | 342                 | 3%                 |
| Industrial Facility Completions (Number of Facilities)  | 28      | 5       | 1       | 190                         | 636                 | 30%                |
| Remediation Complete (Number of Release Sites)          | 0       | 0       | 5       | 10                          | 860                 | 1%                 |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- The 233-S and 233-SA facilities were demolished (FY 2004).
- Disposed of 63.5 m<sup>3</sup> of low-level waste and 1 m<sup>3</sup> of mixed low-level waste from the decontamination of 300 Area facilities (FY 2004).
- Completed the transfer of the Fitzner/Eberhardt Arid Lands Ecology Reserve permanently from Department of Energy to the Department of Interior (FY 2004).
- The disposition for all Hanford non-radioactive sodium was completed (FY 2004).
- Initiate demolition of 224-B and 224-T buildings (September 2005).
- Initiate U-Plant pre-demolition activities (September 2005).
- Complete design work and procurement needed to initiate remedial action at B/C Cribs (September 2005).
- Complete the final disposition of five additional facilities (September 2005).
- Develop technology for in-situ transuranic waste detection and testing of excavation for 618-10 and 618-11 burial grounds cleanup (September 2005).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Complete transfer of the Riverlands and the Wahluke Slope National Monument land to the Department of Interior (September 2005).
- Continue remediation of B/C Cribs risk (September 2006).
- Continue U Plant high-risk waste site remediations (September 2006).

**RL-0080 / Operate Waste Disposal Facility (life-cycle estimate \$225,879K) ..... 2,305 5,980 5,861**

The complex-wide Waste Management Programmatic Environmental Impact Statement designated Hanford as one of the disposal sites for off-site low-level waste and mixed low-level waste. This PBS scope provides on-going operations of the Hanford low-level waste and mixed low-level waste disposal facilities, e.g., burial grounds. Examples of the operations include: surveillance and maintenance, Resource Conservation and Recovery Act inspections, sample analysis, waste acceptance criteria review and update, support to operating assessments/audits, performance assessments/composite analysis, facility permitting, risk assessments, regulatory support, transportation and packaging support to move waste around the burial grounds, etc.

These operations support remediation and other operational mission goals of Hanford and other off-site DOE and Department of Defense generators. It provides significant support for other DOE site closures. These generators include but are not limited to: Rocketdyne, Babcock and Wilcox-Parks Township, University of Missouri, Seattle University, Knolls Atomic Power Laboratory-Tennessee, Fermi National Accelerator Laboratory, Puget Sound Naval Shipyard, Princeton Plasma Physics Laboratory, Brookhaven National Laboratory, Ames Laboratory, Massachusetts Institute of Technology, Paducah Gaseous Diffusion Plant, Knolls Atomic Power Laboratory-Windsor, Pearl Harbor Naval Shipyard, University of California-Davis, Battelle Columbus Laboratory, Idaho National Laboratory, General Atomics, Rocky Flats Plant, National Renewable Energy Laboratory, University of Utah, Lawrence Berkeley Laboratory, Argonne National Laboratory-East, and Stanford Linear Accelerator Center. Disposal costs are paid for by generators and are not funded under this PBS.

The end-state of this PBS is completion of shipment of off-site waste to Hanford and cessation of Hanford waste production. PBS RL-0040, Nuclear Facility Decontamination and Decommissioning-Remainder of Hanford, will demolish facilities and close the disposal sites by 2035. By that time each of the disposal sites will have a temporary cover.

In FY 2006, the following activity is planned:

- Operate the Hanford Site solid waste disposal facilities for low-level waste and mixed low-level waste.

| Metrics                             | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|-------------------------------------|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS |         |         |         |                             |                     |                    |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2004/FY 2005)

- Provide on-going operations of the Hanford Site solid waste disposal facilities for low-level waste and mixed low-level waste. Disposal is funded by the generators, hence the disposal volumes are not tracked under this PBS (FY 2004).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Provide on-going operations of the Hanford Sites waste disposal facilities for the low-level and mixed low-level waste (September 2005/September 2006).

**ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition (life-cycle estimate \$26,388,521K) ..... 410,744 391,329 301,942**

This PBS includes activities required to stabilize more than 50 million gallons of radioactive waste stored underground in 177 tanks by 2032, including retrieval, treatment, disposal and closure of the facilities. Construction and commissioning of the Waste Treatment and Immobilization Plant, which will treat the tank waste to meet regulatory disposal requirements, is included in PBS ORP-0060, Major Construction-Waste Treatment and Immobilization Plant.

The radioactive waste stored in the Hanford tanks was produced as part of the nation's defense program and has been accumulating since 1944. The tanks are old; sixty-seven tanks are believed to have leaked a total of about one million gallons of waste into the soil. Continued leakage could threaten the Columbia River, located between 7 and 10 miles away. In order to protect the river, the waste must be removed and processed to a form suitable for disposal, and the tanks stabilized. DOE's plan is to process tank waste and disposition it as vitrified high-level waste (at a federal facility), transuranic waste at the Waste Isolation Pilot Plant, or low-level waste at an approved buried waste facility on the Hanford Site. The tanks, ancillary equipment below grade, and any residual waste that cannot be retrieved will be stabilized in place. Above ground facilities will be removed. Appropriate caps and barriers will be used to remediate the contaminated soil surrounding the tanks as required. The area surrounding the remediated tank farms is planned for industrial use.

Specific activities in the scope of this PBS include:

- Design, construction, and operation of tank waste retrieval and transfer systems to transport the waste from the tanks for stabilization in either the Waste Treatment and Immobilization Plant or supplemental/alternative treatment facilities beginning in 2011 and ending in 2027 (see Subproject detail in Appendix).
- Operation of treatment facilities to complete the tank waste program by 2032.
- Closure of 149 single-shell tanks, 28 double-shell tanks, tank farms, and facilities including completing necessary cleanup actions on tanks, ancillary equipment, contaminated soils, treatment facilities, facilities to store the vitrified high-level waste pending off-site disposal; and on-site low-activity waste disposal facilities. Closure of tanks continues until all tank waste is stabilized in 2027. By 2032 closure of the remaining facilities will be completed.
- Construction of storage facilities where vitrified high-level waste canisters will be stored prior to shipment to a geologic repository beginning in 2012.
- Disposal of low-activity waste containers at the Hanford Site beginning in 2010 and continuing until all tank waste is stabilized in 2027.
- Continue packaging tank waste that is determined to be contact- or remote-handled transuranic waste, and ship that waste to the Waste Isolation Pilot Plant for final disposition.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Provide radiological, nuclear, and process safety for the Waste Treatment and Immobilization Plant through authorization of regulatory actions and execution of a comprehensive inspection program.
- Maintain the tank farms in a safe and compliant manner until the waste is retrieved for processing and the tank farms are closed. To date the retrieval system design and construction to support waste feed delivery to the Waste Treatment and Immobilization Plant have been initiated; the development of additional single-shell tank retrieval technology demonstrations are ongoing; an accelerated National Environmental Policy Act process for closure of tanks and the study of supplemental treatment technologies has begun; and the Department has submitted the tank closure plan for modification of the Hanford Site Resource Conservation and Recovery Act Part B permit.
- Operate the 222S Laboratory and the 242A Evaporator. Both of these facilities were transferred from the Richland Operations Office to better align the work at the Hanford Site with cleanup and management responsibilities.
- Conduct independent expert reviews and evaluations, baseline and Environment, Safety, Health and Quality activities.

Specifically, the interim stabilization of all single-shell tanks has been completed, and waste is being retrieved from these tanks in preparation for interim closure. C-106 (first closure tank) waste retrieval has been completed and closure is on hold for the tank closure Environmental Impact Statement. Critical design of the integrated disposal facility for storage of low activity waste is complete. The tank farm restoration and safe operations project has completed all Phase 1 upgrade construction activities; Phase 2 upgrade design and construction activities have been initiated in four tank farms, with design activities to be completed by the end of FY 2005 on three of the tank farms.

The end-state is achieved by 2032, when the waste in the 177 underground storage tanks is stabilized, and the tank farms, ancillary facilities, the Waste Treatment and Immobilization Plant, and disposal facilities are closed. To achieve this end-state, construction of the retrieval and transfer systems needs to be completed, the tank waste needs to be treated through the Waste Treatment and Immobilization Plant or other supplemental treatment, the low-activity waste needs to be disposed, and all the facilities need to be closed.

In FY 2006, this PBS includes funding for the Initial Tank Retrieval Systems. For more information, see the expense funded subproject in the Appendix. It also includes \$206,000 appropriated in FY 2004, \$0 appropriated in FY 2005, and a request of \$7,495,000 in FY 2006 for the Immobilized High-Level Waste Interim Storage Facility.

Some tank waste activities in FY 2004 were deferred because of the July 3, 2003 Idaho District Court Judgment "National Resources Defense Council, et.al. vs. Spencer Abraham." These activities impacted by the District Court judgment were presented in the FY 2005 Congressional Budget Request, "High-Level Waste Proposal" under the Defense Site Acceleration Completion appropriation. The FY 2006 budget reflects the favorable outcome of DOE's appeal of the District Court Judgment and once again includes funding for such activities in this PBS.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|   |               |          |          |
|---|---------------|----------|----------|
| <b>Congressionally Directed Activities.....</b>   | <b>10,732</b> | <b>0</b> | <b>0</b> |
| Hazardous Waste Workers Training Program.....   | 8,375         | 0        | 0        |
| Oversight of accelerated cleanup projects (portion of<br>\$2,500,000 Congressionally Directed Activities).....  | 866           | 0        | 0        |
| Transfer \$1,500,000 to the U.S. Army Corps of Engineers to<br>conduct detailed, bottoms-up independent review of the cost<br>and schedule baseline of the Waste Treatment Plant..... | 1,491         | 0        | 0        |
| <b>Total Congressionally Directed Activities.....</b>   | <b>10,732</b> | <b>0</b> | <b>0</b> |

In FY 2006, the following activities are planned:

- Complete construction of the integrated disposal facility, which provides an expandable disposal facility for low-activity waste, mixed low-level waste, and low-level waste.
- Start initial tank waste supplemental treatment.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Liquid Waste in Inventory Eliminated (thousands of gallons)            | 0       | 0       | 0       | 0                           | 54,000              | 0%                 |
| Liquid Waste Tanks Closed (Number of Tanks)                            | 0       | 0       | 0       | 0                           | 177                 | 0%                 |
| High-Level Waste Packaged for Final Disposition (Number of Containers) | 0       | 0       | 0       | 0                           | 9,200               | 0%                 |
| Transuranic Waste Disposed (m <sup>3</sup> )                           | 0       | 0       | 0       | 0                           | 7,600               | 0%                 |
| Low-Level and Mixed Low-Level Disposed (m <sup>3</sup> )               | 0       | 0       | 2,500   | 2,500                       | 310,000             | 1%                 |
| Nuclear Facilities Completions (Number of Facilities)                  | 0       | 0       | 0       | 0                           | 18                  | 0%                 |
| Radioactive Facility Completions (Number of Facilities)                | 0       | 0       | 0       | 0                           | 28                  | 0%                 |
| Industrial Facility Completions (Number of Facilities)                 | 0       | 0       | 0       | 0                           | 102                 | 0%                 |
| Remediation Complete (Number of Release Sites)                         | 0       | 0       | 0       | 5                           | 322                 | 2%                 |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Interim Closure of Tank C-106 completed (FY 2004).
- Construction of AP Tank Farm to Waste Treatment and Immobilization Plant transfer line completed (FY 2004).
- Construction of AZ-101 retrieval system for first high-level waste feed delivery to the Waste Treatment and Immobilization Plant was completed (FY 2004).
- Completed the interim stabilization of single-shell tanks, which completes pumping all pumpable liquids from single-shell tanks (FY 2004).
- Completed the design of the Immobilized High-Level Waste Interim Storage Facility required for storing high-level waste until shipment to a high-level waste repository (FY 2004).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Initiate site preparation of the integrated disposal facility immobilized low activity waste (FY 2004).
- The construction of the Immobilized High-Level Waste Interim Storage Facility was initiated (FY 2004).
- Initiate waste retrieval from five single-shell tanks (December 2004).
- Complete saltcake dissolution retrieval demonstration (March 2005).
- Issue and publish the Tank Closure Environmental Impact Statement for Record of Decision (April 2005).
- Complete the Tank Farms Restoration and Safe Operations project (Tri-Party Agreement Milestone M-43) (June 2005).
- Initiate waste retrieval from ten single-shell tanks (September 2005).
- Complete the design and initiate construction of the AY-102 Retrieval System (September 2005).
- Complete retrieval of waste from thirteen single-shell tanks (September 2005).
- Integrated Disposal Facility construction complete (May 2006).
- Start initial tank waste supplemental treatment (June 2006).

**SR-0011C / NM Stabilization and Disposition-2035 (life-cycle estimate \$1,299,368K)..... 63,709 43,218 75,105**

This PBS scope is to operate K-Area and the 235-F Facility as storage and surveillance facilities for stabilized special nuclear materials. The receipt, storage, and disposition of materials at the Savannah River Site allows for de-inventory and shutdown of other DOE complex sites, providing substantial risk reduction and significant mortgage reduction savings to the Department. These Savannah River Site facilities will be operated in compliance with applicable laws, regulations, and DOE Orders. Legacy special nuclear material is protected from theft and sabotage, including upgrade of protective capabilities, as appropriate. The special nuclear material will be managed until final disposition facilities are available.

The K Reactor and 235-F process areas will be maintained in a safe and environmentally sound shutdown condition. The K-Area will continue to serve as a material storage facility for unirradiated highly enriched uranium, tritiated heavy water, and plutonium. The K-Area Material Storage Facility will also continue to serve as an International Atomic Energy Agency control protocols facility for plutonium oxide. The vaults in 235-F will operate to store stabilized nuclear materials.

The capability to perform destructive and non-destructive surveillance in accordance with DOE Standard-3013 is being installed in 235-F, as a line-item project, 04-D-423, 3013 Container Surveillance and Storage Capability. This project is in support of FB-Line deinventory and therefore, is part of the scope and funding requirements of PBS SR-0011B, NM Stabilization and Disposition-2012. When completed, DOE STD-3013 surveillance and repackaging capability will be operated for management of legacy inventories within 235-F and the K-Area Material Storage Facility. Plutonium that meets the criteria for disposition via the National Nuclear Security Administration mixed-oxide fuel program may be transferred to the National Nuclear Security Administration for disposition by FY 2017.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

EM is reviewing options to transfer or disposition the remaining fissile materials that cannot go into the mixed-oxide fuel process. After the special nuclear materials are transferred to their final disposition facilities, the K Area and 235-F facilities will be deactivated, placing the facilities in a minimum surveillance and maintenance condition, pending transfer of the facilities to PBS SR-0040, Nuclear Facility D&D, for decommissioning, which is the end-state for this project.

In FY 2006, the following activities are planned:

- Material shipments to support the Savannah River Site FB Line repackaging and de-inventory
- Continue support for highly enriched uranium ingot shipments to an off-site vendor.
- Continue unirradiated fuel tube shipments to the Savannah River Site H-Canyon Facility.
- Continue safe, monitored storage for de-inventoried DOE Complex and other Savannah River Site facility nuclear materials. Specific FY 2006 planned facility activities include assuring nuclear material incident monitoring and fire protection capabilities, nuclear material accountability and safe storage, facility surveillance and maintenance to ensure the safeguarding of worker health and safety, facility viability for mission support and environmental compliance. The facilities will be maintained and operated within the facilities' authorization bases and applicable permits and Federal regulations. These two storage facilities, K-Area Material Storage and 235-F are expected to operate in tandem. They will be utilized for receiving materials, performing material surveillance and maintenance, and shipping materials through the end of the mission when all materials have been dispositioned.
- Includes \$10,000,000 for the initiation of the Plutonium Disposition Facility conceptual design. This facility will enable disposition of plutonium stored at Savannah River Site that cannot be converted into mixed oxide fuel.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS (Only covers storage in the K-Area Materials Storage and 235-F)  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"><li>▪ Initiated the Design Safety Analysis assessment for the 235-F material storage area (FY 2004).</li><li>▪ Continued to operate K-Area Material Storage facility and complete optimization of storage configuration studies (FY 2004).</li><li>▪ Completed the Design Safety Analysis assessment for 235-F facility (FY 2004).</li><li>▪ Continue operation of K Area Material Storage facility including intrasite material transfers (September 2005).</li><li>▪ Initiate conceptual design of the Plutonium Disposition Facility (October 2005).</li><li>▪ Continue 235-F special nuclear material program facility capability (September 2006).</li><li>▪ Continue K-Area special nuclear material program facility capability (September 2006).</li></ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**SR-0012 / SNF Stabilization and Disposition (life-cycle estimate \$339,951K) ..... 5,840 22,767 11,273**

This PBS covers the scope and funding for the legacy Spent Nuclear Fuel originating from Atomic Energy Commission and DOE activities. Non-legacy spent nuclear fuel is covered in PBS HQ-SNF-0012X, SNF Stabilization and Disposition-Storage Operations awaiting Geologic Repository, which includes funding for the receipt, storage, and preparation for depositing at Savannah River. All spent fuel activities at Savannah River are conducted in a single area and consolidated for storage in a single basin.

The end of the Cold War and the end of materials production at the Savannah River Site left a large inventory of (Savannah River Site produced) irradiated spent nuclear fuel and other materials in underwater storage in three spent nuclear fuel storage basins; the K and L production reactor disassembly basins, and the Receiving Basin for Off-site Fuels. The condition of some of these legacy fuels was noted in the Defense Nuclear Facility Safety Board Recommendation 94-1 and subsequent recommendation 2000-1 concerning the need to ensure safe storage of the spent nuclear fuel and the need to stabilize the degraded spent fuel. The scope of this PBS includes programmatic and physical support efforts related to safe storage and preparation for final disposition of Savannah River Site legacy spent nuclear fuel inventories.

The end-state will be accomplished when all remaining Savannah River Site inventories of legacy spent nuclear fuel have been dispositioned; and the spent nuclear fuel facilities have been deactivated and turned over for final disposition in accordance with the Performance Management Plan for accelerating cleanup of the Savannah River Site. Activities include: receipt of legacy spent nuclear fuel (from Receiving Basin for Off-site Fuels) in L-Disassembly Basin; cask unloading and preparation for underwater storage, cask loading and shipments of the Defense Nuclear Facilities Safety Board 94-1/2000-1 irradiated spent nuclear fuel and miscellaneous non-legacy materials to H-Canyon for stabilization; and surveillance and maintenance of legacy spent nuclear fuel. A basin de-ionization system will be operated in support of fuel storage and water chemistry control requirements. These activities fully support the accelerated dispositioning of spent nuclear fuel and deactivating the spent nuclear fuel facilities from the original baseline of 2037 to 2022 (a 15-year schedule improvement).

In FY 2006, the following activities are planned:

- Facility surveillance and maintenance activities, including sampling, radiation monitoring and nuclear safety systems maintenance will be performed to ensure compliance with Federal regulations and the facilities authorization basis.
- Spent Nuclear Fuel/Basin Operation Activities – continue operation of de-ionization systems and fuel handling (loading and unloading capability), spent nuclear fuel receipt scheduling and transportation co-ordination, safe storage of existing inventories, and maintaining the capability to receive (at a rate capable of supporting program requirements).
- Complete the installation of spent nuclear fuel storage racks to accommodate the projected inventory requirements.
- Continue storage of heavy water inventories, pending a disposition decision from DOE.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Remaining cask shipments of about 206 assemblies of Mk16/22 spent nuclear fuel was made to H-Canyon for stabilization (FY 2004).</li> <li>Maintain capability to receive and store spent nuclear fuel at the Savannah River Site in support of non-proliferation goals (September 2005).</li> <li>Maintain L Area spent nuclear fuel receipt, storage, and shipping facilities in an operable condition capable of supporting planned program requirements (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**SR-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$2,464,644K)..... 103,067 88,313 112,993**

This PBS scope covers the storage, treatment and disposal functions for transuranic, low-level, mixed low-level, hazardous, and sanitary waste, as well as pollution prevention, waste minimization, waste certification, and other waste management support functions. In addition, this project covers surveillance and maintenance and deactivation for the Consolidated Incinerator Facility project, general “landlord” functions, which are necessary for the general operation of the site, and care of the site's shared infrastructure components and centralized support activities. Procurement and installation of capital equipment/general plant projects, which support landlord facilities and operations, are also covered by this project. Legacy inventories of low-level waste, mixed low-level waste, and hazardous waste will be eliminated by the end of FY 2006. Drummed transuranic legacy waste will be eliminated by the end of FY 2006, in accordance with the Savannah River Site Performance Management Plan.

In addition, boxed/bulk transuranic legacy waste will be eliminated by FY 2009, in accordance with the Savannah River Site Performance Management Plan. Also, this scope will cover surveillance and maintenance activities for the Consolidated Incinerator Facility, through FY 2008, with deactivation in FY 2006-2007. Alternative disposal options for PUREX (i.e., Plutonium – Uranium Extraction) waste are being developed to allow the Consolidated Incinerator Facility to close, and this effort is in accordance with the Savannah River Site Performance Management Plan. It is anticipated that some level of general “landlord” functions, and procurement and installation of capital equipment/general plant projects will continue until the end-date of FY 2025.

The end-state for this project will be the shipment of all legacy transuranic waste to the Waste Isolation Pilot Plant; the treatment of PUREX waste; and the elimination of all legacy inventories and steady state disposition of newly generated low-level waste, mixed low-level waste, and hazardous waste. Current waste forecasts show FY 2025 as the Waste Stream/Support end state.

In FY 2006, the following activities are planned:

- Ship a minimum of 4,000 drums of transuranic waste to the Waste Isolation Pilot Plant, in addition to the continued receipt and storage of newly generated transuranic waste.
- Reduce legacy low-level waste inventory to zero, in addition to the disposal of newly-generated waste received.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Reduce the legacy mixed low-level waste inventory to 0 m<sup>3</sup>, in addition to disposal of newly generated waste received.
- Reduce the legacy hazardous waste inventory to 0 m<sup>3</sup>, in addition to disposal of newly generated waste received.
- Continue the initiative for stabilization of organic PUREX solvent/waste, with treatment beginning by FY 2007.
- Maintain effective waste minimization and waste certification programs.
- Complete necessary common site infrastructure projects for continued operations in support of site missions.
- Disposition Sanitary Waste.
- Continue surveillance and maintenance and initiate deactivation of the Consolidated Incinerator Facility.
- Support General Waste Stream Management, including utilities, safety compliance, etc.
- Establish high-activity transuranic waste capability.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Transuranic Waste Shipped for Disposal at WIPP (m <sup>3</sup> ) | 1,506   | 840     | 840     | 4,645                       | 15,326              | 30%                |
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 11,445  | 10,364  | 7,372   | 88,921                      | 219,320             | 41%                |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Completed 144 shipments of transuranic waste to the Waste Isolation Pilot Plant (4,000 drums/840 m<sup>3</sup>) (FY 2004).
- Disposed of 10,744 m<sup>3</sup> of low-level waste/mixed low-level waste (FY 2004).
- Complete 144 shipments of transuranic waste to the Waste Isolation Pilot Plant (4,000 drums/840 m<sup>3</sup>) (September 2005).
- Dispose of 10,364 m<sup>3</sup> of low-level waste/mixed low-level waste (September 2005).
- Complete disposal of legacy drummed transuranic waste at the Waste Isolation Pilot Plant (4,000 drums/840 m<sup>3</sup>) (September 2006).
- Elimination of all legacy low-level/hazardous waste/mixed waste (September 2006).
- Dispose remainder of legacy low-level waste/mixed low-level waste (September 2006).

**SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035 (life-cycle estimate \$11,860,869K) ..... 463,868 586,634 582,292**

This PBS supports the mission of the tank waste program at the Savannah River Site, to safely and efficiently treat, stabilize, and dispose of approximately 37 million gallons of legacy radioactive waste currently stored in 49 underground storage tanks.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

In addition, the Savannah River Site plans to: reduce the volume of tank waste by evaporation to ensure that storage tank space is available to receive additional legacy waste volume from ongoing nuclear material stabilization and waste processing activities; pretreat the radioactive waste as sludge and salt waste; vitrify sludge and high curie/high actinide high-level waste at the Defense Waste Processing Facility into canisters and then store and ship the canisters to the Federal Repository for final disposal; treat and dispose the low-level tank waste as Saltstone grout; treat and discharge evaporator overheads through the Effluent Treatment Project; empty and permanently close in place using grout all waste tanks and support systems; and ensure that risks to the environment and human health and safety from tank waste operations are eliminated or reduced to acceptable levels.

The end-state of this project will result in the permanent disposal of all the liquid tank waste currently stored at the Savannah River Site as well as all legacy tank waste from planned nuclear materials stabilization activities by FY 2020. It will also result in the permanent closure of the remaining 49 underground storage tanks by FY 2020 (two of the original 51 tanks have already been closed in place in FY 1998 using grout).

Some tank waste activities in FY 2004 were deferred because of the July 3, 2003, Idaho District Court Judgment "National Resources Defense Council, et.al. vs. Spencer Abraham." These activities impacted by the District Court judgment were presented in the FY 2005 Congressional Budget Request, "High-Level Waste Proposal" under the Defense Site Acceleration Completion appropriation. The FY 2006 budget reflects the favorable outcome contained in the FY 2005 Ronald W. Reagan National Defense Authorization Act and once again includes funding for such activities in this PBS.

In FY 2004 this PBS included an appropriation of \$51,198,000 for design of the Salt Waste Processing Facility under line-item 03-D-414, Project Engineering and Design. In FY 2005, \$23,468,736 was appropriated as part of the "High-Level Waste Proposal", and in FY 2006, \$4,342,000 is requested in this PBS to complete the design. Additionally, \$20,139,000 was appropriated in FY 2004, \$43,476,601 was appropriated in FY 2005 and \$6,975,000 is requested for FY 2006 for the construction of the Glass Waste Storage Building #2, line-item 04-D-408. Finally, this PBS includes \$25,792,000, which was appropriated as part of the "High-Level Waste Proposal" in FY 2005, and \$70,000,000 in FY 2006 for the Salt Waste Processing Facility line-item 05-D-405.

In FY 2006, the following activities are planned:

- Continue Tank Farm and Effluent Treatment Project capability-based operations.
- Continue bulk waste removal.
- Continue sludge preparation for the Defense Waste Processing Facility feed.
- Develop enhanced actinide capability – complete modifications of 241-96H and declare ready for hot operations.
- Continue Tank 48 disposition.
- Develop Cesium removal capability: Complete construction of Modular Caustic Side Solvent Extraction Unit and declare ready for hot operations; commence operation of combined facilities (241-96H, 512-S and Modular Caustic Side Solvent Extraction Unit); and continue installation of waste transfer lines to support future salt processing activities.
- Continue design and initiate construction of the Salt Waste Processing Facility.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Continue salt processing tank preparation and waste characterization.
- Continue tank deactivation.
- Continue operational closure of two additional waste tanks.
- Continue canister production (880 to-date) and procurement of the Defense Waste Processing Facility Melter #4.
- Continue to vitrify tank sludge and to increase waste loading in the Defense Waste Processing Facility canisters.
- Continue saltstone operations and vault construction.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Liquid Waste in Inventory Eliminated (thousands of gallons)            | 0       | 0       | 888     | 888                         | 33,100              | 3%                 |
| Liquid waste Tanks Closed (Number of Tanks)                            | 0       | 0       | 0       | 2                           | 51                  | 4%                 |
| High-Level Waste Packaged for Final Disposition (Number of Containers) | 260     | 250     | 250     | 2,212                       | 5,060               | 44%                |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Produced 250 canisters of vitrified high-level waste (FY 2004).
- Prepared and began feed Sludge Batch 3 to the Defense Waste Processing Facility (FY 2004).
- Completed 512-S modifications necessary to support Actinide Removal Salt Processing and be ready for operations (FY 2004).
- The conceptual design for an optimal scale Salt Waste Processing Facility was completed (FY 2004).
- Initiated construction of an additional high-level waste canister storage facility (Glass Waste Storage Building 2) was initiated (FY 2004).
- Continued the bulk waste removal from Tank 11 to accelerate Sludge Batch 4 preparation (FY 2004).
- Complete bulk waste removal from Tank 11 to accelerate Sludge Batch 4 preparation (FY 2005).
- Begin preparing tanks 4 and 6 for bulk waste removal (September 2005).
- Complete bulk waste removal in Tank 5 (September 2005).
- Produce 250 canisters of vitrified high-level waste (September 2005/September 2006).
- Prepare Sludge Batch 4 (September 2006).
- Complete bulk waste removal of two additional waste tanks (September 2006).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**SR-0030 / Soil and Water Remediation (life-cycle estimate \$2,704,455K)..... 96,669 100,896 103,665**

The Soil and Water Remediation PBS scope includes assessment and remediation of contaminated waste sites and groundwater, thereby reducing risk to the site worker, the public, and the environment by 2025. For the 515 waste sites at the Savannah River Site, 311 were completed through FY 2004. For the remaining 204, particular attention is paid to waste sites with mobile contaminants that already have or have the potential to migrate off Savannah River Site. Remediation is planned on a prioritized risk-based approach, and conducted using fundamental project management principles, risk based cleanup levels consistent with future land use and the Savannah River Site missions.

The cleanup approach is to aggressively remove or immobilize substantial sources of contaminants and remediate contaminated groundwater using passive and natural remedies to keep the cost of the remedy in line with planned end-states. This supports the accelerated clean-up objectives of constructing final remedies for soil and groundwater by 2025. Waste sites and groundwater will be managed such that all regulatory compliance agreements are met. Compliance agreements reflect prioritization as negotiated with the two primary regulatory oversight agencies (U.S. Environmental Protection Agency and the South Carolina Department of Health and Environmental Control). All projects will use the streamlined regulatory process developed among DOE, the Environmental Protection Agency, and South Carolina to shorten schedules, maximize innovation, and reduce costs to achieve accelerated risk reduction. This project includes the Old Radioactive Waste Burial Ground (to be completed in FY 2008) and the Dynamic Underground Stripping project (to be completed in FY 2007).

The end-state for this PBS is completion of area surface units by 2020 and completion of groundwater and surface water cleanup by 2023.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$5,460,000 for the use of Indefinite Quantity/Indefinite Delivery (ID/IQ) contracts to accelerate outyear environmental remediation projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- Accelerate remediation of significant sub-projects including: TNX Operable Unit, D-Area Expanded Operable Unit, F and H Groundwater Barrier Wall and Base Injection.
- Complete P-Area Reactor Seepage Basins; initiate field start for final area closure of R Area.
- Achieve major electrical and mechanical construction of dynamic underground stripping system in A/M area. Operate and maintain groundwater remediation systems.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ) | 0       | 0       | 0       | 206                         | 206                 | 100%               |
| Remediation Complete (Number of Release Sites)                 | 13      | 3       | 11      | 331                         | 515                 | 64%                |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- The remediation of L-Area Reactor Seepage Basin and L-Area Burning Rubble Pit was completed (FY 2004).
- Major electrical and mechanical construction on Dynamic Underground Steam Stripping Project was accomplished (FY 2004).
- Temporary F-Area Groundwater Treatment Unit shutdown authorization was secured (FY 2004).
- Remedial action start of the General Separations Area Operable Unit was achieved (FY 2004).
- Remedial action start at the P-reactor Seepage Basin was achieved (FY 2004).
- Continue accelerated remediation at the Old Radioactive Waste Burial Ground, TXN Operable Unit, TNX Outfall Delta, D-Area Operable Unit, P-Reactor Seepage Basins, and A/M Groundwater (September 2005).
- Operate and provide maintenance on 13 groundwater treatment systems (four existing systems shut down and four new systems added) (September 2005).
- Complete the remedial action at P-Area Burning Rubble Pit and L-Area Hot Shop (September 2005).
- Achieve remedial action start for R-Area Seepage Basin (September 2005).
- A Burning/Rubble Pits, A Rubble Pit, Miscellaneous Chem. Basin/Metals Burning Pit Record of Decision (February 2006).
- T Area Record of Decision (March 2006).
- R Area Field Start (September 2006).

**SR-0040 / Nuclear Facility D&D (life-cycle estimate**

**\$1,679,695K) ..... 63,541 68,198 66,516**

After 40 years of producing nuclear materials for defense and non-defense uses, the Savannah River Site shifted its strategic direction and resources from nuclear materials production to cleanup. An integral part of the cleanup mission is decommissioning of facilities constructed in support of nuclear materials production. There are 1,013 major facilities that are to be decommissioned as part of the EM cleanup project.

This PBS includes decommissioning of all major EM facilities, including planned new EM facilities such as Glass Waste Storage Building 2, Canister Shipping Facility, and Salt Waste Processing Facility. The vision for the Savannah River Site is that operations will be concentrated toward the center of the site to form a central core area with continuing non-EM missions. It is envisioned that this central core area will be surrounded by a buffer area, which will provide a safety and security zone between the central core area and the public.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

There are two possible decommissioning end state alternatives for the Savannah River Site facilities: demolition or in-situ disposal. For each facility, the end state is determined by considering: physical condition at the time of decommissioning; structural factors affecting difficulty of removal or effectiveness of containment; proximity to public access areas, or surface or groundwater sources; client and stakeholder expectations; and extent of contamination and/or hazardous material and the degree to which they may pose a threat to the environment or the public.

Preliminary end-states have been identified for all the major facilities. All excess EM facilities within the buffer area will be demolished. A graded approach to the decommissioning process assures the appropriate stakeholder, Environmental Protection Agency and South Carolina Department of Health and Environmental Control involvement in decommissioning end state decisions.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$2,340,000 for the use of Indefinite Quantity/Indefinite Delivery (ID/IQ) contracts to accelerate outyear decontamination and decommissioning projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- Complete the decommissioning of 25 industrial, 1 nuclear and 2 radiological facilities, including completion of M Area facilities.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Nuclear Facility Completions (Number of Facilities)  | 2       | 0       | 1       | 6                           | 195                 | 3%                 |
| Radioactive Facility Completions (Number of Facilities)  | 0       | 1       | 2       | 4                           | 40                  | 10%                |
| Industrial Facility Completions (Number of Facilities)   | 65      | 19      | 25      | 168                         | 816                 | 21%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Decommissioning of multiple radioactive facilities (including 322-M Metallurgical Laboratory) and industrial facilities were completed (FY 2004).</li> <li>▪ Complete decommissioning of three industrial and radioactive facilities (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

**VL-LANL-0030 / Soil and Water Remediation-LANL**

**(life-cycle estimate \$1,034,071K)..... 60,847 76,104 99,408**

The Los Alamos National Laboratory Environmental Restoration Project has responsibility to identify, investigate and remediate when necessary areas with known or suspected chemical and or radiological contamination attributable to past Laboratory operations and practices. The original environmental restoration scope was for investigation and/or cleanup of 2,124 Potential Release Sites in eight watersheds spread over the 43 square miles of the laboratory. Sites include town sites, industrial sites, firing sites, high-explosive corridor and Material Disposition Areas. There are 795 Potential Release Sites left to be investigated.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

The Department is required by public law to transfer 4,160 acres of land to Los Alamos County or the Pueblo of San Ildefonso by 2007. There have been 11 of 28 sub-parcels of land transferred to date. EM shares responsibility for assuring the protection of groundwater. The hydrogeologic work plan will be completed by 2006 along with installation of an additional 18 regional wells. The Los Alamos National Laboratory Performance Management Plan (August 2002) describes the strategic initiatives, key objectives, and milestones necessary to support the completion of all EM activities at the Los Alamos National Laboratory by 2015.

The accelerated environmental restoration initiatives include: 1) completion by 2010 of cleanup actions in the Los Alamos/Pueblo Watershed, the highest priority watershed; and 2) completion of all other activities at the Los Alamos National Laboratory by 2015.

The end-state for the Los Alamos National Laboratory environmental restoration program is: the protection and monitoring of the regional aquifer; cleanup of sites at Los Alamos and surrounding areas to levels appropriate for intended land use, and long-term surveillance and monitoring as needed to provide necessary safeguards and protection.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$5,461,000 for the use of Indefinite Quantity/Indefinite Delivery (ID/IQ) contracts to accelerate outyear environmental remediation projects. Base PBS funding will also be used to support these ID/IQ projects.

In FY 2006, the following activities are planned:

- Complete remedy and corrective measures implementation and submit completion report for Material Disposal Area H.
- Cleanup: Initiate Voluntary Corrective Actions at sites within Technical Areas 0, 10, 21, 31, and 45. Complete Voluntary Corrective Actions for Building 16-340 sumps and Airport Landfill.
- Field Work: Complete Technical Area 21 Investigations; Material Disposal Area A, U, and B; Sediment Investigation for Bayo, Guaje, Rendija, Pajarito, and Canada del Buey Canyons; surface and alluvial groundwater investigations at Water Canyon, Canyon de Valle, Sandia and Pajarito Canyons; and groundwater (deep) investigation at Technical Area 16-260 Outfall, Los Alamos/Pueblo Canyon, Water Canyon, and Sandia Canyon.
- Complete Corrective Measures Evaluation Work Plan for Material Disposal Area G; Investigation Work Plans for Canon de Valle Aggregate Area; and Upper Los Alamos Canyon Aggregate Area.
- Complete Canyons Investigation Work plans for Water Canyon/Canyon de Valle, Ancho/Chaquehui/Indio, Portrillo/Fence Canyons.
- Complete Investigation Reports for Mortandad Canyon, Material Disposition Areas B, V, and A, Middle Mortandad/Ten-site, and Technical Area 3-010(a) Groundwater Investigation. All these activities support Performance Management Plan objectives and are required by the New Mexico Environment Department Consent Order.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ) | 0       | 0       | 0       | 5,426                       | 5,426               | 100%               |
| Remediation Complete (Number of Release Sites)                 | 18      | 31      | 86      | 1,460                       | 2,124               | 69%                |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- The fieldwork for cleanup of Material Disposal Area T in Technical Area 21 was completed (FY 2004).
- Voluntary Corrective Action at eleven sites in Technical Area 21 including removal of structures and remediation of contaminated materials at outfalls, seepage pits, septic systems, and drainage systems were completed (FY 2004).
- Completed two deep groundwater wells (FY 2004).
- Completed four monitoring wells (FY 2004).
- Complete Voluntary Corrective Action at Material Disposition Area L for Soil Vapor Extraction (September 2005).
- Complete site investigations at Material Disposition Area's L, G, V, A, and C (September 2005).
- Install three deep wells (September 2005).
- Submit investigation report for Material Disposition Area V to the New Mexico Environment Department (April 2006).
- Install one passive/reactive barrier to protect groundwater (August 2006).
- Install two permeable reactive barriers to protect groundwater in Canyon de Valle watershed (August 2006).
- Submit investigation work plan for Water Canon/Canon de Valle/Ancho/Chaquehui/Indio/Fence/Portrillo Canyons to the New Mexico Environment Department (September 2006).
- Initiate Voluntary Corrective Actions at sites within Technical Areas 0, 10, 21,31, and 45. Complete Voluntary Corrective Actions for Building 16-340 sumps and airport landfills (September 2006).

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**Total, 2035 Accelerated Completions ..... 1,829,922 2,013,018 1,915,454**

### Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

#### CB-0080 / Operate Waste Disposal Facility-WIPP

- Decrease due to: 1) completion in FY 2005 of maintenance and upgrades to the site infrastructure; and 2) completion of recertification efforts in FY 2005. .... -34,482

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**CB-0081 / Central Characterization Project**

- Increase due to deployment of central characterization project to Hanford and Idaho National Laboratory who have larger inventories of waste to characterize. .... 12,260

**CB-0090 / Transportation-WIPP**

- Increase due to transportation infrastructure and carrier services increase. .... 8,383

**ID-0030C / Soil and Water Remediation - 2035**

- There is no request for Congressionally Directed Activities in the FY 2006 Congressional Budget. .... -1,984

**NV-0030 / Soil and Water Remediation-Nevada Offsites**

- Decrease reflects less intensive field efforts during FY 2006 with more emphasis on modeling and data analysis, lab studies, and characterization. .... -4,644

**OR-0041 / Nuclear Facility D&D-Y-12**

- Increase reflects the start of construction of the final expansion of the Environmental Management Waste Management Facility, to accommodate accelerated cleanup at the East Tennessee Technology Park. .... 13,235

**OR-0042 / Nuclear Facility D&D-Oak Ridge National Laboratory**

- Decrease reflects the completion of the Molten Salt Reactor Experiment Remedial Action project in FY 2006 and the resulting ramp down of needed funding. .... -3,592

**RL-0013 / Solid Waste Stabilization and Disposition-200 Area**

- Decrease due to reducing the number of planned Waste Isolation Pilot Plant shipments, less mixed/low-level waste to be disposed, fewer facility upgrades, and a reduction in facility operations costs. .... -46,004

**RL-0030 / Soil and Water Remediation-Groundwater/Vadose Zone**

- Increase due to remediation system upgrade activities at the 100 D Area and installation of the integrated monitoring well network. An additional \$4,680,000 has been provided for the use of the ID/IQ contracts to accelerate outyear environmental remediation activities for this project to further accelerate risk reduction. .... 24,532

**RL-0040 / Nuclear Facility D&D-Remainder of Hanford**

- Decrease is attributed to fewer decontamination and decommissioning projects being started in light of site risk priorities. The decrease is offset by the inclusion of \$3,900,000 for the use of the ID/IQ contracts to accelerate outyear environmental remediation projects to further accelerate risk reduction. .... -40,884

**RL-0080 / Operate Waste Disposal Facility**

- Decrease reflects elimination of mixed low-level waste receipts from off-site generators. .... -119

**ORP-0014 / Radioactive Liquid Tank Waste Stabilization and Disposition**

- Decrease due to uncertainty surrounding Waste Incidental to Reprocessing issue. The project will provide for base operations of the tank farms and continue to pursue the supplemental technology alternative. .... -89,387

**SR-0011C / NM Stabilization and Disposition-2035**

- Increase reflects initiation of conceptual design activities for enhanced plutonium disposition capability, the transfer of certain elements of the 3013 container surveillance capability from Los Alamos, and the initiation of operating activities associated with completion of 235-F facility surveillance activities and K Area Material Storage operational needs. .... 31,887

**SR-0012 / SNF Stabilization and Disposition**

- Decrease reflects changing amounts of Foreign Research Reactor fuels residing in the L Basin facility and accelerated de-inventory and deactivation of the Receiving Basin for Off-site Fuels. .... -11,494

**SR-0013 / Solid Waste Stabilization and Disposition**

- Increase due to requirements for establishing high activity transuranic waste disposition capability through a series of small projects to modify existing facilities to pre-screen, characterize, perform size reduction and remediation operations, and to prepare for shipment to the Waste Isolation Pilot Plant facility. Change also reflects increasing requirements for mixed waste disposition. .... 24,680

**SR-0014C / Radioactive Liquid Tank Waste Stabilization and Disposition-2035**

- No significant change. .... -4,342

**SR-0030 / Soil and Water Remediation**

- Increase due to an additional \$5,460,000 provided for the use of the ID/IQ contracts to accelerate outyear environmental remediation projects to further accelerate risk reduction. .... 2,769

**SR-0040 / Nuclear Facility D&D**

- Decrease is attributed to fewer decontamination and decommissioning projects being started in light of site risk priorities. Decrease is partially offset by an additional \$2,340,000 provided for the use of the ID/IQ contracts to accelerate outyear decontamination and decommissioning projects to further accelerate risk reduction. ... -1,682

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**VL-LANL-0030 / Soil and Water Remediation-Los Alamos National Laboratory**

|  |                |
|--|----------------|
| <ul style="list-style-type: none"> <li>▪ Increase supports the continued acceleration of cleanup including an increase in the number of release sites remediated based on the Consent Order Agreement with New Mexico and the Department in FY 2004. An additional \$5,461,000 is provided for the use of the ID/IQ contracts to accelerate outyear environmental remediation projects to further accelerate risk reduction. ....</li> </ul> | 23,304         |
| <b>Total Funding Change, 2035 Accelerated Completions.....</b>   | <b>-97,564</b> |

# Capital Operating Expenses and Construction Summary

## Construction Projects

### Capital Operating Expenses

|  | FY 2004       | FY 2005        | FY 2006       | \$ Change      | % Change      |
|--|---------------|----------------|---------------|----------------|---------------|
| Conceptual Design                        | 0             | 0              | 10,000        | 10,000         | N/A           |
| Capital Equipment                        | 16,160        | 20,980         | 2,444         | -18,536        | -88.4%        |
| General Plant Projects                   | 36,146        | 81,407         | 75,553        | -5,854         | -7.4%         |
| <b>Total, Capital Operating Expenses</b> | <b>52,306</b> | <b>102,387</b> | <b>87,997</b> | <b>-14,390</b> | <b>-14.1%</b> |

## Construction Projects

(dollars in thousands)

| Total Estimated Cost (TEC) | Prior Year Appropriations | FY 2004 | FY 2005 | FY 2006 | Unappropriated Balance |
|----------------------------|---------------------------|---------|---------|---------|------------------------|
|----------------------------|---------------------------|---------|---------|---------|------------------------|

### Defense Site Acceleration Completion

#### 2012 Accelerated Completions

06-D-401, Sodium Bearing Waste Treatment Project, Idaho National Laboratory, ID, ID-0014B

250,230      0      0      0      15,000      235,230

04-D-414, Environmental Management Project Engineering and Design, Various Locations

N/A      0      30,626      27,677      9,200      N/A

04-D-423, 3013 Container Surveillance Capability and Storage, Savannah River, SC, SR-0011B

38,470      0      11,213      20,475      0      6,782

02-D-402, INTEC Cathodic Protection System Expansion, ID, ID-0014B

5,018      3,898      1,120      0      0      0

01-D-416, Waste Treatment and Immobilization Plant, River Protection, WA, ORP-0060

5,781,000      1,756,171      697,530      684,480      625,893      2,016,926

#### **Total, 2012 Accelerated Completions**

**740,489      732,632      650,093**

## Capital Operating Expenses and Construction Summary

### Construction Projects

(dollars in thousands)

|   | Total<br>Estimated<br>Cost (TEC) | Prior Year<br>Appropriations | FY 2004       | FY 2005       | FY 2006       | Unappropriated<br>Balance |
|---|----------------------------------|------------------------------|---------------|---------------|---------------|---------------------------|
| <b>2035 Accelerated Completions</b>   |                                  |                              |               |               |               |                           |
| 05-D-405, Salt Waste Processing Facility, Savannah River, SC, SR-0014C                          | 251,189                          | 0                            | 0             | 25,792        | 70,000        | 156,397                   |
| 04-D-408, Glass Waste Storage Building #2, Savannah River, SC, SR-0014C                         | 70,590                           | 0                            | 20,139        | 43,476        | 6,975         | 0                         |
| 03-D-403. Immobilized High Level Waste Interim Storage Facility, River Protection, WA, ORP-0014 | 66,950                           | 1,229                        | 206           | 0             | 7,495         | 58,020                    |
| 03-D-414, Environmental Management Project Engineering and Design, Various Locations            | N/A                              | 4,842                        | 51,198        | 23,469        | 4,342         | N/A                       |
| <b>Total, 2035 Accelerated Completions</b>  |                                  |                              | <b>71,543</b> | <b>92,737</b> | <b>88,812</b> |                           |

# 06-D-401, Sodium Bearing Waste Treatment Project, Idaho National Laboratory (INL), Idaho (ID-0014B)

## Significant Changes

- None

### 1. Construction Schedule History

| Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
| A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |

FY 2006 Budget Request (Pre-  
Conceptual  
Estimate).....

2Q 2005    4Q 2006    1Q 2008    3Q 2009    250,230<sup>a</sup>    379,210<sup>b</sup>

### 2. Financial Schedule

(dollars in thousands)

| Fiscal Year | Appropriation | Obligations | Costs  |
|-------------|---------------|-------------|--------|
| 2006        | 15,000        | 15,000      | 15,000 |
| 2007        | 85,800        | 85,800      | 80,500 |
| 2008        | 83,130        | 83,130      | 80,030 |
| 2009        | 53,100        | 53,100      | 58,000 |
| 2010        | 13,200        | 13,200      | 16,700 |

<sup>a</sup> Reflects cost of construction phase only.

<sup>b</sup> Includes \$54,280,000 of Project Engineering and Design Costs appropriated under line item 04-D-414 and \$74,700,000 of operating expense funded support costs.

### **3. Project Description, Justification, and Scope**

This project enables the equipment procurement, construction, construction management, quality assurance, and project management to treat Sodium Bearing Waste at Idaho. The design effort will develop the final detailed design of the selected alternative and establish the scope, schedule, and cost baselines for the project. Design funding has been appropriated on a separate Project Engineering & Design line item project (04-D-414). The FY 2006 request supports construction funding and equipment procurement funding so that it will be available for those items on a timely basis to support the overall schedule. The Sodium Bearing Waste Treatment Project is one of several interrelated projects that are managed together under the Idaho Cleanup Project and the Environmental Management Performance Management Plan, and are part of the process to close the Idaho Nuclear Technology and Engineering Center's Tank Farm Facility. In order for these projects to meet the clean-up schedule, they will be managed together and their activities coordinated under the Idaho Cleanup Project. The Sodium Bearing Waste Treatment Facility supports the Department of Energy's (DOE's) Environmental Management (EM) mission of reducing the risk of the stored liquid radioactive wastes. In addition, it supports the 1995 Settlement Agreement and several Federal Facility Compliance commitments with the State of Idaho (described below). The scope and primary goal of the project is to design and construct a treatment process system that will treat the sodium-bearing waste (including solids) currently stored in the Tank Farm Facility tanks, along with any newly generated liquid waste produced through 2012. EM assumes that the final waste form will be suitable for transport to and disposal at the Waste Isolation Pilot Plant in New Mexico. Several feasible alternative technologies to treat the sodium bearing waste, tank solids, and newly generated liquid waste have been identified and chosen for consideration through various systematic analyses and the National Environmental Policy Act process. The Sodium Bearing Waste Treatment Project has unique political, technical, cost, and schedule risks. The treatment alternative will be selected based on its ability to mitigate these risks. Final selection of the preferred treatment alternative will occur after a new cleanup contractor is selected in Fiscal Year 2005.

The current DOE mission at the Idaho Nuclear Technology and Engineering Center includes cleaning up and managing radioactive and hazardous waste previously generated from nuclear fuel reprocessing activities. The DOE has already removed and treated into a powdered waste form (called calcine) all tank wastes produced directly from nuclear fuel reprocessing activities. The remaining tank waste is referred to as sodium bearing waste, due to its high content of sodium and potassium. Sodium bearing waste and newly generated liquid waste were primarily generated from past and ongoing waste management and decontamination activities. The present inventory of approximately 900,000 gallons of sodium bearing waste is stored in three 300,000 gallon, underground tanks in the Tank Farm Facility.

Five of the Tank Farm Facility's eleven storage tanks are located in concrete vaults of a design that does not meet present structural safety requirements (the pillar and panel tanks), and none of the tanks have secondary containment capabilities that satisfy current Resource Conservation and Recovery Act requirements. The tanks also present risks due to their age and the risk of release of their contents to the underlying Snake River Plain Aquifer should there be seismic activity.

The waste management storage systems at the Idaho Nuclear Technology and Engineering Center currently operate under Resource Conservation and Recovery Act Part A interim status and a 1992 Notice of Noncompliance Consent Order. The Notice of Noncompliance Consent Order also requires termination of the Tank Farm Facility by December 31, 2012. In addition, a court ordered Settlement Agreement reached between Idaho and DOE in October 1995, requires the treatment of the sodium-bearing waste in the Tank Farm Facility tanks by December 31, 2012.

Feasible alternative technologies have been identified and selected through various systematic analyses and also through the National Environmental Policy Act process. The technologies considered were predicated on the assumption that the waste may be classified as transuranic waste, and the objective is to put the waste in a form that would make it suitable for disposal as transuranic waste at the Waste Isolation Pilot Plant.

#### 4. Details of Cost Estimate

| (dollars in thousands)   |                     |                      |
|--|---------------------|----------------------|
|  | Current<br>Estimate | Previous<br>Estimate |
| Design Phase   |                     |                      |
| Preliminary and Design Costs (design drawings & specifications).....               | 12,600              | 33,779               |
| Final Design Costs <sup>a</sup> .....  | 13,700              | 5,550                |
| Project Management Costs <sup>b</sup> .....  | 10,100              | 15,150               |
| Contingency.....   | 17,880              | 0                    |
| Total, Engineering Design Inspection and Administration of Construction Costs..... | 54,280              | 54,479               |
|  |                     |                      |
| Construction Phase   |                     |                      |
| Buildings.....   | 78,500              | 0                    |
| GFE / Tagged Equipment.....  | 22,100              | 0                    |
| Construction Management (5.1% of TEC).....   | 15,500              | 0                    |
| Project Management (5.7% of TEC).....  | 17,500              | 0                    |
| Total Construction Costs.....  | 133,600             | 0                    |
|  |                     |                      |
| Contingencies  |                     |                      |
| Construction Phase (31.7% of TEC).....   | 96,630              | 0                    |
| Special for Multiple Options.....  | 20,000              | 0                    |
| Total, Contengencies (38.3% of TEC).....   | 116,630             | 0                    |
| Total, Construction Cost.....  | 250,230             | 0                    |

<sup>a</sup> Design Management consists of oversight and control of design activities, not the actual design costs.

<sup>b</sup> Project Management includes activities for the Project Manager, design reviews, project document control, Project Management Supervisor, cost estimating, and conduct of operations.

## 5. Method of Performance

Design services will be obtained through competitive bid, cost-reimbursable subcontracts to A-E firms experienced in design of similar facilities. The Idaho Cleanup Project contractor staff will manage the overall performance of the project by self-performing or subcontracting at its preference.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets. The Total Estimated Cost (design and construction) business decision estimate range is under development.

### Compliance with Project Management Order

- CD-0, Approve Mission Need – 2Q 2005
- CD-1, Approve Preliminary Baseline Range - 2Q 2005
- CD-2, Approve Performance Baseline - 2Q 2005
- CD-3, Approve Start of Construction – 1Q 2008
- CD-4, Approval of Start of Operations – 3Q 2009

## 6. Schedule of Project Funding

(dollars in thousands)

|  | Prior Year    | FY 2004      | FY 2005       | FY 2006       | Outyears       | Total          |
|--|---------------|--------------|---------------|---------------|----------------|----------------|
| <b>Project Cost</b>                          |               |              |               |               |                |                |
| Design Phase.....                            | 0             | 0            | 17,479        | 36,801        | 0              | 54,280         |
| Execution Phase (TEC).....                   | 0             | 0            | 0             | 15,000        | 235,230        | 250,230        |
| <b>Total.....</b>                            | <b>0</b>      | <b>0</b>     | <b>17,479</b> | <b>51,801</b> | <b>235,230</b> | <b>304,510</b> |
| <b>Other Project Costs</b>                   |               |              |               |               |                |                |
| R&D Necessary to Complete                    |               |              |               |               |                |                |
| Construction.....                            | 17,300        | 5,300        | 750           | 2,290         | 2,060          | 27,700         |
| Other Project Related Costs.....             | 13,300        | 1,600        | 2,050         | 5,900         | 24,150         | 47,000         |
| <b>Total, Other Project Costs (OPC).....</b> | <b>30,600</b> | <b>6,900</b> | <b>2,800</b>  | <b>8,190</b>  | <b>26,210</b>  | <b>74,700</b>  |
| <b>Total Project Cost (TPC).....</b>         | <b>30,600</b> | <b>6,900</b> | <b>20,279</b> | <b>59,991</b> | <b>261,440</b> | <b>379,210</b> |

## 7. Related Annual Funding Requirements

(dollars in thousands)

| Current<br>Estimate | Previous<br>Estimate |
|---------------------|----------------------|
|---------------------|----------------------|

|   |        |     |
|---|--------|-----|
| Average Annual Facility Operating Costs (includes contingency)..... | 74,200 | N/A |
| Total, Related Annual Funding.....                                  | 74,200 | N/A |

# 04-D-414, Environmental Management, Project Engineering and Design (PED), Various Locations

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

## Significant Changes

None.

### 1. Construction Schedule History

|   | Fiscal Quarter     |                    |                             |                                | Total Estimated Cost (TEC) (\$000) |
|---|--------------------|--------------------|-----------------------------|--------------------------------|------------------------------------|
|   | A-E Work Initiated | A-E Work Completed | Physical Construction Start | Physical Construction Complete |                                    |
| FY 2004 Budget Request (Preliminary Estimate) ..... | 1Q 2004            | 4Q 2004            | N/A                         | N/A                            | TBD                                |
| FY 2005 Budget Request .....                        | "                  | 4Q 2005            | "                           | "                              | "                                  |
| FY 2006 Budget Request .....                        | "                  | 4Q 2006            | "                           | "                              | "                                  |

### 2. Financial Schedule

(dollars in thousands)

| Fiscal Year | Appropriations      | Obligations | Costs  |
|-------------|---------------------|-------------|--------|
| 2004        | 30,626 <sup>a</sup> | 10,247      | 8,778  |
| 2005        | 27,677 <sup>b</sup> | 48,056      | 21,431 |
| 2006        | 9,200               | 9,200       | 37,294 |

### 3. Project Description, Justification and Scope

This construction project data sheet summarizes the Environmental Management requirements for architect-engineering services, preliminary design, and final design for two subprojects. Only one subproject, the Sodium Bearing Waste Treatment Facility, requires funding in FY 2006. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications, and provide

<sup>a</sup> Reflects FY 2004 reprogramming of \$17,265,000 for subproject 1, the 3013 Container Surveillance Capability, and a government-wide rescission of \$139,000.

<sup>b</sup> Reflects FY 2005 government-wide rescission of \$223,000.

construction schedules including procurements.

The FY 2001 Energy and Water Development Appropriations Act directed the Department to request “project engineering and design” funds for the purpose of achieving a 30-35 percent level of engineering design for new construction projects prior to requesting construction funding. Such an advanced design should provide a more mature technical and cost baseline, ensuring greater likelihood of achieving project cost and schedule adherence.

The project baseline will be the basis for the request to Congress for authorization and appropriation for physical construction and procurement. For certain projects, in order to meet project schedules, construction and/or procurement activities may be required in the same year as the preliminary design, Project Baseline and Acquisition Executive approval is completed. Each project that proceeds to physical construction will be separated into an individual construction line-item, the total estimated cost of which will identify the costs of the engineering and design activities funded through the project engineering and design account.

**FY 2004 Design Projects –**

**04-01, 3013 Container Surveillance Capability in 235-F, Savannah River Site, Aiken, South Carolina (SR-0011B)**

| Fiscal Quarter     |                    |                             |                                | Total Estimated Cost (Design Only) (\$000) | Full Total Estimated Cost Projection (\$000) |
|--------------------|--------------------|-----------------------------|--------------------------------|--|--|
| A-E Work Initiated | A-E Work Completed | Physical Construction Start | Physical Construction Complete |  |  |
| 1Q 2004            | 4Q 2005            | TBD                         | TBD                            | 13,223                                     | TBD  |

| Fiscal Year | Appropriations      | Obligations | Costs |
|-------------|---------------------|-------------|-------|
| 2004        | 10,247 <sup>a</sup> | 10,247      | 8,778 |
| 2005        | 2,976 <sup>b</sup>  | 2,976       | 3,952 |
| 2006        | 0                   | 0           | 493   |

This project will provide long-term capability for surveillance of 3013 containers in accordance with the DOE-STD-3013, including the ability to re-stabilize and re-package any off-normal materials detected during surveillance. This capability is needed to safely continue the plutonium storage mission at the Savannah River Site. The 235-F modifications will include installation of glove-boxes, air supply, 3013 dual can cutter, stabilization furnaces, moisture analysis equipment, inner and outer 3013 can welders, leak test equipment, digital radiography systems and miscellaneous support equipment. A significant portion of the project includes safeguards and security engineered equipment to comply with

<sup>a</sup> Reflects FY 2004 reprogramming of \$7,265,000 and reduction of \$18,000 due to government-wide rescission (0.59%). Original appropriation was \$3,000,000.

<sup>b</sup> Reflects reduction of \$24,000 due to government-wide rescission (0.8%).

**Defense Site Acceleration Completion/2012 Accelerated Completions/04-D-414/Environmental Management Project Engineering and Design**

**FY 2006 Congressional Budget**

requirements for a Category I SNM facility.

This project will also increase the vault storage capacity of the 235-F Facility. The increased storage capacity will house Savannah River Site and Hanford 3013 containers (pending a decision to ship these materials to the Savannah River Site), and support the transfer of containers from the K-Area Material Storage (KAMS) facility for future surveillance, significantly reducing procurement requirements for containers and transportation costs.

Significant progress has been made in realizing the Departmental goals for plutonium consolidation and storage. Currently, Savannah River Site has received all Rocky Flats materials in its recently renovated KAMS facility, completed the FB-Line Plutonium Packaging and Stabilization construction project (October 2003), and has begun the 3013 packaging of the Savannah River Site material.

The current estimated cost for the project is based on recent successful experience with similar work including: the FB Line Packaging and Stabilization line item project; the KAMS project; and conceptual design work accomplished in FY 2000 and FY 2001 for a project to install a form of surveillance capability in the same 235 F facility. This project has scope that is very similar to these predecessor projects. As a result, the estimate has a reasonably high confidence level associated with it.

#### 4. Details of Cost Estimate

|   | Current Estimates | Previous Estimate |
|---|-------------------|-------------------|
| Design Phase                            |                   |                   |
| Preliminary and Final Design Costs..... | 13,223            | 13,247            |
| Design Management Costs.....            | 0                 | 0                 |
| Project Management Costs.....           | 0                 | 0                 |
| Total, Design Phase.....                | 13,223            | 13,247            |

#### 5. Method of Performance

Design, construction, and procurement may be accomplished by the Management and Operating contractor. Specific scopes of work within this project may be accomplished by fixed-price contracts awarded on the basis of competitive bidding.

This project is subject to Department Order 413.3, Program and Project Management for the Acquisition of Capital Assets. Accordingly, baselines for Total Project Cost will be established at the completion of preliminary design (Critical Decision 2) and after the associated external independent reviews.

##### Compliance with Project Management Order

- Critical Decision – 0: Approve Mission Need – October 2003

**Defense Site Acceleration Completion/2012 Accelerated Completions/04-D-414/Environmental Management Project Engineering and Design**

**FY 2006 Congressional Budget**

- Critical Decision – 1: Approve Preliminary Baseline Range – February 2004
- Critical Decision – 2: Approve Performance Baseline – November 2004
- Critical Decision – 3: Approve Start of Construction – May 2004 (Partial CD-3s Approvals for Construction were scheduled for each stand alone construction package as the design was completed. There were approximately 12 partial CD-3s scheduled.)
- Critical Decision – 4A: Approve Start of Storage Operations & Non-destructive Surveillance – March 2007
- Critical Decision – 4B: Approve Start of Destructive Surveillance & Packaging Operations – January 2008

|  | Prior Year | FY 2004      | FY 2005      | FY 2006    | Total         |
|--|------------|--------------|--------------|------------|---------------|
| Project Cost                           |            |              |              |            |               |
| Design Phase                           |            |              |              |            |               |
| Project, Engineering, and Design.....  | 0          | 8,778        | 3,952        | 493        | 13,223        |
| Other Project Costs                    |            |              |              |            |               |
| R&D Necessary to Complete Project..... | 0          | 0            | 0            | 0          | 0             |
| Conceptual Design Costs.....           | 0          | 1,220        | 1,680        | 0          | 2,900         |
| Other Project-Related Costs.....       | 0          | 0            | 0            | 0          | 0             |
| <b>Total Project Cost.....</b>         | <b>0</b>   | <b>9,998</b> | <b>5,632</b> | <b>493</b> | <b>16,123</b> |

### Schedule of Project Funding

#### 04-02, Sodium Bearing Waste Treatment Facility, Idaho National Laboratory, Idaho Falls, Idaho (ID-INEEL-0014B)

| Fiscal Quarter     |                    |                             |                                | Total Estimated Cost (Design Only) (\$000) | Full Total Estimated Cost Projection (\$000) |
|--------------------|--------------------|-----------------------------|--------------------------------|--|--|
| A-E Work Initiated | A-E Work Completed | Physical Construction Start | Physical Construction Complete |  |  |
| 2Q 2005            | 4Q 2006            | N/A                         | N/A                            | 54,280                                     | TBD  |

| Fiscal Year | Appropriations      | Obligations | Costs  |
|-------------|---------------------|-------------|--------|
| 2004        | 20,379 <sup>a</sup> | 0           | 0      |
| 2005        | 24,701 <sup>b</sup> | 45,080      | 17,479 |
| 2006        | 9,200               | 9,200       | 36,801 |

This budget request provides for Architect-Engineering Services (Preliminary and Final Engineering

<sup>a</sup> Reflects reduction of \$121,000 due to government-wide rescission (0.59%).

<sup>b</sup> Reflects reduction of \$199,000 due to government-wide rescission (0.8%).

**Defense Site Acceleration Completion/2012 Accelerated Completions/04-D-414/Environmental Management Project Engineering and Design**

**FY 2006 Congressional Budget**

Design), and project management on the Sodium Bearing Waste Treatment Facility. The design effort for this project will sufficiently detail the alternative selected and achieve a high confidence baseline to establish the acquisition performance baseline. Design will be extensive enough so that construction can physically start or equipment can be procured to meet the project schedule. The Sodium Bearing Waste Treatment Project is one of several interrelated projects that are managed together under the Idaho Cleanup Project and the Environmental Management Performance Management Plan, and are part of the process to close the Idaho Nuclear Technology and Engineering Center's Tank Farm Facility. In order for these projects to meet the clean-up schedule, they will be managed together and their activities coordinated under the Idaho Cleanup Project. The Sodium Bearing Waste Treatment Facility supports the Department of Energy's (DOE's) Environmental Management (EM) mission of reducing the risk of the stored liquid radioactive wastes. In addition, it supports the 1995 Settlement Agreement and several Federal Facility Compliance commitments with the State of Idaho (described below). The scope and primary goal of the project is to design and construct a treatment process system that will treat the sodium-bearing waste (including solids) currently stored in the Tank Farm Facility tanks, along with any newly generated liquid waste produced through 2012. EM assumes that final waste form will be suitable for transport to and disposal at the Waste Isolation Pilot Plant in New Mexico. Several feasible alternative technologies to treat the sodium bearing waste, tank solids, and newly generated liquid waste have been identified and chosen through various systematic analyses and the National Environmental Policy Act process. The Sodium Bearing Waste Treatment Project has unique political, technical, cost, and schedule risks. The treatment alternative will be selected based on its ability to mitigate these risks. Final selection of the preferred treatment alternative will occur after a new cleanup contractor is selected in Fiscal Year 2005.

The current DOE mission at the Idaho Nuclear Technology and Engineering Center includes cleaning up and managing radioactive and hazardous waste previously generated from nuclear fuel reprocessing activities. The DOE has already removed and treated into a powdered waste form (called calcine) all tank wastes produced directly from nuclear fuel reprocessing activities. The remaining tank waste is referred to as sodium bearing waste, due to its high content of sodium and potassium. Sodium bearing waste and newly generated liquid waste were primarily generated from past and ongoing waste management and decontamination activities. The present inventory of approximately 900,000 gallons of sodium bearing waste is stored in three 300,000 gallon, underground tanks in the Tank Farm Facility.

Five of the Tank Farm Facility's eleven storage tanks are located in concrete vaults of a design that does not meet present structural safety requirements (the pillar and panel tanks), and none of the tanks have secondary containment capabilities that satisfy current Resource Conservation and Recovery Act requirements. The tanks also present risks due to their age and the risk of release of their contents to the underlying Snake River Plain Aquifer should there be seismic activity.

The waste management storage systems at the Idaho Nuclear Technology and Engineering Center currently operate under Resource Conservation and Recovery Act Part A interim status and a 1992 Notice of Noncompliance Consent Order. The Notice of Noncompliance Consent Order also requires termination of the Tank Farm Facility by December 31, 2012. In addition, a court ordered Settlement Agreement reached between Idaho and DOE in October 1995, requires treatment of the sodium-bearing waste in the Tank Farm Facility tanks by December 31, 2012.

Feasible alternative technologies have been identified and selected through various systematic analyses and also through the National Environmental Policy Act process. The technologies considered were predicated on the assumption that the waste may be classified as transuranic waste, and the objective is to put the waste in a form that would make it suitable for disposal as transuranic waste at the Waste Isolation Pilot Plant.

#### 4. Details of Cost Estimate

|  | (dollars in thousands) |                   |
|--|------------------------|-------------------|
|  | Current Estimate       | Previous Estimate |
| Design Phase   |                        |                   |
| Preliminary and Design Costs (design drawings & specifications)..... | 12,600                 | 33,779            |
| Final Design Costs <sup>a</sup> .....                                | 13,700                 | 5,550             |
| Project Management Costs <sup>b</sup> .....                          | 10,100                 | 15,150            |
| Contingency.....   | 17,880                 | 0                 |
| Total, Design Phase.....   | 54,280                 | 54,479            |

#### 5. Method of Performance

Design services will be obtained through competitive bid, cost-reimbursable subcontracts to A-E firms experienced in the design of similar facilities. The Idaho Cleanup Project contractor staff will manage the overall design effort and interfaces with the existing operating plant.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets. The Total Estimated Cost (design and construction) business decision estimate range is under development.

##### Compliance with Project Management Order

- CD-0, Approve Mission Need – 2Q 2005
- CD-1, Approve Preliminary Baseline Range - 2Q 2005
- CD-2, Approve Performance Baseline - 2Q 2005
- CD-3, Approve Start of Construction – 4Q 2007
- CD-4, Approval of Start of Operations – 3Q 2009

<sup>a</sup> Design Management consists of oversight and control of design activities, not the actual design costs.

<sup>b</sup> Project Management includes activities for the Project Manager, design reviews, project document control, Project Management Supervisor, cost estimating, and conduct of operations.

## 6. Schedule of Project Funding

(dollars in thousands)

|  | Prior Year    | FY 2004      | FY 2005       | FY 2006       | Outyears      | Total          |
|--|---------------|--------------|---------------|---------------|---------------|----------------|
| <b>Project Cost</b>                          |               |              |               |               |               |                |
| Preliminary Design.....                      | 0             | 0            | 10,300        | 0             | 0             | 10,300         |
| Final Design.....                            | 0             | 0            | 0             | 29,601        | 0             | 29,601         |
| Project Management.....                      | 0             | 0            | 7,179         | 7,200         | 0             | 14,379         |
| <b>Total, Project Costs (TEC).....</b>       | <b>0</b>      | <b>0</b>     | <b>17,479</b> | <b>36,801</b> | <b>0</b>      | <b>54,280</b>  |
| <b>Other Project Costs</b>                   |               |              |               |               |               |                |
| R&D Necessary to Complete                    |               |              |               |               |               |                |
| Project.....                                 | 17,300        | 5,300        | 750           | 2,290         | 2,060         | 27,700         |
| Other Project Related Costs.....             | 13,300        | 1,600        | 2,050         | 5,900         | 24,150        | 47,000         |
| <b>Total, Other Project Costs (OPC).....</b> | <b>30,600</b> | <b>6,900</b> | <b>2,800</b>  | <b>8,190</b>  | <b>26,210</b> | <b>74,700</b>  |
| <b>Total Project Cost (TPC).....</b>         | <b>30,600</b> | <b>6,900</b> | <b>20,279</b> | <b>44,991</b> | <b>26,210</b> | <b>128,980</b> |

# 01-D-416, Waste Treatment and Immobilization Plant Hanford Site, Washington (ORP-0060)

(Changes from FY 2004 Reprogramming are denoted with a vertical line [ | ] in the left margin.)

## Significant Changes

- None

### 1. Construction Schedule History

| Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
| A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |

|   |         |         |         |                      |           |            |
|---|---------|---------|---------|----------------------|-----------|------------|
| FY 2001 Budget Request (Title 1<br>Baseline) <sup>a</sup> ..... | 4Q 1998 | 2Q 2005 | 1Q 2001 | 1Q 2007              | 5,466,000 | 12,488,000 |
| FY 2002 Budget Request <sup>b</sup> .....                       | "       | "       | 3Q 2002 | "                    | 4,350,000 | 4,350,000  |
| FY 2003 Budget Request.....                                     | "       | "       | "       | "                    |           |            |
| FY 2004 Budget Request.....                                     | "       | "       | 4Q 2002 | "                    |           |            |
| FY 2003 Congressional Notification....                          | "       | "       | "       | 3Q 2008 <sup>c</sup> | 5,781,000 | 5,781,000  |
| FY 2005 Budget Request.....                                     | "       | "       | "       | "                    |           |            |
| FY 2004 Reprogramming.....                                      | "       | "       | "       | "                    |           |            |
| FY 2006 Budget Request.....                                     | "       | 4Q 2007 | "       | "                    |           |            |

<sup>a</sup> Total Project Cost/Total Estimated Cost based upon Privatization concept and included plant operations through FY 2018.

<sup>b</sup> The FY 2002 Total Project Cost/Total Estimated Cost based on traditional government construction contract.

<sup>c</sup> The change in construction completion date is due to schedule adjustments for overly aggressive targets that resulted in engineering and quality problems. However, the project completion date remains the same (2011).

## 2. Financial Schedule

(dollars in thousands)

| Fiscal Year | Appropriation         | Obligations          | Costs   |
|-------------|-----------------------|----------------------|---------|
| Prior Year  | 393,673 <sup>a</sup>  | 370,974              | 370,974 |
| 2001        | 401,171 <sup>b</sup>  | 401,171              | 226,311 |
| 2002        | 665,000               | 665,000              | 488,469 |
| 2003        | 671,898 <sup>cd</sup> | 675,532 <sup>d</sup> | 621,574 |
| 2004        | 697,530 <sup>e</sup>  | 682,402              | 725,246 |
| 2005        | 684,480 <sup>f</sup>  | 687,692              | 867,692 |
| 2006        | 625,893               | 625,893              | 808,398 |
| 2007        | 690,000               | 690,000              | 690,000 |
| 2008        | 488,292               | 488,292              | 488,292 |
| 2009        | 430,456               | 430,456              | 430,456 |
| 2010        | 339,152               | 339,152              | 339,152 |
| 2011        | 87,128                | 95,410               | 95,410  |

## 3. Project Description, Justification and Scope

Radioactive waste has been stored in large underground storage tanks at the Hanford Site since 1944. Approximately 53 millions gallons of waste containing approximately 240,000 metric tons of processed chemicals and 172 mega-curies of radionuclides are currently stored in 177 tanks. These caustic wastes are in the form of liquids, slurries, saltcakes, and sludge. The Waste Treatment and Immobilization Plant will separate the tank waste into a high-level and low-activity fraction. The plant will stabilize (vitrify) all the high-level fraction and a substantial portion of the low-activity fraction. Supplemental technologies (under a separate contract) are planned for treatment of the remaining low-activity waste to allow completion of the Hanford tank waste cleanup program by 2028.

<sup>a</sup> Prior Years appropriated under EM Privatization account reflect \$97,000,000 Congressional Rescission in FY 2001 Appropriation. These appropriation, obligation, and cost estimates are not included in line-item 01-D-416 Total Estimated Cost or Total Project Cost.

<sup>b</sup> Reflects FY 2001 Rescission of \$829,000 and FY 2001 Supplemental Appropriation of \$25,000,000. The original appropriation was \$377,000,000.

<sup>c</sup> Reflects approved FY 2003 reprogramming of \$83,981,567 to increase the project from \$606,018,433 to \$690,000,000 to meet project requirements.

<sup>d</sup> Reflects reduction of \$18,102,000 as part of the FY 2004 Energy and Water Development Appropriation Act prior year reduction.

<sup>e</sup> Reflects reduction of \$3,964,000 due to FY 2004 Government-wide Rescission of 0.59 percent and increase of \$11,494,000 reprogramming.

<sup>f</sup> Reflects reduction of \$5,520,000 due to FY 2005 Government-wide Rescission of 0.8 percent.

The River Protection Project is managed by the Office of River Protection at the Hanford site in Washington State. The River Protection Project also includes efforts to resolve a number of safety concerns and technical issues. Of particular interest is the need to address past leakage from some of the underground storage tanks. The leakage has resulted in contamination of the underlying soil column (vadose zone) and recent reports indicate that some of the leakage has reached the groundwater. Storage in the current tanks is very costly, and as the tanks age, the potential for radioactive and chemical release will increase, although short-term risks are low. The River Protection Project will substantially decrease the long-term costs and provide protection of public health and safety and the environment by removing the waste from the tanks and placing it in a waste form suitable for disposal.

The River Protection Project is implementing cleanup under two contract vehicles.

- The Tank Farm Contractor provides for safe storage and retrieval of tank wastes, storage and disposal of treated waste, decontamination and decommissioning of tanks, and initiation of post closure monitoring of the tank farms.
- The Waste Treatment Contractor is to design, construct, and commission a Waste Treatment and Immobilization Plant and support transition of the plant into full operation. Operation of the Waste Treatment and Immobilization Plant is planned to be under a separate contract awarded after commissioning.

The River Protection Project pathway for cleanup is documented in the Hanford Federal Facility Agreement and Consent Order, commonly known as the Tri-Party Agreement. Under the Tri-Party Agreement, the Department of Energy, the U.S. Environmental Protection Agency, and the Washington State Department of Ecology have agreed to a timetable for cleanup of the Hanford Site. Major objectives are to complete hot commissioning of the Waste Treatment and Immobilization Plant by 2011, to treat approximately 10 percent of the tank waste by mass and 25 percent of the tank waste by radioactivity by 2018, and to complete treatment of all tank waste by 2027. These milestones will be met with plant enhancements and with the adoption of supplemental technologies for treatment of some of the low-activity waste. Intermediate milestones for assembly of the low activity waste melters and start of hot commissioning were renegotiated with the State of Washington and the Environmental Protection Agency. Waste Treatment and Immobilization Plant design and construction activities have been closely coupled. However, recent seismic information has raised concerns that some equipment may require modification. While near-term this has slowed construction to allow further evaluation of requirements, the projected startup date of 2011 is not impacted. The FY 2006 budget request reflects the level of funding required to proceed at this reduced pace.

The Waste Treatment Contractor will continue design work including development of all structural, mechanical, electrical, and process drawings of detail sufficient for construction of a plant that will meet the Department's functional specifications and achieve efficient and effective operability to successfully process the tank waste. The Waste Treatment Contractor will also commission the plant, demonstrating treatment of a small portion of the Hanford tank wastes.

Prior to or during commissioning, the Department will award a separate contract to operate the Waste Treatment and Immobilization Plant, and Tank Farms under one contract, beyond completion of commissioning of the Waste Treatment and Immobilization Plant Contract.

The Waste Treatment Contractor will: complete process and facility design; perform construction and procurement; conduct acceptance testing; select and integrate a subcontractor into the project team to provide the necessary operability and commissioning capability; and conduct all required environmental, safety, quality, and health actions. From contract award, the Waste Treatment Contractor is the design authority responsible for the design of the plant.

The Waste Treatment and Immobilization Plant Complex currently consists of five major facilities: Pretreatment facility, Low-Activity Waste facility, High-Level Waste facility, Analytical Laboratory, and the Balance of Facilities. The Pretreatment facility separates the tank waste feed waste into low-activity and high-level fractions. The high-level fraction will be sent to the High-Level Waste facility for vitrification, which will then be ready for disposal at a national geologic repository. A substantial portion of the low-activity fraction will be sent to the Low-Activity Waste facility for treatment which will then be ready for disposal on the Hanford Site at a specially designed disposal facility. The Analytical Laboratory will provide real-time analytical support for plant operations. Office facilities, chemical storage, site utilities, and infrastructure (e.g. steam plant, power distribution center, etc.) are provided as part of the Balance of Facilities.

The Performance Management Plan for Accelerated Cleanup of the Hanford Site articulates key milestones and commitments to accelerate risk reduction and site cleanup. Strategic Initiative 2 of the plan includes enhancements to the Waste Treatment and Immobilization Plant and supplemental facilities to accelerate treatment and disposal of the radioactive waste 18 years ahead of schedule, saving up to \$20,000,000,000. The Department renegotiated the Waste Treatment and Immobilization Plant contract to require the Waste Treatment Contractor to incorporate the acceleration initiatives, to minimize non-essential scope elements to save costs but with assured plant reliability and operability, and to address performance issues. The renegotiated contract and the contractor's March 2003 Project Forecast are aligned to the Department's acceleration initiatives. The Department approved the renegotiated contract and the baseline. The estimated cost for design, construction and commissioning the Waste Treatment and Immobilization Plant is approximately \$4,856,000,000. With \$550,000,000 for jointly managed project contingency, \$100,000,000 for technical and programmatic risk, \$225,000,000 for estimated Waste Treatment Contractor fee, and \$50,000,000 for transition costs, the revised Total Estimated Cost is \$5,781,000,000. This does not include work on supplemental technologies that is assigned to the Tank Farm Contractor.

The increase in the Total Estimated Cost from \$4,350,000,000 to \$5,781,000,000 reflects the evolution of design from 10 to 40 percent, enhancements in plant capability to accelerate the cleanup mission, project performance issues, and schedule adjustments due to the above plus overly aggressive targets. In addition, project contingency has been increased to provide a high confidence that the project can be accomplished on schedule and within cost, using risk-mitigation strategies per Department of Energy Order 413.3 guidance, *Program and Project Management for the Acquisition of Capital Assets*.

Cost, schedule, and performance are key elements of the River Protection Project and this contract. The Waste Treatment and Immobilization Plant contract includes several key milestones, including completion of hot commissioning by January 2011. The Department included incentives in the contract to accelerate this schedule. The contract includes separate incentives for lowering project costs and for the performance elements of Waste Treatment and Immobilization Plant operations. The included amounts for technical/programmatic risk and contingency, based on a risk assessment of design maturity, work complexity, and project uncertainties, provides confidence at the 80 percent level that the project can be completed on time and within the total estimated cost.

#### 4. Details of Cost Estimate

|  | (dollars in thousands) |                   |
|--|------------------------|-------------------|
|  | Current Estimate       | Previous Estimate |
| Design Phase   |                        |                   |
| Engineering, Research and Technology, and Environment, Safety, and Health..... | 1,149,480              | 1,144,000         |
| Construction Phase   |                        |                   |
| Buildings.....   | 2,475,261              | 2,469,000         |
| Commissioning Costs  |                        |                   |
| Pre, Cold, and Hot Commissioning.....  | 658,870                | 661,000           |
| Project Management and Support.....  | 572,389                | 582,000           |
| Total, Design, Construction, Commissioning, and Project Management.....        | 4,856,000              | 4,856,000         |
| Contingency.....   | 550,000                | 550,000           |
| Contractor Fee.....  | 225,000                | 225,000           |
| Contract Subtotal.....   | 5,631,000              | 5,631,000         |
| DOE Contingency and Technical and Programmatic Risk Assessment.....            | 100,000                | 100,000           |
| Interim Contract Operations During Transition from Privatization.....          | 50,000                 | 50,000            |
| Total.....   | 5,781,000              | 5,781,000         |

#### 5. Method of Performance

The project will be conducted in accordance with the project management requirements in DOE Order 413.3 and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

##### Compliance with Project Management Order

- Critical Decision – 0: Approved Mission Need – FY 1996
- Critical Decision – 1: Approved Preliminary Baseline Range – FY 1996
- Critical Decision – 2: Approved Performance Baseline – FY 1996

**Defense Site Acceleration Completion/2012 Acceleration Completions/01-D-416/Waste Treatment and Immobilization Plant/River Protection, Hanford Site, Washington**

**FY 2006 Congressional Budget**

- Critical Decision – 3a and 3b: Conditional Approval Start of Construction – FY 2002
- Critical Decision – 3c: Approved Start of Construction – April 2003
- Critical Decision – 4: Approved Start of Operation – 1Q FY 2010

The Waste Treatment and Immobilization Plant Contract includes several key milestones, including completion of hot commissioning by January 2011. The Department seeks to improve the Waste Treatment and Immobilization Plant schedule by incentivizing the Contractor for schedule, cost reduction, and plant performance. The contract contains numerous incentives to assure the Waste Treatment Contractor meets baseline cost, schedule, and performance requirements. A significant portion of the incentive fee is associated with the successful and timely hot commissioning of the facility.

The contract milestones and current baseline project milestones are included in Table 5.1.

**Table 5.1  
Treatment and Immobilization Milestones**

| Milestone Title  | Date               |
|--|--------------------|
| <b>Contract Milestones</b>                                 |                    |
| Start of Construction                                      | July 10, 2002 A    |
| Set Pretreatment Feed Receipt Tank                         | March 31, 2005     |
| Move High-Level Waste Melter #1 into Facility              | November 30, 2007  |
| Completion of Hot Commissioning                            | June 30, 2011      |
| Completion of Contract Requirements                        | July 31, 2011      |
| <b>Current Forecast Milestones</b>                         |                    |
| Start Construction of the Pretreatment Facility.....       | Nov. 26, 2002 A    |
| Start Construction of the High-Level Waste Facility.....   | July 10, 2002 A    |
| Start Construction of the Low Activity Waste Facility..... | July 10, 2002 A    |
| Complete Design of the Low Activity Waste Facility .....   | September 30, 2006 |
| Complete Design of Pretreatment Facility.....              | July 28, 2007      |
| Complete Design of the High-Level Waste Facility.....      | July 28, 2007      |
| Complete Construction - Low Activity Waste.....            | April 30, 2008     |
| Complete Construction –High-Level Waste Facility.....      | April 30, 2008     |
| Complete Construction -Pretreatment.....                   | December 31, 2008  |
| Initiate Pretreatment Hot Start .....                      | October 31, 2009   |
| Initiate Low Activity Waste Treatment Hot Start.....       | January 31, 2011   |
| Initiate High-Level Waste Treatment Hot Start.....         | April 1, 2011      |
| Complete Hot Commissioning (project end state).....        | June 30, 2011      |

A = Actual Date

## 6. Schedule of Project Funding

(dollars in thousands)

|                                  | Prior Year | FY 2003 | FY 2004 | FY 2005 | Outyears  | Total     |
|----------------------------------|------------|---------|---------|---------|-----------|-----------|
| Project Cost                     |            |         |         |         |           |           |
| Facility Cost                    |            |         |         |         |           |           |
| Design.....                      | 804,191    | 257,538 | 169,130 | 95,027  | 395,983   | 1,721,869 |
| Construction.....                | 453,220    | 415,462 | 626,562 | 669,127 | 969,760   | 3,134,131 |
| Total, Project Costs...          | 1,257,411  | 673,000 | 795,692 | 764,154 | 1,365,743 | 4,856,000 |
| Other Project Costs              |            |         |         |         |           |           |
| Other Project-Related Costs..... | 78,942     | 52,246  | 72,000  | 44,244  | 677,568   | 925,000   |
| Total, Other Project Costs.....  | 78,942     | 52,246  | 72,000  | 44,244  | 677,568   | 925,000   |
| Total Project Cost.....          | 1,336,353  | 725,246 | 867,692 | 808,398 | 2,043,311 | 5,781,000 |

## 7. Related Annual Funding Requirements

(dollars in thousands)

|   | Current Estimate | Previous Estimate |
|---|------------------|-------------------|
| Annual facility operating costs (staff, utilities, etc.) <sup>a</sup> .....     | 360,000          | 385,000           |
| Total related annual funding (from completion of commissioning in FY 2010)..... | 360,000          | 385,000           |

<sup>a</sup> The total operating costs for all facilities that constitute the Waste Treatment and Immobilization Plant are included in this estimate. This estimate includes maintenance, repair, and other annual costs. The basis for the revised estimate comes from the Waste Treatment and Immobilization Plant May 2002 Forecast estimate, as well as parametrics taken from current operations costs at the Defense Waste Processing Facility (DOE Savannah River Site). Detailed staffing plans were developed for each of the facilities. Support services staffing was parametrically estimated. Other Direct Cost, such as glass frit, melter replacement, utility needs, and miscellaneous supplies, were estimated based on the hot commissioning estimate. The previous estimate has been updated based on comments from the commissioning contractor.

**05-D-405, Salt Waste Processing Facility, Savannah River Site,  
Aiken, South Carolina (SR-0014C)**

**Significant Changes**

None.

**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 2005 Budget Request<br><i>(Preliminary Estimate)</i> | 2Q 2004            | 1Q 2006            | 1Q 2006                     | 1Q 2009                        | 370,000                      | TBD                        |
| FY 2006 Budget Request                                  | 4Q 2004            | 3Q 3006            | 3Q 2006                     | 4Q 2009                        | 252,189 <sup>a</sup>         | 336,040 <sup>b</sup>       |

**2. Financial Schedule**

(dollars in thousands)

| Fiscal Year | Appropriations      | Obligations | Costs   |
|-------------|---------------------|-------------|---------|
| 2005        | 25,792 <sup>c</sup> | 25,792      | 25,000  |
| 2006        | 70,000              | 70,000      | 70,000  |
| Outyears    | 156,397             | 156,397     | 157,189 |

**3. Project Description, Justification and Scope**

This project will construct a facility to treat large quantities of waste from reprocessing and other liquids generated by nuclear materials production operations at the Savannah River Site. Approximately 37,000,000 gallons of this waste are being stored on an interim basis in 49 underground waste storage tanks. Of the 37,000,000 gallons, approximately 3,000,000 gallons are sludge waste and approximately 34,000,000 gallons are salt waste, of which 16,500,000 gallons are solid saltcake and 17,500,000 gallons are salt supernate. Waste volumes are subject to change because the supernate is evaporated to reduce its volume, sludge is being removed for processing and vitrification, and new waste is being transferred to the storage tanks. In addition, water required for salt cake removal from the tanks and processing is presently expected to result in approximately 84 million gallons of salt and supernatant solution to be processed. Continued long-term storage of this liquid waste in underground tanks poses an environmental risk.

<sup>a</sup> Reflects cost of construction phase only.

<sup>b</sup> Includes \$83,851,000 of Project Engineering and Design costs appropriated under line item 03-D-414 and \$103,960,000 of operating expense funded support costs.

<sup>c</sup> Reflects government-wide rescission of \$208,000(0.8%), original appropriation was \$26,000,000.

To comply with state and federal regulatory agreements, all storage tanks must be empty by 2028. The Department started operating the Defense Waste Processing Facility in 1996 to vitrify high-level waste in a stable form and store it for eventual disposal in a geologic repository. The ability to safely process the salt component of the waste stored in underground storage tanks at Savannah River is a crucial prerequisite for completing high-level waste disposal. Processing salt waste through the Salt Waste Processing Facility is planned to begin by 2009 in order to provide reasonable schedule contingency for maintaining adequate tank space required to support Defense Waste Processing Facility operations, expedite processing of liquid waste consistent with the current strategy, and ensure the site meets its Federal Facilities Agreement commitments for waste tank disposition.

This project will design, construct, and commission the Salt Waste Processing Facility to safely separate the high-activity fraction from the low-activity fraction of the salt waste stored in underground tanks at Savannah River. The Department has selected caustic-side solvent extraction as the preferred technology for separation of high-level cesium from the salt wastes. Salt Waste Processing Facility processing also includes a separation step to remove strontium, uranium, plutonium and neptunium from the waste by sorption onto granular monosodium titanate followed by filtration.

The objective of the Salt Waste Processing Facility is to meet production processing rates required to support Savannah River Site accelerated cleanup goals by 2019. Presently, the waste processing capacity of the facility is a nominal six million gallon per year. The Salt Waste Processing Facility will consist of all buildings, equipment, and services required to provide a fully functional facility for processing salt waste. The Salt Waste Processing Facility will contain necessary process areas, service areas, chemical storage areas, and administrative areas. The process building will contain shielded processing cells and chemical processing equipment. In-cell tanks and components will be of a closed-cell design for ease of maintenance, replacement, and later decommissioning. The operating area will contain chemical feed pumps and tanks, hot and cold laboratories for testing samples, electrical and mechanical equipment areas, truck unloading area, and maintenance and decontamination areas. The chemical storage area will be located near the process building and will contain chemical storage tanks. Service and administrative spaces will be sized as required to accommodate the process facility.

A formal technical and programmatic risk assessment has been performed. The risk assessment concluded that the technical and programmatic risks are manageable. In 2003, an independent peer review was performed by ASME/Institute for Regulatory Science. The resulting report stated: "The caustic-side solvent extraction technology (for cesium removal) and monosodium titanate filtration technology (for removal of actinides and strontium) have reached the necessary technical maturity required for preliminary design for deployment at the Savannah River Site." Additional technology development needed to support backup technologies may also be conducted in the future if required for risk mitigation.

The project acquisition strategy included the use of two separate contractors to perform conceptual design, which reduced project risk. The use of two contractors, in competition with each other, enhanced technology deployment, optimized design, and resulted in a significantly reduced cost estimate for project execution. Both contractors identified and managed technical and program risks through completion of conceptual design. Following completion of conceptual design, the Department selected one of the two contractors to perform preliminary and final design, construction, commissioning, and one year of operations. The Savannah River Site Federal Facilities Agreement and Site Treatment Plan require production of (on average) 200 high-level waste canisters per year at the

Defense Waste Processing Facility. In order to minimize total canister production and avoid future shutdowns or slowdowns of the Defense Waste Processing Facility, a coupled feed (both sludge and salt) from the waste tanks must be established and maintained. At this time, the Salt Waste Processing Facility is critical-path to establishing the coupled feed.

#### 4. Details of Cost Estimate

|                           | (dollars in thousands) |                   |
|---------------------------|------------------------|-------------------|
|                           | Current Estimate       | Previous Estimate |
| Construction Phase        |                        |                   |
| Buildings.....            | 136,000                | 330,000           |
| Advanced Procurement..... | 12,500                 | 10,000            |
| Improvements to Land..... | 5,400                  | 0                 |
| Other Costs.....          | 98,289                 | 30,000            |
| Total Estimated Cost..... | 252,189                | 370,000           |

#### 5. Method of Performance

Design services were obtained with an Engineering, Procurement, and Construction contractor through a competed contract. The negotiated contract is a Cost-Plus-Incentive Fee arrangement, which also includes construction and commissioning services. Management and Operating contractor staff will be involved in areas concerning high-level waste system interfaces, feed and product specification, security, etc.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

##### Compliance with Project Management Order

- Critical Decision - 0: Approve Mission Need - June 2001.
- Critical Decision - 1: Preliminary Baseline Range - August 2004
- Critical Decision - 2: Approve Performance Baseline - May 2005
- External Independent Review - April 2005
- Critical Decision – 3: Approve Start of Construction – January 2006
- Critical Decision – 4: Approve Start of Operations – May 2009

## 6. Schedule of Project Funding

(dollars in thousands)

|                                       | Prior Year | FY 2004 | FY 2005 | FY 2006 | Outyears | Total   |
|---------------------------------------|------------|---------|---------|---------|----------|---------|
| Project Cost                          |            |         |         |         |          |         |
| Design Phase.....                     | 669        | 4,232   | 39,689  | 39,261  | 0        | 83,851  |
| Facility Cost                         |            |         |         |         |          |         |
| Construction Phase (TEC).....         | 0          | 0       | 25,000  | 70,000  | 157,189  | 252,189 |
| Total, Design and Construction.....   | 669        | 4,232   | 64,689  | 109,261 | 157,189  | 336,040 |
| Other Project Costs                   |            |         |         |         |          |         |
| Other Project Related Costs.....      | 0          | 14,000  | 9,000   | 6,500   | 74,460   | 103,960 |
| Total, Other Project Costs (OPC)..... | 0          | 14,000  | 9,000   | 6,500   | 74,460   | 103,960 |
| Total Project Cost (TPC).....         | 669        | 18,232  | 73,689  | 115,761 | 231,649  | 440,000 |

## 7. Related Annual Funding Requirements

(dollars in thousands)

|   | Current Estimate | Previous Estimate |
|---|------------------|-------------------|
| Annual facility operating costs .....             | TBD              | TBD               |
| Annual facility maintenance and repair costs..... | TBD              | TBD               |
| Annual utility costs .....                        | TBD              | TBD               |
| Total related annual funding .....                | TBD              | TBD               |

# 04-D-408, Glass Waste Storage Building #2, Savannah River Site, Aiken, South Carolina (SR-0014C)

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

## Significant Changes

- None

## 1. Construction Schedule History

| Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
| A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |

|  |         |         |         |         |                     |                     |
|--|---------|---------|---------|---------|---------------------|---------------------|
| FY 2003 Congressional Amendment<br>(Preliminary Estimate)..... | 3Q 2003 | 2Q 2004 | 1Q 2004 | 2Q 2006 | 86,000              | 90,800              |
| FY 2004 Budget Request.....                                    | 1Q 2003 | 3Q 2003 | 3Q 2003 | "       | "                   | "                   |
| FY 2005 Budget Request.....                                    | 3Q 2003 | 1Q 2004 | 2Q 2004 | "       | 71,826              | 78,000              |
| FY 2006 Budget Request<br>(Performance Baseline).....          | "       | "       | "       | "       | 70,590 <sup>a</sup> | 77,173 <sup>b</sup> |

## 2. Financial Schedule

(dollars in thousands)

| Fiscal Year | Appropriation       | Obligations | Costs  |
|-------------|---------------------|-------------|--------|
| 2004        | 20139 <sup>c</sup>  | 20,139      | 20,139 |
| 2005        | 43,476 <sup>d</sup> | 43,476      | 43,476 |
| 2006        | 6,975               | 6,975       | 6,975  |

<sup>a</sup> Reflects cost of construction phase only.

<sup>b</sup> Includes \$3,774,000 of Project Engineering and Design costs appropriated under line item 03-D-414 and \$2,809,000 of operating expense funded support costs.

<sup>c</sup> Reflects reduction of \$111,000 due to government-wide rescission (0.59%).

<sup>d</sup> Reflects reduction of \$351,000 due to government-wide rescission (0.8%).

### **3. Project Description, Justification and Scope**

The Defense Waste Processing Facility vitrifies and seals the high-level waste from F and H area tank farms at the Savannah River Site in stainless steel canisters and transports them to the Glass Waste Storage Building #1 for storage until they can be transferred to the Federal repository. The original Defense Waste Processing Facility design and regulatory documentation included provisions for a total of three identical Glass storage Waste Storage Buildings at the Savannah River Site. Only one was constructed as part of the original project with two more identical buildings to follow determined from the resultant Defense Waste Processing Facility production rates and the expected opening date of a Federal repository. To optimize design and to take advantage of lessons learned, many alternatives to the Glass Waste Storage Building were studied and 18 different concepts were given serious consideration. Considerations were given to safety, cost, radiation exposure risk, failure analysis, continuous shielding and confinement of radiation. The present Glass Waste Storage Building concept was selected as the most optimum because it integrated canister production, transportation and storage for ease of operation and safety.

The Glass Waste Storage Building is a below-grade structure with a footprint of approximately 210 X 210 feet. It consists of four underground vaults that each contain 585 canister stands that hold the high level waste canisters. The vault walls suspend the grade level floor. The floor supports the weight of the 235,000-pound shielded canister transport and large plugs that provide access and radiological shielding of the canisters. The shielded canister transport removes the plugs, inserts the canisters through the openings in the floor, and replaces the plugs. The most radioactive canisters are expected to radiate 5,000 rem and generate 1,000 watts of heat that must be removed by a ventilation system. A superstructure, that spans the entire width and length of the building with no supporting columns except around the perimeter, protects the vaults from adverse weather. The Glass Waste Storage Building vaults and canister supports are safety class, and the vaults are also safety significant as defined by DOE nuclear design requirements, since they protect the public and facility workers in the event of a design basis earthquake or tornado, as well as during normal operation.

This project includes the procurement of a design engineer contractor to update the latest design configuration to current building code requirements and other approved changes which minimize project risk (completed January 2004). The Acquisition Execution Plan calls for a small business construction contractor working with one or more partners to build the four-vault Glass Waste Storage Building # 2 to provide needed additional high level waste canister storage in FY 2006. Award of a construction contract was made in March 2004, as scheduled.

#### 4. Details of Cost Estimate

|   | (dollars in thousands) |                   |
|---|------------------------|-------------------|
|   | Current Estimate       | Previous Estimate |
| Design Phase                                |                        |                   |
| Preliminary and Final Design Costs .....    | 3,363                  | 2,322             |
| Design Management Costs (0.3% of TEC).....  | 200                    | 318               |
| Project Management Costs (0.3% of TEC)..... | 211                    | 1,134             |
| Subtotal, Design Phase                      | 3,774                  | 3,774             |
| Execution Phase                             |                        |                   |
| Construction.....                           | 54,985                 | 53,297            |
| Construction Management Cost .....          | 1,913                  | 1,890             |
| Project Management .....                    | 0                      | 2,419             |
| Subcontract.....                            | 618                    | 0                 |
| Subtotal, Execution Phase                   | 57,516                 | 57,606            |
| Contingencies                               |                        |                   |
| Execution Phase(17.6% of TEC).....          | 13,074                 | 14,220            |
| Subtotal, Contingenices                     | 13,074                 | 14,220            |
| Total Estimated Cost                        | 70,590                 | 71,826            |
| Other Project Costs                         |                        |                   |
| Other Project Costs.....                    | 2,809                  | 2,400             |
| Subtotal, Other Project Costs.....          | 2,809                  | 2,400             |
| Total Project Cost                          | 77,173                 | 78,000            |

#### 5. Method of Performance

The acquisition strategy is to utilize two fixed price contracts. One will be for design-engineering procured through an interagency agreement with the U.S. Army Corp of Engineers. The second will be a fixed price contract with a small business construction contractor. The contractor will be incrementally funded by fiscal year consistent with the profile reflected in Section 2 “Financial Schedule.” The contractor, in accordance with the procurement specification, will provide all equipment, material, labor and testing necessary to turn an operational facility over to management and operating contractor. All materials needed for this project are common and readily available. No long lead times are anticipated. DOE will be responsible for procurement and management of both contractors using construction quality assurance and design contract custodial services from the U.S. Army Corp of Engineers. The project provides for 5 months to prepare and issue a construction bid package; 6 months for bid and award of the contract, and 30 months for construction, testing, and turnover (September, 2006), including contingency.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

Compliance with Project Management Order

- Critical Decision - 0: Approve Mission Need – 3Q 2002 (Complete August 5, 2002)
- Critical Decision - 1: Approve Preliminary Baseline Range – 2Q 2003 (Complete June 1, 2003)
- Critical Decision - 2: Approve Performance Baseline – 2Q 2004
- Critical Decision – 3a: Approve Start of Construction (Site Preparation) – 4Q 2003 (Complete August 13, 2003)
- Critical Decision - 3: Approve Start of Construction – 3Q 2004 (Complete April 19, 2004)
- Critical Decision - 4: Approve Start of Operations – 4Q 2006

**6. Schedule of Project Funding<sup>a</sup>**

(dollars in thousands)

|  | Prior Year | FY 2004       | FY 2005       | FY 2006      | Outyears | Total         |
|--|------------|---------------|---------------|--------------|----------|---------------|
| <b>Project Cost</b>                          |            |               |               |              |          |               |
| PED Facility Cost.....                       | 271        | 3,503         | 0             | 0            | 0        | 3,774         |
| <b>Facility Cost</b>                         |            |               |               |              |          |               |
| Facility Construction.....                   | 0          | 20,139        | 43,476        | 6,975        | 0        | 70,590        |
| <b>Total, Project Costs (TEC).....</b>       | <b>271</b> | <b>23,642</b> | <b>43,476</b> | <b>6,975</b> | <b>0</b> | <b>74,364</b> |
| <b>Other Project Costs</b>                   |            |               |               |              |          |               |
| Facility Support.....                        | 0          | 0             | 0             | 0            | 0        | 0             |
| Other Project Related Costs.....             | 631        | 754           | 492           | 932          | 0        | 2,809         |
| <b>Total, Other Project Costs (OPC).....</b> | <b>631</b> | <b>754</b>    | <b>492</b>    | <b>932</b>   | <b>0</b> | <b>2,809</b>  |
| <b>Total Project Cost (TPC).....</b>         | <b>902</b> | <b>24,396</b> | <b>43,968</b> | <b>7,907</b> | <b>0</b> | <b>77,173</b> |

**7. Related Annual Funding Requirements**

(dollars in thousands)

|  | Current Estimate | Previous Estimate |
|--|------------------|-------------------|
| Annual Facility Operating Costs.....   | 55               | 190               |
| Annual Facility Maintenance and Repair Costs.....                                  | 25               | 140               |
| Annual Utility Costs.....  | 70               | 170               |
| <b>Total, Related Annual Funding (operating from FY 2006 through FY 2022).....</b> | <b>150</b>       | <b>500</b>        |

<sup>a</sup> Design funding appropriated in line item 03-D-414, Project Engineering and Design.

# 03-D-403, Immobilized High Level Waste Interim Storage Facility, Hanford Site, Washington (ORP-0014)

(Changes from FY 2004 Reprogramming are denoted with a vertical line [ | ] in the left margin.)

## Significant Changes

- Construction start delayed 3 years and construction completion delayed 4 years to match Waste Treatment and Immobilization Plant need date. The funding request has been modified to match revised schedule dates and the increased cost is due to inflation.

### 1. Construction Schedule History

|   | Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|---|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
|   | A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |
| FY 2003 Budget Request ( <i>Preliminary Estimate</i> )..... | 4Q 2001               | 3Q 2004               | 3Q 2004                           | 4Q 2006                              | 61,150                                | 70,400                              |
| FY 2003 Internal Reprogramming .....                        | “                     | “                     | 4Q 2007                           | 4Q 2010                              | 61,150                                | 70,400                              |
| FY 2004 Budget Request (Performance Baseline).....          | “                     | “                     | 3Q 2004                           | 4Q 2006                              | 61,150                                | 70,400                              |
| FY 2004 Reprogramming (Revised Performance Baseline).....   | “                     | “                     | 1Q 2007                           | 3Q 2010                              | 61,150                                | 70,400                              |
| FY 2006 Budget Request.....                                 | “                     | “                     | 1Q 2007                           | 3Q 2010                              | 66,950                                | 77,750                              |

## 2. Financial Schedule

(dollars in thousands)

| Fiscal Year | Appropriations | Obligations | Costs  |
|-------------|----------------|-------------|--------|
| 2003        | 1,229a         | 1,229       | 0      |
| 2004        | 206b           | 206         | 0      |
| 2005        | 0              | 0           | 1,429  |
| 2006        | 7,495          | 7,495       | 7,495  |
| 2007        | 24,890         | 24,890      | 24,890 |
| Outyears    | 33,130         | 33,130      | 33,136 |

## 3. Project Description, Justification and Scope

The Immobilized High Level Waste Interim Storage Facility Project will construct a Canister Storage Building to provide temporary storage for high level waste canisters produced by the Waste Treatment and Immobilization Plant until they can be shipped offsite for permanent disposal in a geologic repository. The end state is achieved in 2032 when the waste in the 177 underground storage tanks is stabilized, and the tank farms, ancillary facilities, the Waste Treatment and Immobilization Plant, and disposal facilities are closed. To achieve this end state, 1) construction of the retrieval and transfer systems needs to be completed, 2) the tank waste needs to be treated through the Waste Treatment and Immobilization Plant or other supplemental treatment, 3) the high-level waste canisters need to be temporarily stored awaiting permanent disposal in a geologic repository, 4) the low-activity waste needs to be disposed, and 5) all the facilities need to be closed. This project will provide for item 3 above.

The Immobilized High Level Waste Interim Storage Facility Project will install systems, structures, and components to enable receipt and storage of high level waste canisters produced by the Waste Treatment and Immobilization Plant. Vault 1 of the Canister Storage Building provides for interim storage of Spent Nuclear Fuel; this project will outfit vaults 2 and 3 for interim storage of the first 880 canisters of immobilized high-level waste. The project also includes a system for transporting canisters from the Waste Treatment and Immobilization Plant to the Canister Storage Building. This project will design, procure, and install 220 storage tubes approximately 41 feet tall and 28 inches in diameter in each vault. The vaults will have independent intake (approximately 80 feet high) and exhaust structures (approximately 164 feet) designed and constructed for convection cooling of the canisters. It will also modify the existing equipment in the Canister Storage Building to receive the canisters from the Waste Treatment and Immobilization Plant. The project will also provide 440 standard storage tubes with

<sup>a</sup> Reflects transfer of \$5,000,000 to Tank Farm Restoration and Safe Operations project through internal reprogramming. Original appropriation was \$6,229,000.

<sup>b</sup> Reflects transfer of \$13,665,671 to Waste Treatment and Immobilization Plant through FY 2004 Reprogramming, and reduction of \$82,000 due to government-wide rescission (0.59%).

shield plugs and covers for the canisters. New exhaust stacks and intakes for each vault will be added. Finally, the project will provide two cask and trailers for shipment from the Waste Treatment and Immobilization Plant to the Canister Storage Building.

#### 4. Details of Cost Estimate

| (dollars in thousands)  |                  |                   |
|---|------------------|-------------------|
|   | Current Estimate | Previous Estimate |
| Execution Phase   |                  |                   |
| Buildings and improvements to land .....                                      | 16,560           | 16,080            |
| Specialized equipment.....  | 25,375           | 24,310            |
| Project management.....   | 6,475            | 3,470             |
| Inspection, design and project liaison, testing, checkout and acceptance..... | 5,450            | 5,450             |
| Construction management.....  | 3,990            | 3,990             |
| Subtotal, Execution Phase .....   | 57,850           | 53,300            |
| Contingency   |                  |                   |
| Construction phase (13.6% of TEC) .....                                       | 9,100            | 7,850             |
| Subtotal, contingency (13.6% of TEC) .....                                    | 9,100            | 7,850             |
| Total Estimated Cost.....   | 66,950           | 61,150            |
| Other Project Costs   |                  |                   |
| Conceptual design .....   | 0                | 0                 |
| NEPA .....  | 0                | 0                 |
| Other project costs.....  | 10,800           | 9,250             |
| Subtotal, other project costs.....  | 10,800           | 9,250             |
| Total Project Cost .....  | 77,750           | 70,400            |

## 5. Method of Performance

The tank farm contractor will manage the project for the Office of River Protection. A design agent from the onsite Architect/Engineer pool is performing the detailed design. Engineering and inspections will be performed by an A/E pool member while procurement and construction will be performed by a fixed-price contractor. Detailed design was completed in FY 2004.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3 and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

### Compliance with Project Management Order

- Critical Decision – 0: Approve Mission Need – FY 1996
- Critical Decision – 1: Approve Preliminary Baseline Range – FY 1999
- Critical Decision – 2: Approve Performance Baseline – 2Q FY 2002
- External Independent Review Final Report – May 5, 2000
- Critical Decision – 3: Approve Start of Construction – 1Q FY 2007
- Critical Decision – 4: Approve Start of Operations – 3Q FY 2010

## 6. Schedule of Project Funding

(dollars in thousands)

|                                  | FY 2004 | FY 2005 | FY 2006 | Outyears | Total  |
|----------------------------------|---------|---------|---------|----------|--------|
| Project cost                     |         |         |         |          |        |
| Facility cost                    |         |         |         |          |        |
| Total Estimated Cost.....        | 0       | 1,429   | 7,495   | 58,026   | 66,950 |
| Other project costs              |         |         |         |          |        |
| Other project-related costs..... | 0       | 160     | 275     | 10,365   | 10,800 |
| Total, other project costs.....  | 0       | 160     | 275     | 10,365   | 10,800 |
| Total project costs (TPC) .....  | 0       | 1,589   | 7,770   | 68,391   | 77,750 |

## 7. Related Annual Funding Requirements

(dollars in thousands)

|   | Current<br>Estimate | Previous<br>Estimate |
|---|---------------------|----------------------|
| Annual facility operating costs (staff, utilities, etc) ..... | 3,071               | 3,071                |
| Annual facility maintenance and repair costs .....            | 0                   | 0                    |
| Other annual costs .....                                      | 0                   | 0                    |
| Total related annual funding .....                            | 3,071               | 3,071                |

# 03-D-414, Environmental Management, Project Engineering and Design (PED), Various Locations

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

## Significant Changes

None.

### 1. Construction Schedule History

|   | Fiscal Quarter     |                    |                             |                                | Total Estimated Cost (\$000) |
|---|--------------------|--------------------|-----------------------------|--------------------------------|------------------------------|
|   | A-E Work Initiated | A-E Work Completed | Physical Construction Start | Physical Construction Complete |                              |
| FY 2003 Congressional Amendment ( <i>Preliminary Estimate</i> ) | 1Q 2003            | 4Q 2004            | 4Q 2003                     | 4Q 2007                        | 73,703                       |
| FY 2004 Budget Request.....                                     | “                  | “                  | “                           | “                              | 70,300                       |
| FY 2005 Budget Request .....                                    | “                  | 1Q 2006            | “                           | 1Q 2009                        | 83,470                       |
| FY 2006 Budget Request.....                                     | “                  | 3Q 2006            | “                           | 4Q 2009                        | 87,625                       |

### 2. Financial Schedule

(dollars in thousands)

| Fiscal Year | Appropriations      | Obligations | Costs  |
|-------------|---------------------|-------------|--------|
| 2003        | 8,616 <sup>a</sup>  | 8,616       | 940    |
| 2004        | 51,198 <sup>b</sup> | 51,198      | 7,735  |
| 2005        | 23,469 <sup>c</sup> | 23,469      | 39,689 |
| 2006        | 4,342               | 4,342       | 39,261 |

### 3. Project Description, Justification and Scope

This construction project data sheet summarizes the Environmental Management requirements for architect-engineering services, preliminary design, and final design.. This data sheet includes one sub-project, the Salt Waste Processing Facility Alternative project, which will continue design in FY 2006. The design effort will be sufficient to assure project feasibility, define the scope, provide detailed estimates of construction costs based on the approved design and working drawings and specifications,

<sup>a</sup> Includes Project Engineering and Design for the Glass Waste Storage Building #2 at \$3,774,000, and the Salt Waste Processing Facility Alternative at \$4,482,000.

<sup>b</sup> Reflects reduction of \$302,000 due to government-wide rescission (0.59%).

<sup>c</sup> Reflects reduction of \$189,000 due to government-wide rescission (0.8%).

and provide construction schedules including procurements.

The FY 2001 Energy and Water Development Appropriations Act directed the Department to request “project engineering and design” funds for the purpose of achieving a 30-35 percent level of engineering design for new construction projects prior to requesting construction funding. Such an advanced design should provide a more mature technical and cost baseline, ensuring greater likelihood of achieving project cost and schedule adherence.

The project baseline will be the basis for the request to Congress for authorization and appropriation for physical construction and procurement. For certain projects, in order to meet project schedules, construction and/or procurement activities may be required in the same year as the preliminary design. Each project that proceeds to physical construction will be separated into an individual construction line-item, the total estimated cost of which will identify the costs of the engineering and design activities funded through the project engineering and design account.

### FY 2003 Design Project

#### 03-02, Salt Waste Processing Facility Alternative (SR-0014C), Savannah River Site, Aiken, South Carolina

| Fiscal Quarter        |                       |                                   |                                      | Total Estimated Cost<br>(Design Only)<br>(\$000) |
|-----------------------|-----------------------|-----------------------------------|--------------------------------------|--|
| A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |  |
| 4Q 2004               | 3Q 2006               | 3Q 2006                           | 4Q 2009                              | 83,851   |

(dollars in thousands)

| Fiscal Year | Appropriation       | Obligations | Costs  |
|-------------|---------------------|-------------|--------|
| 2003        | 4,842               | 4,842       | 669    |
| 2004        | 51,198 <sup>a</sup> | 16,281      | 4,232  |
| 2005        | 23,469 <sup>b</sup> | 39,689      | 39,689 |
| 2006        | 4,342               | 23,059      | 39,261 |

<sup>a</sup> Reflects reduction of \$302,000 due to government-wide rescission (0.59%).

<sup>b</sup> Reflects reduction of \$189,000 due to government-wide rescission (0.8%).

This project will design a facility to treat large quantities of waste from reprocessing and other liquids generated by nuclear materials production operations at the Savannah River Site. Approximately 37,000,000 gallons of this waste are being stored on an interim basis in 49 underground waste storage tanks. Of the 37,000,000 gallons, approximately 3,000,000 gallons are sludge waste and, approximately 34,000,000 gallons are salt waste, of which 16,500,000 gallons are solid saltcake and 17,500,000 gallons are salt supernate. Waste volumes are subject to change because the supernate is evaporated to reduce its volume, sludge is being removed for processing and vitrification, and new waste is being transferred to the storage tanks. In addition, water required for salt cake removal from the tanks and processing is presently expected to result in approximately 84 million gallons of salt and supernatant solution to be processed. Continued long-term storage of this liquid waste in underground tanks poses an environmental risk.

To comply with state and federal regulatory agreements, all storage tanks must be empty by 2028. The Department started operating the Defense Waste Processing Facility in FY 1996 to vitrify high-level waste in a stable form and store it for eventual disposal in a geologic repository. The ability to safely process the salt component of the waste stored in underground storage tanks at Savannah River is crucial prerequisite for completing high-level waste disposal. Processing salt waste through the Salt Waste Processing Facility is planned to begin by 2009 in order to provide reasonable schedule contingency for maintaining adequate tank space required to support Defense Waste Processing Facility operations, expedite processing of high-level waste consistent with the current strategy, and ensure the site meets its Federal Facility Agreement commitments for waste tank disposition.

This project will design the Salt Waste Processing Facility Alternative to safely separate the high-activity fraction from the low-activity fraction of the salt waste stored in underground tanks at Savannah River. The Department has selected caustic-side solvent extraction as the preferred technology for separation of cesium from the salt wastes. Salt Waste Processing Facility Alternative processing also includes a separation step to remove strontium, uranium, plutonium and neptunium from the waste by sorption onto granular monosodium titanate followed by filtration.

The objective of the Salt Waste Processing Facility is to meet production processing rates required to support Savannah River Site accelerated cleanup goals of 2019. Presently, the waste processing capacity of the facility is a nominal six million gallons per year. The Salt Waste Processing Facility will consist of all buildings, equipment, and services required to provide a fully functional facility for processing salt waste. The Salt Waste Processing Facility will contain necessary process areas, service areas, chemical storage areas, and administrative areas. The process building will contain shielded processing cells and chemical processing equipment. In-cell tanks and components will be of a closed-cell design for ease of maintenance, replacement, and later decommissioning. The operating area will contain chemical feed pumps and tanks, hot and cold laboratories for testing samples, electrical and mechanical equipment areas, truck unloading area, and maintenance and decontamination areas. The chemical storage area will be located near the process building and will contain chemical storage tanks. Service and administrative spaces will be sized as required to accommodate the process facility.

A formal technical and programmatic risk assessment has been performed. The risk assessment concluded that the technical and programmatic risks are manageable. In 2003 an independent peer review was performed by ASME/Institute for Regulatory Science. The resulting report stated: "The

caustic-side solvent extraction technology (for cesium removal) and monosodium titanate filtration technology (for removal of actinides and strontium) have reached the necessary technical maturity required for preliminary design for deployment at the Savannah River Site.” Additional technology development needed to support backup technologies may also be conducted in the future if required for risk mitigation.

The project acquisition strategy included the use of two separate contractors to perform conceptual design, which reduced project risk (hence the inclusion of “Alternative” in this design’s title). The use of two contractors, in competition with each other, enhanced technology deployment, optimized design, and resulted in a significantly reduced cost estimate for project execution. Both contractors identified and managed technical and program risks through completion of conceptual design. Following completion of conceptual design, the Department selected one of the two contractors to perform preliminary and final design, construction, commissioning, and one year of operations. The Savannah River Site Federal Facilities Agreement and Site Treatment Plan require production of (on average) 200 high-level waste canisters per year at the Defense Waste Processing Facility. In order to minimize total canister production and avoid future shutdowns or slowdowns of the Defense Waste Processing Facility, a coupled feed (both sludge and salt) from the waste tanks must be established and maintained. At this time, the Salt Waste Processing Facility is critical-path to establishing the coupled feed.

### Details of Cost Estimate

| Design Phase   | (dollars in thousands) |                   |
|--|------------------------|-------------------|
|  | Current Estimate       | Previous Estimate |
| Preliminary and Final Design Costs (Design Drawings and Specifications)..... | 78,000                 | 70,000            |
| Design Management Costs.....   | 1,760                  | 7,000             |
| Project Management Costs.....  | 4,091                  | 3,000             |
| <b>Total, Design Costs.....</b>  | <b>83,851</b>          | <b>80,000</b>     |

### 5. Method of Performance

Design services were obtained with an Engineering, Procurement, and Construction contractor through a competed contract. The negotiated contract is a Cost-Plus\_incentive Fee arrangement, which also includes construction and commissioning services. Management and Operating contractor staff will be involved in areas concerning high-level waste system interfaces, feed and product specification, security, etc.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3, and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

#### Compliance with Project Management Orders

- Critical Decision - 0: Approve Mission Need - June 2001.
- Critical Decision - 1: Preliminary Baseline Range - August 2004

**Defense Site Acceleration Completion/2035 Accelerated Completions/03-D-414/Project Engineering and Design/VL**

**FY 2006 Congressional Budget**

- Critical Decision - 2: Approve Performance Baseline - May 2005
- External Independent Review: - April 2005
- Critical Decision – 3: Approve Start of Construction – January 2006
- Critical Decision – 4: Approve Start of Operations – May 2009

## 6. Schedule of Project Funding

(dollars in thousands)

|                          | Prior<br>Years | FY 2004 | FY 2005 | FY 2006 | Outyears | Total  |
|--------------------------|----------------|---------|---------|---------|----------|--------|
| Project Costs            |                |         |         |         |          |        |
| Design Phase (PED)       | 669            | 4,232   | 39,689  | 39,261  | 0        | 83,851 |
| Total Project Cost (TPC) | 669            | 4,232   | 39,689  | 39,261  | 0        | 83,851 |

## Safeguards and Security

### Funding Schedule by Activity

(dollars in thousands)

|  | FY 2004        | FY 2005        | FY 2006        | \$ Change     | % Change    |
|--|----------------|----------------|----------------|---------------|-------------|
| CB-0020 / Safeguards and Security.....     | 3,441          | 4,072          | 4,223          | 151           | 3.7%        |
| OR-0020 / Safeguards and Security.....     | 20,668         | 21,850         | 28,855         | 7,005         | 32.1%       |
| OH-FN-0020 / Safeguards and Security.....  | 3,922          | 1,157          | 1,391          | 234           | 20.2%       |
| OH-MB-0020 / Safeguards and Security.....  | 3,870          | 524            | 0              | -524          | -100.0%     |
| OH-WV-0020 / Safeguards and Security.....  | 2,555          | 2,648          | 1,800          | -848          | -32.0%      |
| PA-0020 / Safeguards and Security.....     | 8,352          | 7,760          | 11,014         | 3,254         | 41.9%       |
| PO-0020 / Safeguards and Security.....     | 19,418         | 16,009         | 17,842         | 1,833         | 11.4%       |
| RL-0020 / Safeguards and Security.....     | 57,187         | 56,276         | 82,155         | 25,879        | 46.0%       |
| RF-0020 / Safeguards and Security.....     | 28,382         | 16,455         | 3,200          | -13,255       | -80.6%      |
| SR-0020 / Safeguards and Security.....     | 143,329        | 136,191        | 136,743        | 552           | 0.4%        |
| <b>Total, Safeguards and Security.....</b> | <b>291,124</b> | <b>262,942</b> | <b>287,223</b> | <b>24,281</b> | <b>9.2%</b> |

#### Description

The Safeguards and Security program ensures appropriate levels of protection against: unauthorized access, theft, diversion, loss of custody or destruction of DOE assets and hostile acts that may cause adverse impacts on fundamental national security or the health and safety of DOE and contractor employees, the public or the environment.

#### Benefits

This program provides funding to ensure appropriate levels of protection against unauthorized access, theft, diversion, loss of custody or destruction of DOE assets. The benefits include the prevention of hostile acts and activities that could impact fundamental national security, the health and safety of DOE and contractor employees, the public, and the environment.

Funding is provided for EM's landlord sites, specifically Savannah River (excludes the tritium facilities), Hanford, Carlsbad/Waste Isolation Pilot Plant, Rocky Flats, Miamisburg, Fernald, West Valley Demonstration Project, East Tennessee Technology Park, Paducah Gaseous Diffusion Plant, and the Portsmouth Gaseous Diffusion Plant.

These critical sites are secured by multiple layers of security measures. Each site has a specifically designed Safeguards and Security Plan or a facility Master Security Plan, as well as Cyber Security Plan, addressing the protection planning for DOE interests to include: classified information, nuclear weapons components, and special nuclear materials. In addition, Personnel Security Programs ensure the continuing reliability of employees having access to classified matter at all EM sites.

Over the past several years, the Department has made considerable investments in Safeguards and Security improvements in response to the post-September 11, 2001, changing security environment. In further recognition of the escalated threat, in May 2003, the Secretary of Energy issued a revised Design Basis Threat, which elevated the level of response capability required for protection of the DOE complex from the Department's 1999 Design Basis Threat policy. Additional guidance was provided by the Deputy Secretary's Memorandum dated April 5, 2004, based on the results of the Design Basis Threat Annex Special Evaluation Team, as well as additional requirements issued in September 2004. As a result of these last revisions to the Design Basis Threat policy and additional guidance a number of Safeguards and Security enhancements are needed to meet the new level of protection.

The following is a brief description of the type of activities performed:

### **Protective Forces**

Protective Forces are the Special Police Officers and other specialized personnel that directly provide security at EM sites. Funding is requested to provide an appropriately sized force with adequate materials, supplies, equipment, facilities, training, vehicles and other required equipment to meet site security objectives.

### **Transportation**

All security for intra-site transfers of special nuclear materials (including safe havens), weapons, and other classified material.

### **Physical Security Systems**

Security Systems provide intrusion detection and assessment as required by DOE Orders; physical barriers, secure storage, an armed Protective Force, alarms, and closed-circuit televisions are utilized to protect classified matter; ingress and egress controls, explosive detection, and other inspection resources are used to ensure proper access authorization; and performance testing of security posture according to the approved site performance testing plan is conducted to ensure the proper level of risk is being accepted.

### **Information Security**

Information Security provides information protection, classification and declassification of classified and sensitive unclassified information, critical infrastructure which includes alarm systems and automated process control systems, technical security countermeasures and operations security.

### **Personnel Security**

Personnel Security encompasses the processes for administrative determination that an individual is eligible for access to classified matter, or is eligible for access to, or control over, special nuclear material. Also includes maintaining security education and awareness programs for DOE and DOE contractor employees. Security investigation activities performed by the Federal Bureau of Investigation and the Office of Personnel Management associated with access authorizations are funded by the Office of Security.

**Material Control and Accountability**

Material Control and Accountability provides for implementation of systems and procedures needed to address proper material inventory integrity, maintaining effective material access, data and equipment access, and maintaining material accounting policy requirements and assuring inventories are properly located, identified and quantified and appropriately stored.

**Program Management**

Program Management provides policy oversight and administration, planning, training, and development for the site’s overall security program.

**Cyber Security**

EM Cyber Security provides protection for the processing, storing, and transmission of classified computer/telecommunications information, processes, methods, and tools to support certification and accreditation of secure and sensitive enterprise networks, to ensure that all DOE unclassified information resources are identified and protected in a manner consistent with the site’s mission and possible threats.

**Funding by Site**

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| Carlsbad Field Office                          |         |         |         |           |          |
| Carlsbad Field Office.....                     | 3,441   | 4,072   | 4,223   | 151       | 3.7%     |
| Oak Ridge                                      |         |         |         |           |          |
| Oak Ridge Reservation.....                     | 20,668  | 21,850  | 28,855  | 7,005     | 32.1%    |
| Ohio   |         |         |         |           |          |
| Fernald.....                                   | 3,922   | 1,157   | 1,391   | 234       | 20.2%    |
| Miamisburg.....                                | 3,870   | 524     | 0       | -524      | -100.0%  |
| West Valley.....                               | 2,555   | 2,648   | 1,800   | -848      | -32.0%   |
| Total, Ohio.....                               | 10,347  | 4,329   | 3,191   | -1,138    | -26.3%   |
| Paducah.....                                   | 8,352   | 7,760   | 11,014  | 3,254     | 41.9%    |
| Portsmouth.....                                | 19,418  | 16,009  | 17,842  | 1,833     | 11.4%    |
| Richland                                       |         |         |         |           |          |
| Hanford Site.....                              | 57,187  | 54,304  | 82,155  | 27,851    | 51.3%    |
| Richland Operations Office.....                | 0       | 1,972   | 0       | -1,972    | -100.0%  |
| Total, Richland.....                           | 57,187  | 56,276  | 82,155  | 25,879    | 46.0%    |
| Rocky Flats Environmental Technology Site..... | 28,382  | 16,455  | 3,200   | -13,255   | -80.6%   |
| Savannah River Site.....                       | 143,329 | 136,191 | 136,743 | 552       | 0.4%     |
| Total, Safeguards and Security.....            | 291,124 | 262,942 | 287,223 | 24,281    | 9.2%     |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**CB-0020 / Safeguards and Security-Waste Isolation Pilot Plant (life-cycle estimate \$198,863K).....** **3,441      4,072      4,223**

The Waste Isolation Pilot Plant in Carlsbad, New Mexico, is the nation's mined geologic repository for the permanent disposal of defense-generated transuranic waste. The scope of the Security Program at the Waste Isolation Pilot Plant includes, but is not limited to, planning, administering, and executing a program that protects government assets and provides support for emergency response activities. In addition to normal safeguards and security, physical protection of transuranic waste and enhancements to the information security systems have been installed to support the receipt of classified waste from the generator sites.

The end-state of this project occurs upon the completion of waste receipt in 2030, and a five-year period for decommissioning the surface facilities and permanent closure of the underground by 2035.

In FY 2006, the following activities are planned:

- Maintain information and record systems to support receipt of classified transuranic waste from the generator sites across the complex.

**Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)**

- Maintain information and record systems to support receipt of classified transuranic waste from across the complex, including secure communications and classified records storage (September 2005).
- Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (September 2005/September 2006).

**OR-0020 / Safeguards and Security – East Tennessee Technology Park (life-cycle estimate \$119,734K) .....** **20,668      21,850      28,855**

The objective of the Safeguards and Security Program at East Tennessee Technology Park, in Oak Ridge, Tennessee, which is supported by Bechtel Jacobs Company LLC and Wackenhut Services Incorporated, is to maintain a safe environment for operations, incorporate changes when made necessary by global conditions and/or DOE Order requirements, and to focus management attention on the primary safeguards and security issues.

This PBS provides: Visitor Control, Classification, Physical Security (locks/alarm access control), Nuclear Materials Control and Accountability, Foreign National Access Control, Security Management Control System, Unclassified Computer Security, Cyber Security, and Personnel Security for the Department of Energy and its contractors at the East Tennessee Technology Park.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Information Security reviews all documents released to the public including Freedom of Information Act and Privacy Act requests, litigation responses, and ongoing environmental health investigations, and classifies/declassifies documents.

Cyber Security develops and reviews security plans and design documents for systems and networks that store classified information, performs system tests to ensure the security configuration and operations are as described in security plans, and investigates security concerns to ensure the containment of the incident, identification of the source of any security breaches, protection of classified data or information, sanitation of media, and security of media and documents. Oversight and Management of Nuclear Material Control and Accountability activities are provided.

Personnel Security provides badging support for all employees, contractors, and visitors, and visitor control. Environmental Management will continue safeguards and security funding until the East Tennessee Technology Park is closed in FY 2008.

In FY 2006, the following activities are planned:

- The specific tasks performed will be visitor control, classification, physical security (locks/alarm access control), nuclear materials control and accountability, foreign national access control, security management control system, unclassified computer security, cyber security, and personnel security for DOE and its contractors at the East Tennessee Technology Park.
- Continue security enhancements associated with the FY 2003 Design Basis Threat Requirements.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Implementation plan for the FY 2003 Design Basis Threat Requirements was prepared (FY 2004).
- Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (September 2005/September 2006).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**OH-FN-0020 / Safeguards and Security – Fernald (life-cycle estimate \$18,173K)..... 3,922 1,157 1,391**

The Safeguards and Security Program is comprised of three primary activities: Protective Forces and operation of the site Communications Center, Material Control and Accountability, and Cyber Security. A protective force activated 24 hours/7 days a week provides protective force patrols, access controls, searches, badge verification, administrative controls, physical barriers, perimeter fence maintenance, employee awareness, tamper protection monitoring, and performance testing of security systems. Provide site communication capability for 24/7 and 24 hour coverage for monitoring site-wide alarms. Material Control and Accountability programs provide inventory control and surveillance of uranium materials (product as well as waste) awaiting off-site disposition. Cyber Security includes development and implementation of computer security policies and procedures, random/specific sampling of user files and Internet access, and computer security protection measures in the configuration of hardware and software all Fernald safeguards and security activities will conclude by the end of FY 2006.

In FY 2006, the following activities are planned:

- Maintain a protective force activated 24 hours/7 days a week.
- Provide site communication capability for 24/7 and 24 hour coverage for monitoring site-wide alarms.
- Maintain material control and accountability programs.
- Maintain cyber security.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Maintain protective force, material control, accountability programs, cyber security, communication capability and implemented heightened security efforts on required and directed basis (FY 2004/September 2005/September 2006).
- Continue to support the accelerated site closure by conducting general workload activities, such as cyber security, visitor control, personnel security, and program management (September 2006).

**OH-MB-0020 / Safeguards and Security – Miamisburg (life-cycle estimate \$30,209K) ..... 3,870 524 0**

All classified matter has been shipped off-site or destroyed. The safeguards and security project has been effective in maintaining access controls and perimeter security of the site, as well as ensuring general site security for personnel and information technology systems. All Miamisburg Closure safeguards and security activities will conclude by the end of FY 2005.

In FY 2006, the following activities are planned:

- No safeguards and security activity planned after FY 2005.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Provide physical and cyber security, and implemented heightened security efforts on required and directed basis (FY 2004/September 2005).

**OH-WV-0020 / Safeguards and Security – West Valley (life-cycle estimate \$54,489K)..... 2,555 2,648 1,800**

The Safeguards and Security Program at the West Valley Demonstration Project includes those activities required to provide General Security, Physical Security, and Cyber Security for all project activities in accordance with applicable DOE standards and regulations. The West Valley Demonstration Project safeguards and security program provides for a secure working environment during execution of the Project.

This scope will be considered complete once DOE's mission at the West Valley Demonstration Project is complete, currently estimated at 2012.

The safeguards and security program has successfully maintained access controls and perimeter security of the site, as well as ensured general site security for personnel and information technology systems.

In FY 2006, the following activities are planned:

- Provide general security, physical security, and cyber-security for the West Valley Demonstration Project in accordance with all applicable DOE standards, rules, and regulations.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Support of the accelerated site closure by focusing on the reduction of limited areas, classified holdings, nuclear materials inventories, and clearances was continued (FY 2004).
- Continue to support the accelerated site closure by conducting general workload activities, such as cyber security, visitor control, personnel security, and program management (September 2005/2006).

**PA-0020 / Safeguards and Security – Paducah (life-cycle estimate \$164,797K)..... 8,352 7,760 11,014**

This project provides: Visitor Control, Classification, Personnel Security, Physical Security (locks/alarms, access control), Information Security, implementation of the new Design Basis Threat, COMSEC, Nuclear Materials Control and Accountability, Operations Security, Technical Surveillance Countermeasures, Safeguards and Security Awareness Program, Foreign National Visits/Assignments Management, a Security Management Control System, Classified Computer Security; Personnel Security and review of incidents and infractions (many of which involve legacy issues with decontamination, decommissioning, and demolition and DOE Material Storage Areas projects) for DOE and its contractors at the Paducah Gaseous Diffusion Plant.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Classification and operations security review all documents released to the public including Freedom of Information Act and Privacy Act requests, litigation responses, and on-going environmental health investigations, and classify/declassify documents. Oversight and management of nuclear materials control and accountability activities are provided. Personnel security provides badging/clearance support for all employees, contractors, and visitors and visitor control. This project is expected to continue as long as DOE and the United States Enrichment Corporation have a site presence.

In FY 2006, the following activities are planned:

- Provide security services for personnel, equipment, information, matter, implementation of Design Basis Threat, and special nuclear materials relating to DOE missions, to include decommissioning, decontamination, and demolition activities.
- Implement the FY 2004 Design Basis Threat Requirements.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Implementation plan for the Design Basis Threat was prepared (September 2004).
- Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (September 2005/September 2006).
- Implement the FY 2004 Design Basis Threat Requirements (September 2006).

**PO-0020 / Safeguards and Security – Portsmouth (life-cycle estimate \$110,574K) ..... 19,418 16,009 17,842**

This PBS provides an integrated Safeguards and Security Program which includes the following program elements: Protective Forces; Physical Security Systems to include sub-elements barrier/secure storage/locks and entry control/access controls; Information Security to include sub-elements information protection, classification/declassification, technical surveillance countermeasures, and operations security; Personnel security including subtopics clearance program, security awareness, and visit control; Material Control and Accountability; Program Management which includes planning, professional training and development, and policy oversight and administration; Cyber Security which includes classified computer security and communications security.

Protective Force personnel are employed on various fixed and mobile posts to perform normal and emergency security tasks. Information security includes protection of classified and unclassified sensitive information and classification, declassification and review of documents for release to the public including Freedom of Information Act and Privacy Act requests, litigation responses (limited number). Cyber Security includes the maintenance of one stand-alone desktop computer approved for classified processing. Oversight and management of Nuclear Material Control and Accountability activities is provided. Personnel Security provides processing access authorizations, security education and awareness and badging support. This project is expected to continue as long as DOE and the United States Enrichment Corporation have a site presence.

**Defense Site Acceleration Completion/  
Safeguards and Security**

**FY 2006 Congressional Budget**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Provide protective force services through a work authorization with the United States Enrichment Corporation.
- Provide Protective Force and Classification Office Support for Bechtel Jacobs Company activities during Gaseous Centrifuge Enrichment Plant Cleanout.
- Maintain Security Conditions (SECON) appropriate to the threat.
- Continue Large Scale Classification Review.
- Implement the FY 2004 Design Basis Threat Requirements.

| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |
|--|
| ▪ Implementation plan for the Design Basis Threat was prepared (FY 2004).  |
| ▪ Maintain security conditions (SECON) appropriate to the threat (September 2005/September 2006).  |
| ▪ Continue large scale classification (September 2005/September 2006).   |
| ▪ Provide protective force services through a work authorization with the United States Enrichment Corporation (September 2005/September 2006).              |
| ▪ Ensure that no unauthorized person or persons will gain access to the site and that all sensitive material is safeguarded (September 2005/September 2006). |
| ▪ Implement the FY 2004 Design Basis Threat Requirements (September 2006).   |

**RL-0020 / Safeguards and Security – Richland (life-cycle estimate \$1,193,942K)..... 57,187 56,276 82,155**

The Safeguards and Security Program ensures appropriate levels of protection for the Hanford Site facilities against theft or diversion of special nuclear material; acts of radiological sabotage; espionage; theft or loss of classified matter; theft or loss of government property; and other hostile acts that may cause unacceptable impacts on national security, or the health and safety of employees, the public, or the environment. This PBS includes the following key activities: implementation of the Design Basis Threat enhancements; improvements to cyber security protection; and development of plans to move fuels to the Canister Storage Building.

Funds requested in FY 2006 will continue the upgrades and security enhancements identified in the Implementation Plan addressing the May 2003 Design Basis Threat (FY 2003 Design Basis Threat Requirements). Funding necessary to implement further security improvements to address the October 2004 Design Basis Threat (FY 2004 Design Basis Threat Requirements) will be requested in out years.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

In FY 2004 approval of the FY 2003 Design Basis Threat Implementation Plan was completed. In addition, the following Design Basis Threat projects were also completed: Protective Forces were increased to new levels to support the implementation of the FY 2003 Design Basis Threat Requirements. As part of this increase of protective forces, additional explosive K-9 units were deployed at Hanford. Additional barriers and early detection technologies were deployed at the Plutonium Finishing Plant in support of the Design Basis Threat requirements. The end-state of this project occurs upon completion of the Hanford EM mission in 2035.

In FY 2006, the following activities are planned:

- Complete protection system upgrades at the Canister Storage Building.
- Support the relocation of slightly irradiated fuel from the Plutonium Finishing Plant to the Canister Storage Building.
- Support Hanford Site security clearances and other security activities.
- Continue security enhancements associated with the FY 2003 Design Basis Threat Requirements.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Implementation plan for the Design Basis Threat was prepared (FY 2004).
- Complete the FY 2003 Design Basis Threat Requirements implementation plan (July 2005).

**RF-0020 / Safeguards and Security – Rocky Flats (life-cycle estimate \$346,673K)..... 28,382 16,455 3,200**

The goal of this PBS is to keep plutonium and classified matter safe, secure, and out of the hands of unauthorized groups or individuals and to protect government property at Rocky Flats. This PBS funds activities for the purpose of protecting DOE security interests. Activities fall into the following areas: Protection Program Operations, Nuclear Material Control and Accountability, Information Security, Personnel Security, and Cyber Security.

Completion of key milestones will reduce safeguards and security costs as the number of Material Access Areas are eliminated, enabling the site to transition to an industrial security posture consistent with a Property Protection Area, which will continue through the completion of the project. The following are the key program milestones, PBS RF-0011, NM Stabilization and Disposition as identified in which drive these program and funding requirements: complete off-site shipment of Category I and II quantities of special nuclear material, Building 371 Material Access Area Closure, Protected Area Closure, classified material shipped off-site; complete off-site transuranic waste shipments; and complete Building 371 closure.

All identified Category I and II special nuclear material was shipped, all Material Access Areas are closed, the Protected Area is closed, classified material and transuranic waste shipments continue at an accelerated pace, and Building 371 closure is making progress. This activity will end in 2006.

In FY 2006, the following activities are planned:

**Defense Site Acceleration Completion/  
Safeguards and Security**

**FY 2006 Congressional Budget**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Continue protection program operations, personnel security, information security, computer security, and access control activities at required levels. These activities are necessary to ensure the security of people working on-site, the security of remaining classified material, the accountability of nuclear matter being disposed of as transuranic and low-level waste, and being able to respond appropriately if a Category I or II quantity of Special Nuclear Material is found during decontamination and decommissioning of the plutonium buildings.

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Provide physical and cyber security, and implemented heightened security efforts on required and directed basis (FY 2004/September 2005/September 2006).

**SR-0020 / Safeguards and Security – Savannah River (life-cycle estimate \$2,220,012K)..... 143,329 136,191 136,743**

The DOE-Savannah River Office of Safeguards, Security, and Emergency Services oversees and manages safeguards, security and emergency service activities at the Savannah River Site. This organization formulates and executes policies and programs in the areas of physical, information, internal, and personnel security; classification and declassification; computer security; technical surveillance countermeasures; foreign travel; protective force; and material control and accountability. In addition, DOE provides direct management of the perimeter security upgrade construction projects, which are performed under separate contracts, outside those identified below.

The Savannah River Site has two contractors that perform safeguards and security activities. One provides protective forces and law enforcement. The site management and operations contractor, provides security system maintenance, personnel security, material control and accountability, cyber security, information security and vulnerability assessment programs.

FY 2006 funds request includes implementation of the FY 2003 Requirements Design Basis Threat as per approved plan to the extent of \$7,920,000, and anticipated cost of vulnerability assessment and implementation of the FY 2004 Requirements Design Basis Threat will be requested in out years.

In FY 2006, the following activities are planned:

- Maintain appropriate uniformed protective force personnel, physical security protection systems including a canine team and an explosive detection capability, Information Security and Operational Security for the protection of classified and sensitive information, Cyber Security for the protection of classified and unclassified computer security, Personnel Security for initial and re-investigations, and security education, and Program Management for overall assessment and performance testing and indirect functions such as accounting, contracts, compensation, and benefits, etc.
- Complete all “9/11” projects for perimeter hardening.
- Begin implementation of FY 2003 Design Basis Threat Requirements.
- Develop vulnerability assessment and implementation plan to address FY 2004 Design Basis Threat Requirements.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Implementation plan for the Design Basis Threat was prepared (FY 2004).
- Develop vulnerability assessment and implementation of FY 2004 Design Basis Threat Requirements (September 2005).
- Will ensure no theft of nuclear material takes place at the Savannah River Site (September 2006).
- Will ensure that no unauthorized person or persons will gain access to limited areas within the Site perimeter (September 2006).
- Will ensure timely and accurate material control and accountability for nuclear materials at the Savannah River Site (September 2006).

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|   |                |                |                |
|---|----------------|----------------|----------------|
| <b>Total, Safeguards and Security .....</b> | <b>291,124</b> | <b>262,942</b> | <b>287,223</b> |
|---|----------------|----------------|----------------|

## Detailed Funding Schedule

(dollars in thousands)

|   | FY 2004       | FY 2005       | FY 2006       | \$ Change    | % Change       |
|---|---------------|---------------|---------------|--------------|----------------|
| <b>Carlsbad Area Office/Waste Isolation Pilot Plant</b>     |               |               |               |              |                |
| Protective Forces.....                                      | 3,133         | 3,536         | 3,676         | 140          | 4.0%           |
| Physical Security Systems.....                              | 0             | 143           | 150           | 7            | 4.9%           |
| Information Security.....                                   | 129           | 186           | 186           | 0            | 0.0%           |
| Personnel Security.....                                     | 21            | 22            | 22            | 0            | 0.0%           |
| Program Management.....                                     | 120           | 145           | 149           | 4            | 2.8%           |
| <b>Subtotal, Physical Security.....</b>                     | <b>3,403</b>  | <b>4,032</b>  | <b>4,183</b>  | <b>151</b>   | <b>3.7%</b>    |
| Cyber Security.....   | 38            | 40            | 40            | 0            | 0.0%           |
| <b>Total, Carlsbad Area Office.....</b>                     | <b>3,441</b>  | <b>4,072</b>  | <b>4,223</b>  | <b>151</b>   | <b>3.7%</b>    |
| <b>Oak Ridge/East Tennessee Technology Park</b>             |               |               |               |              |                |
| Protective Forces.....                                      | 14,307        | 14,368        | 16,915        | 2,547        | 17.7%          |
| Physical Security Systems.....                              | 1,975         | 1,889         | 5,915         | 4,026        | 213.1%         |
| Information Security.....                                   | 1,261         | 1,259         | 1,397         | 138          | 11.0%          |
| Personnel Security.....                                     | 557           | 534           | 686           | 152          | 28.5%          |
| Material Control and Accountability.....                    | 1,082         | 1,068         | 1,032         | -36          | -3.4%          |
| Program Management.....                                     | 516           | 1,505         | 2,104         | 599          | 39.8%          |
| <b>Subtotal, Physical Security.....</b>                     | <b>19,698</b> | <b>20,623</b> | <b>28,049</b> | <b>7,426</b> | <b>36.0%</b>   |
| Cyber Security.....   | 970           | 1,227         | 806           | -421         | -34.3%         |
| <b>Total, Oak Ridge/East Tennessee Technology Park.....</b> | <b>20,668</b> | <b>21,850</b> | <b>28,855</b> | <b>7,005</b> | <b>32.1%</b>   |
| <b>Ohio/Fernald</b>   |               |               |               |              |                |
| Protective Forces.....                                      | 3,685         | 1,110         | 1,391         | 281          | 25.3%          |
| Material Control and Accountability.....                    | 197           | 35            | 0             | -35          | -100.0%        |
| <b>Subtotal, Physical Security.....</b>                     | <b>3,882</b>  | <b>1,145</b>  | <b>1,391</b>  | <b>246</b>   | <b>21.5%</b>   |
| Cyber Security.....   | 40            | 12            | 0             | -12          | -100.0%        |
| <b>Total, Ohio/Fernald.....</b>                             | <b>3,922</b>  | <b>1,157</b>  | <b>1,391</b>  | <b>234</b>   | <b>20.2%</b>   |
| <b>Ohio/Miamisburg</b>                                      |               |               |               |              |                |
| Protective Forces.....                                      | 2,381         | 281           | 0             | -281         | -100.0%        |
| Physical Security Systems.....                              | 226           | 58            | 0             | -58          | -100.0%        |
| Information Security.....                                   | 266           | 0             | 0             | 0            | 0.0%           |
| Personnel Security.....                                     | 181           | 20            | 0             | -20          | -100.0%        |
| Material Control and Accountability.....                    | 52            | 0             | 0             | 0            | 0.0%           |
| Program Management.....                                     | 390           | 77            | 0             | -77          | -100.0%        |
| <b>Subtotal, Physical Security.....</b>                     | <b>3,496</b>  | <b>436</b>    | <b>0</b>      | <b>-436</b>  | <b>-100.0%</b> |
| Cyber Security.....   | 374           | 88            | 0             | -88          | -100.0%        |
| <b>Total, Ohio/Miamisburg.....</b>                          | <b>3,870</b>  | <b>524</b>    | <b>0</b>      | <b>-524</b>  | <b>-100.0%</b> |
| <b>Ohio/West Valley</b>                                     |               |               |               |              |                |
| Protective Forces.....                                      | 1,295         | 1,480         | 1,280         | -200         | -13.5%         |
| Program Management.....                                     | 600           | 449           | 340           | -109         | -24.3%         |
| <b>Subtotal, Physical Security.....</b>                     | <b>1,895</b>  | <b>1,929</b>  | <b>1,620</b>  | <b>-309</b>  | <b>-16.0%</b>  |
| Cyber Security.....   | 660           | 719           | 180           | -539         | -75.0%         |
| <b>Total, Ohio/West Valley.....</b>                         | <b>2,555</b>  | <b>2,648</b>  | <b>1,800</b>  | <b>-848</b>  | <b>-32.0%</b>  |

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| <b>Paducah</b>                           |         |         |         |           |          |
| Protective Forces.....                   | 6,219   | 4,541   | 4,743   | 202       | 4.4%     |
| Physical Security Systems.....           | 249     | 279     | 558     | 279       | 100.0%   |
| Information Security.....                | 1,117   | 1,098   | 1,165   | 67        | 6.1%     |
| Personnel Security.....                  | 124     | 260     | 285     | 25        | 9.6%     |
| Material Control and Accountability..... | 212     | 293     | 298     | 5         | 1.7%     |
| Program Management.....                  | 431     | 1,289   | 3,965   | 2,676     | 207.6%   |
| Subtotal, Physical Security.....         | 8,352   | 7,760   | 11,014  | 3,254     | 41.9%    |
| Total, Paducah.....                      | 8,352   | 7,760   | 11,014  | 3,254     | 41.9%    |
| <b>Portsmouth</b>                        |         |         |         |           |          |
| Protective Forces.....                   | 16,393  | 12,882  | 12,868  | -14       | -0.1%    |
| Physical Security Systems.....           | 471     | 179     | 192     | 13        | 7.3%     |
| Information Security.....                | 775     | 960     | 671     | -289      | -30.1%   |
| Personnel Security.....                  | 144     | 168     | 181     | 13        | 7.7%     |
| Material Control and Accountability..... | 693     | 725     | 781     | 56        | 7.7%     |
| Program Management.....                  | 920     | 1,071   | 3,124   | 2,053     | 191.7%   |
| Subtotal, Physical Security.....         | 19,396  | 15,985  | 17,817  | 1,832     | 11.5%    |
| Cyber Security.....                      | 22      | 24      | 25      | 1         | 4.2%     |
| Total, Portsmouth.....                   | 19,418  | 16,009  | 17,842  | 1,833     | 11.4%    |
| <b>Richland</b>                          |         |         |         |           |          |
| Protective Forces.....                   | 29,850  | 29,179  | 34,592  | 5,413     | 18.6%    |
| Physical Security Systems.....           | 6,419   | 9,418   | 29,266  | 19,848    | 210.7%   |
| Information Security.....                | 598     | 559     | 711     | 152       | 27.2%    |
| Personnel Security.....                  | 2,138   | 1,920   | 2,093   | 173       | 9.0%     |
| Material Control and Accountability..... | 2,415   | 2,648   | 2,477   | -171      | -6.5%    |
| Program Management.....                  | 14,223  | 10,415  | 11,396  | 981       | 9.4%     |
| Subtotal, Physical Security.....         | 55,643  | 54,139  | 80,535  | 26,396    | 48.8%    |
| Cyber Security.....                      | 1,544   | 2,137   | 1,620   | -517      | -24.2%   |
| Total, Richland Operations Office.....   | 57,187  | 56,276  | 82,155  | 25,879    | 46.0%    |
| <b>Rocky Flats Field Office</b>          |         |         |         |           |          |
| Protective Forces.....                   | 11,211  | 10,589  | 2,290   | -8,299    | -78.4%   |
| Physical Security Systems.....           | 741     | 421     | 16      | -405      | -96.2%   |
| Information Security.....                | 2,719   | 1,291   | 312     | -979      | -75.8%   |
| Personnel Security.....                  | 2,659   | 1,146   | 0       | -1,146    | -100.0%  |
| Material Control and Accountability..... | 7,619   | 1,167   | 384     | -783      | -67.1%   |
| Program Management.....                  | 1,969   | 1,283   | 124     | -1,159    | -90.3%   |
| Subtotal, Physical Security.....         | 26,918  | 15,897  | 3,126   | -12,771   | -80.3%   |
| Cyber Security.....                      | 1,464   | 558     | 74      | -484      | -86.7%   |
| Total, Rocky Flats Field Office.....     | 28,382  | 16,455  | 3,200   | -13,255   | -80.6%   |

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| <b>Savannah River Operations Office</b>  |         |         |         |           |          |
| Protective Forces.....   | 68,409  | 65,929  | 72,209  | 6,280     | 9.5%     |
| Physical Security Systems.....   | 31,863  | 30,573  | 19,336  | -11,237   | -36.8%   |
| Transportation.....  | 369     | 324     | 521     | 197       | 60.8%    |
| Information Security.....  | 2,247   | 2,407   | 2,500   | 93        | 3.9%     |
| Personnel Security.....  | 4,366   | 4,484   | 4,803   | 319       | 7.1%     |
| Material Control and Accountability.....   | 9,259   | 6,053   | 7,907   | 1,854     | 30.6%    |
| Program Management.....  | 22,433  | 23,820  | 27,517  | 3,697     | 15.5%    |
| Subtotal, Physical Security.....   | 138,946 | 133,590 | 134,793 | 1,203     | 0.9%     |
| Cyber Security.....  | 4,383   | 2,601   | 1,950   | -651      | -25.0%   |
| Total, Savannah River Operations Office.....   | 143,329 | 136,191 | 136,743 | 552       | 0.4%     |
| <b>Total, Defense Site Acceleration Completion,<br/>Safeguards and Security.....</b> |         |         |         |           |          |
|  | 291,124 | 262,942 | 287,223 | 24,281    | 9.2%     |

### Funding Schedule by Activity

(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Comparable<br>Request | FY 2006<br>Request | \$ Change | % Change |
|--|--|----------------------------------|--------------------|-----------|----------|
| Protective Forces.....                   | 156,883                                | 143,895                          | 149,964            | 6,069     | 4.2%     |
| Physical Security Systems.....           | 41,944                                 | 42,960                           | 55,433             | 12,473    | 29.0%    |
| Transportation.....                      | 369                                    | 324                              | 521                | 197       | 60.8%    |
| Information Security.....                | 9,112                                  | 7,760                            | 6,942              | -818      | -10.5%   |
| Personnel Security.....                  | 10,190                                 | 8,554                            | 8,070              | -484      | -5.7%    |
| Material Control and Accountability..... | 21,529                                 | 11,989                           | 12,879             | 890       | 7.4%     |
| Program Management.....                  | 41,602                                 | 40,054                           | 48,719             | 8,665     | 21.6%    |
| Subtotal, Physical Security.....         | 281,629                                | 255,536                          | 282,528            | 26,992    | 10.6%    |
| Cyber Security.....                      | 9,495                                  | 7,406                            | 4,695              | -2,711    | -36.6%   |
| Total, Safeguards and Security.....      | 291,124                                | 262,942                          | 287,223            | 24,281    | 9.2%     |

## Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

|   |               |
|---|---------------|
| <b>CB-0020 / Safeguards and Security – Waste Isolation Pilot Plant</b>  |               |
| ▪ No significant change. ....   | 151           |
| <b>OR-0020 / Safeguards and Security – East Tennessee Technology Park</b>   |               |
| ▪ Increase in funding is primarily associated with additional Design Basis Threat security enhancements. ....   | 7,005         |
| <b>OH-FN-0020 / Safeguards and Security – Fernald</b>   |               |
| ▪ Increase in funding is required for additional workscope of maintaining the communications center. ....   | 234           |
| <b>OH-MB-0020 / Safeguards and Security – Miamisburg</b>  |               |
| ▪ Decrease in funding is due to all classified matter having been shipped off-site or destroyed. ....   | -524          |
| <b>OH-WV-0020 / Safeguards and Security – West Valley</b>   |               |
| ▪ Decrease in funding reflects a reduction associated with lesser physical protection and cyber-security consistent with the changing requirements of the project. .... | -848          |
| <b>PA-0020 / Safeguards and Security – Paducah</b>  |               |
| ▪ Increase in funding attributed to the performance of hazard assessment as required by the Design Basis Threat. ....   | 3,254         |
| <b>PO-0020 / Safeguards and Security – Portsmouth</b>   |               |
| ▪ Increase in funding attributed to the performance of hazard assessment as required by the Design Basis Threat. ....   | 1,833         |
| <b>RL-0020 / Safeguards and Security – Richland</b>   |               |
| ▪ Increase in funding due to implementation of security enhancements as required by the Design Basis Threat. ....   | 25,879        |
| <b>RF-0020 / Safeguards and Security – Rocky Flats</b>  |               |
| ▪ Decrease in funding reflects the site’s progress toward the planned 2006 closure date. ....   | -13,255       |
| <b>SR-0020 / Safeguards and Security – Savannah River</b>   |               |
| ▪ No significant change. ....   | 552           |
| <hr/>   |               |
| <b>Total Funding Change, Safeguards and Security.....</b>   | <b>24,281</b> |

## Capital Operating Expenses

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| Capital Equipment.....                 | 5,512   | 8,270   | 1,660   | -6,610    | -79.9%   |
| General Plant Projects.....            | 14,800  | 27,479  | 42,586  | 15,107    | 100.0%   |
| Total, Capital Operating Expenses..... | 20,312  | 35,749  | 44,246  | 8,497     | 23.8%    |



# Technology Development and Deployment

## Funding Schedule by Activity

(dollars in thousands)

|   | FY2004              | FY2005                    | FY 2006                   | \$ Change      | % Change      |
|---|---------------------|---------------------------|---------------------------|----------------|---------------|
| Technology Development and Deployment   |                     |                           |                           |                |               |
| Eliminating Technical Barriers to Accelerated Closure/Alternative Projects <sup>b</sup> ..... | 46,358 <sup>a</sup> | 56,736 <sup>d</sup>       | 19,338                    | -37,398        | -65.9%        |
| Risk Reduction Assistance Program <sup>b</sup> .....  | 15,000              | 1,471                     | 1,500                     | 29             | 2.0%          |
| Small Business Innovative Research Program...   | 0 <sup>c</sup>      | 1,519                     | 551                       | -968           | -63.7%        |
| <b>Total, Technology Development and Deployment.....</b>                                      | <b>61,358</b>       | <b>59,726<sup>e</sup></b> | <b>21,389<sup>f</sup></b> | <b>-38,337</b> | <b>-64.2%</b> |

### Description

In an effort to more directly support opportunities identified in the Office of Environmental Management (EM) cleanup acceleration initiatives, EM is “projectizing” its Technology Development and Deployment Program. This represents a transition from the current approach, which is to develop technologies that are alternatives to existing site baseline technologies, to provide short-term technical assistance, and to provide support for near-term closure needs. The projectized approach will address the technology needs being identified by the EM sites, enabling them to accelerate their cleanup schedules and/or provide technical foundations for the sites’ Risk-Based End States visions.

Coupled with the sites’ cleanup projects acquisition strategies that are moving technology solutions to be more market-driven, the Technology Development and Deployment Program is focused on a limited number of critical, high-risk and high-payback activities where step improvements can be gained. By realigning the project in this manner, the Department is ensuring that the activities funded under this account are focused on supporting EM’s primary goal of accelerating risk reduction and environmental cleanup.

<sup>a</sup> Provides funding of \$40,709,000 for Congressional requirements for projects in addition to the Alternative Projects described.

<sup>b</sup> In FY 2004, the Technology Development and Deployment program was executed using the following titles: Alternative Projects and Technical Solutions/Closure Projects. The FY 2005 budget request was also displayed in this manner.

<sup>c</sup> Excludes \$1,232,000 (\$1,100,000 for Small Business Innovation Research and \$132,000 for Small Business Technology Transfer Program) transferred to the Office of Science for award and administration of grants to small businesses.

<sup>d</sup> Provides funding of \$40,771,200 for Congressional requirements for projects in addition to the Alternative Projects described.

<sup>e</sup> Distribution of funds by program area may change depending upon final receipt, review, selection, and award of technical proposals.

<sup>f</sup> Final distribution of funds by program area will change based upon final appropriation, final receipt, review, selection, and award of technical proposals.

## Benefits

These projects provide funding to support innovative technical solutions and alternative technologies to assist with the accelerated cleanup of the DOE complex.

### Funding by Site

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| Headquarters                                 |         |         |         |           |          |
| Headquarters.....                            | 4,132   | 58,255  | 19,889  | -38,366   | -65.9%   |
| Idaho  |         |         |         |           |          |
| Idaho Operations Office.....                 | 3,488   | 0       | 0       | 0         | 0.0%     |
| Idaho National Laboratory.....               | 998     | 0       | 0       | 0         | 0.0%     |
| Total, Idaho Operations Office.....          | 4,486   | 0       | 0       | 0         | 0.0%     |
| Los Alamos Site Office                       |         |         |         |           |          |
| Los Alamos National Laboratory.....          | 365     | 0       | 0       | 0         | 0.0%     |
| National Energy Technology Laboratory.....   | 5,697   | 0       | 0       | 0         | 0.0%     |
| Nevada Site Office                           |         |         |         |           |          |
| Nevada Offsites.....                         | 2,639   | 0       | 0       | 0         | 0.0%     |
| Oak Ridge                                    |         |         |         |           |          |
| Oak Ridge Operations Office.....             | 222     | 0       | 0       | 0         | 0.0%     |
| Ohio   |         |         |         |           |          |
| Fernald.....                                 | 3,200   | 0       | 0       | 0         | 0.0%     |
| Miamisburg.....                              | 1,800   | 0       | 0       | 0         | 0.0%     |
| Total, Ohio Field Office.....                | 5,000   | 0       | 0       | 0         | 0.0%     |
| Office of River Protection.....              | 2,500   | 0       | 0       | 0         | 0.0%     |
| Richland                                     |         |         |         |           |          |
| Richland Operations Office.....              | 189     | 0       | 0       | 0         | 0.0%     |
| Rocky Flats .....                            | 10,000  | 0       | 0       | 0         | 0.0%     |
| Savannah River                               |         |         |         |           |          |
| Savannah River Operations Office.....        | 14,395  | 1,471   | 1,500   | 29        | 2.0%     |
| Savannah River Site.....                     | 1,594   | 0       | 0       | 0         | 0.0%     |
| Total, Savannah River Operations Office..... | 15,989  | 1,471   | 1,500   | 29        | 2.0%     |
| Sandia Site Office.....                      | 5,964   | 0       | 0       | 0         | 0.0%     |
| NNSA Service Center.....                     | 4,175   | 0       | 0       | 0         | 0.0%     |
| Total, Technology Development and Deployment | 61,358  | 59,726  | 21,389  | -38,337   | -64.2%   |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|  |               |               |               |
|--|---------------|---------------|---------------|
| <b>Eliminating Technical Barriers to Accelerated Closure / Alternative Projects.....</b> | <b>46,358</b> | <b>56,736</b> | <b>19,338</b> |
|--|---------------|---------------|---------------|

Development activities will be supported which may be challenging, but offer significant cost/schedule reduction to a site’s current baseline, often improving worker safety in the process. The focus will be on providing innovative technical solutions in response to the highest priority needs of the sites. This portion of the Technology Development and Deployment budget will include support for demonstrations of the technical feasibility of high-risk, high payoff technologies. Upon successful demonstration of technical feasibility, implementation of an innovative technology will accelerate site cleanup schedules and provide significant cost savings. The ultimate implementation of an innovative technology will be supported separately by site cleanup funding.

The approach is to emphasize backup methods and alternatives to baselines to retrieve, treat, and immobilize waste, rather than investing solely in one treatment path. Some opportunities will require qualification and delivery of new technologies and processes. Examples include: new ways to separate out high activity contaminants from high-level waste at or near the tanks so the large treatment plants do not have to be modified; advanced, less massive tank farm caps for long-term application; and new tools for characterizing and remediating hot spots in high-activity transuranic waste burial grounds. Such alternatives must be developed outside of the current site baselines and delivered in time for implementation decisions.

The highest priority needs requiring technical solutions fall into four major problem areas:

- High-Level Waste
- Groundwater and Soils
- Decontamination & Decommissioning
- Transuranic Waste

▪ **Tank Waste**

The United States Department of Energy has approximately 91 million gallons of liquid waste stored in underground tanks and approximately 4,000 m<sup>3</sup> of solid waste derived from the liquids stored in bins. The current DOE estimated cost for retrieval, treatment and disposal of this waste exceeds \$50 billion to be spent over several decades. The highly radioactive portion of this waste at Office of River Protection, Idaho National Laboratory, and Savannah River must be treated and immobilized, and prepared for shipment to a waste repository. Efforts will focus on improved pre-treatment processes to reduce the amount of waste that must be disposed of, improved retrieval technologies, improved vitrification performance, and breakthrough immobilization technologies. Technology Development and Deployment is needed in each of these areas to achieve as well as to accelerate baseline schedules, cut costs, and reduce programmatic risk.

Alternatives projects being pursued in FY 2005 and FY 2006 include:

- Alternatives for Enhanced Waste Processing at Idaho, Hanford, and Savannah River;
- Alternatives for Low Temperature Waste Immobilization at Hanford and Idaho;
- Alternatives for Disposition of High-Level Salt Waste at Savannah River;
- Alternatives for Low and Medium Curie Waste Pretreatment at Hanford.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

### ▪ **Groundwater and Soils**

As a result of processes used for nuclear weapons production, vast areas of groundwater and soils were contaminated at DOE facilities. Plumes of contaminated groundwater are migrating beneath these facilities, with large quantities of contaminated soil. The conventional method for cleaning up contaminated ground water (pump and treat) is limited in its effectiveness because it fails to dislodge all of the contamination from the substance. Improved methods must be developed which will accurately locate and characterize the source term, as well as remediating or removing it from the subsurface. Contaminants include chlorinated solvents, metals, and radionuclides.

Technology Development and Deployment activities include monitored natural attenuation, in situ treatment, and characterization/monitoring. An understanding of processes that affect the long-term effectiveness of natural attenuation is crucial to gaining confidence in planned site closure methods and regulatory acceptance. In situ methods of treatment may be the only way to address remediation of persistent and toxic metals, mercury principally, and longer-lived radionuclides.

Alternatives projects addressing groundwater and soils problems across the DOE complex in FY 2005 and FY 2006 include:

- Alternatives for Innovative Remediation of Chlorinated Ethenes using Monitored Natural Attenuation at Savannah River, South Carolina;
- Alternatives for Carbon Tetrachloride Source Term Location at Hanford, Washington.

### ▪ **Decontamination and Decommissioning**

As sites across the DOE complex prepare for closure, a large number of buildings and facilities must be decontaminated and decommissioned. Although many technologies currently exist to address various aspects of decontamination, technology development is needed to address unique contaminated buildings and facilities, such as the gaseous diffusion plants.

One alternatives project addressing decontamination and decommissioning in FY 2005 and FY 2006 is:

- Alternatives for Characterization and Removal of Deposits at the Portsmouth Gaseous Diffusion Plant.

### ▪ **Transuranic Waste**

Technology Development and Deployment must address retrieval, treatment, and assay of transuranic waste. As described in the Transuranic Waste Performance Management Plan, there are several key technologies that need to be developed to achieve accelerated cleanup. These technologies will enhance characterization, transportation and disposal activities. Development of characterization using Non-Destructive Assay/Non-Destructive Examination assay instruments for large Transuranic containers is a high priority item at all Transuranic-handling sites in order to expedite shipments to Waste Isolation Pilot Plant and reduce worker exposure.

Alternatives projects addressing transuranic waste in FY 2005 and FY 2006 include:

- Alternatives for In-Situ Transuranic Waste Delineation and Removal at Burial Grounds 618-10 & 11 at Hanford, Washington.
- Alternatives for non-destructive characterization Non-Destructive Assay/Non Destructive Examination of large transuranic waste containers to allow shipping in TRUPACT III casks without resizing and/or repackaging.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**Risk Reduction Assistance Program..... 15,000 1,471 1,500**

The Technical Assistance Program (renamed the Risk Reduction Assistance Program in FY 2005) provides real-time, ad-hoc assistance to identify, evaluate, and implement new and innovative approaches to reduce cost, improve waste disposition pathways, and accelerate schedules. Beginning in FY 2005, the Program was redirected to primarily focus on providing assistance to reduce health, safety and environmental risk of accelerated site cleanup. As such, it is directly linked with alternatives identified in the sites' End State Vision Documents, and provides technical expertise and scientific problem-solving to support more precise quantification and confirmation of the technical bases for proposed end-state alternatives. The program can foster community and regulatory acceptance of End States, and achieve more precision in desired cleanup levels by filling-in existing gaps in critical knowledge, such as the physical and chemical understanding of the fate and transport of contaminants, or the clarification of health effects of certain exposures. To a lesser extent, assistance will also be provided for risk-reducing activities not included in the End State Vision, such as better personal protective equipment and decontamination and decommissioning techniques.

**Small Business Innovative Research Program..... 0<sup>a</sup> 1,519 551**

Funding for the Small Business Innovative Research assessment is in accordance with Public Law 102-564, which mandates a percentage of all research and development dollars be set aside for grants to small businesses. Once funding is appropriated, it is transferred to the DOE Office of Science for award and administration of grants to small businesses.

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

Alternative Projects

- In FY 2004/ FY 2005, solicitations for the following Alternative Projects were or will be issued:
  - Alternatives for Enhanced Waste Processing at Idaho, Hanford, and Savannah River (FY 2004);
  - Alternatives for Low and Medium Curie Waste Pretreatment at Hanford (FY 2004).
  - Alternatives for Low Temperature Waste Immobilization at Hanford and Idaho (FY 2005);
  
- In FY 2004/FY 2005, the following Alternative Projects were or will be awarded:
  - Alternatives for Non-destructive Characterization of Large Containers to Allow Shipping in TRUPACT-III without Resizing and/or Repackaging at Carlsbad, New Mexico (FY 2004);
  - Alternatives for Low Activity Waste Vitrification Optimization at Hanford, Washington (FY 2004);
  - Alternatives for Deposit Removal at Gaseous Diffusion Plants at Portsmouth, Ohio (FY 2004);
  - Alternatives for Steam Reforming of Low Activity Waste at Idaho, Hanford, and Savannah River (FY 2004).
  - Alternatives for Enhanced Waste Processing at Idaho, Hanford, and Savannah River (FY 2005);
  - Alternatives for Low and Medium Curie Waste Pretreatment at Hanford (FY 2005);
  - Alternatives for Low temperature Immobilization at Hanford and Idaho (FY 2005)

<sup>a</sup> \$1,232,000 (\$1,100,000 for Small Business Innovation Research and \$132,000 for Small Business Technology Transfer Program) was transferred to the Office of Science for award and administration of grants to small businesses.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- In FY 2004/FY 2005, down-selects were or will be made from Phase I planning/concepts to the most promising Phase II demonstration/development activities for the following Alternatives Projects:
  - Alternatives for Carbon Tetrachloride Source Term Location at Hanford, Washington (FY 2004);
  - Alternatives for In-situ Transuranic Waste Delineation and Waste Removal from Burial Grounds 618-10 and 11, Hanford, Washington (FY 2004);
  - Alternatives for Disposition of High-Level Salt Waste at Savannah River, South Carolina. (FY 2004);
  - Alternatives for Deposit Removal at Gaseous Diffusion Plants at Portsmouth, Ohio (FY 2004) (FY 2004);
  - Alternatives for Risk Reduction using Monitored Natural Attenuation, Savannah River, South Carolina (FY 2004);
  - Alternatives for Non-Destruction Characterization of Large Containers to Allow Shipping in TRUPACT-III without Resizing and/or Repackaging, Savannah River, South Carolina and Carlsbad, New Mexico (FY 2004);
  - Alternatives for Steam Reforming of Low Activity Waste at Idaho, Hanford, and Savannah River. (FY 2004)
- In FY 2005/FY 2006, Alternatives Projects will be completed and results delivered to sites for implementation decisions:
  - Alternatives for Steam Reforming of Low Activity Waste Pretreatment at Idaho, Hanford, and Savannah River (FY 2005);
  - Alternatives for Low Temperature Waste Immobilization at Hanford and Idaho (FY 2005);
  - Alternatives for Enhanced Waste Processing at Idaho, Hanford, and Savannah River (FY 2005);
  - Alternatives for disposition of High-Level Waste Salt, Savannah River, South Carolina (FY 2006);
  - Alternatives for non-destructive characterization of large containers to allow shipping in TRUPACT-III without resizing and/or repackaging, Savannah River, South Carolina and Carlsbad, New Mexico (FY 2006);

#### Closure Projects

- Developed and Deployed a Derived Air Concentration/Hour Monitor to extend work periods for Low-Risk workers at Rocky Flats.
- Developed and Deployed an In-Situ Real-Time Wireless Lapel Monitor to provide real-time exposure levels to High-Risk workers working in Air Suits at Rocky Flats.
- Developed and Deployed an Enhanced Building Characterization System at Rocky Flats.
- Developed and deployed improved methods to eliminate Beryllium exposure to workers performing the Decontamination and Decommissioning of Building 444 at Rocky Flats.

#### Risk Reduction Assistance Program

- Completed independent evaluation of four alternatives for final disposition of Pit 9 Transuranic Waste at the Los Alamos National Laboratory to be used as technical basis for final DOE decision (FY 2004).
- Completed expert analysis of remedial options for six potential sources of volatile organic compounds in the groundwater at the East Tennessee Technology Park to support the Remedial Investigation/Feasibility Study for the Final Record of Decision (FY 2004).
- Completed demonstration of directional drilling for collection of soil samples under the Transfer Tank Area Building at the Fernald Closure Project to obtain free release, allowing the foundation to remain in place (FY 2004).
- Provided technical assistance to recommend methods, including specific amendments and approaches, for mending the In Situ Redox Manipulation Barrier to meet the requirements of the interim Record of Decision for the 100-D Area at Hanford. Many of the recommendations are already being implemented (FY 2004).
- Provided technical assistance to recommend an alternative for the Advanced Waste Water Treatment Facility at Fernald, so it could be disposed onsite saving millions of dollars. Design of the alternative, which will reduce the footprint of the existing facility by 90% and has been approved by the regulators, is underway (FY 2004).
- Provided recommendations for the decontamination and decommissioning of the K-25 and K-27 Buildings at Oak Ridge. The technical expert's team suggested the following be pursued by the cleanup contractor: foaming/fixative product demonstration; evaluation of cost and throughput of dismantling alternatives; development of on-site laboratory specifications, and nondestructive examination of building components and piping (FY 2004).
- Transport options to handle and ship waste associated with the decontamination and dismantling of the K-25 and K-27 Buildings at the East Tennessee Technology Park at Oak Ridge were explored for the more than 2 million cubic yards of remedial action and decontamination and decommissioning waste to be shipped by October 2008. The technical expert's team recommended that all options for volume reduction be explored and that hybrid transportation options be considered rather than a single optimum transportation solution (FY 2004).
- An independent team of technical experts analyzed remedial options for characterization and remediation of remote-handled transuranic soil at the Corehole 8 site at Oak Ridge National Laboratory. The team strongly recommended that the soil not be retrieved until a final disposition path is established. Until that time, the team recommended that the site be temporarily stabilized, using ground-freezing technology, which Oak Ridge has used at another location (FY 2004).
- Provide technical experts' assistance to Oak Ridge, Richland, Savannah River, and Ohio sites to help them develop the scientific background information to support the alternatives shown in their Risk Based End State vision documents (FY 2005).

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

- Provide technical experts to analyze and make recommendations in response to worker safety concerns and suggestions at EM cleanup sites (FY 2005/ FY 2006).
- Develop a beryllium air monitor to reduce risk to workers by real time air monitoring of beryllium (FY2005).
- Assist the Oak Ridge Reservation in the design of constructed wetlands to remove VOC contamination from groundwater at ETTP (FY 2005).
- Provide technical expertise to cleanup sites in the decontamination and demolition of facilities (FY 2005/FY 2006).

|  |               |                     |          |
|--|---------------|---------------------|----------|
| <b>Congressionally Directed Activities.....</b>  | <b>40,709</b> | <b>40,771</b>       | <b>0</b> |
| Zero Net Energy Water Initiative.....  | 746           | 0                   | 0        |
| Florida International University.....  | 6,961         | 6,944 <sup>a</sup>  | 0        |
| Atomic Energy Agency Technical International Agreement..   | 4,473         | 4,960 <sup>a</sup>  | 0        |
| Western Environmental Technology Office.....   | 4,971         | 0 <sup>b</sup>      | 0        |
| Diagnostic Instrumentation and Analysis Laboratory.....  | 4,970         | 4,960 <sup>ac</sup> | 0        |
| Subsurface Science Research Institute.....   | 1,988         | 3,968 <sup>a</sup>  | 0        |
| University of Nevada Cooperative Agreement.....  | 497           | 496 <sup>a</sup>    | 0        |
| Tribal Colleges Initiatives (Crownpoint Institute of<br>Technology/Dine College/Southeastern Indian Polytechnic<br>Institute)..... | 199           | 198 <sup>a</sup>    | 0        |
| Mid Atlantic Recycling Center.....   | 2,982         | 0 <sup>d</sup>      | 0        |
| American Water Works Associated Research Foundation<br>Arsenic Removal.....  | 2,982         | 0 <sup>b</sup>      | 0        |
| Desalination and Water Purification Technology Roadmap<br>with the Bureau of Reclamation.....                                      | 2,982         | 0 <sup>b</sup>      | 0        |
| Native American Reservations – Sterling Engine<br>Demonstration.....   | 2,982         | 0 <sup>b</sup>      | 0        |
| Advanced Monitoring Systems at Nevada Test Site.....   | 1,491         | 2,976 <sup>a</sup>  | 0        |
| Nevada Natural Resources Remote Sensing Systems.....   | 994           | 2,381 <sup>a</sup>  | 0        |
| Desert Research Institute Yucca Mountain Environmental<br>Monitoring Program.....  | 994           | 0 <sup>b</sup>      | 0        |

<sup>a</sup> These FY 2005 Congressionally directed activities (\$40,771,200) are funded within the available funds in the Technology Development and Deployment account.

<sup>b</sup> These FY 2005 Congressionally directed activities are directed to be funded in the Defense Environmental Services, Non-Closure Environmental Activities account.

<sup>c</sup> The Environmental Management Program is continuing to fund this prior year Congressionally directed activity.

<sup>d</sup> This FY 2005 Congressionally directed activity is funded in the Defense Site Acceleration Completion, 2035 Accelerated Completion account.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|   |               |                    |               |
|---|---------------|--------------------|---------------|
| Development of Electrochemical System “utilizing ceramic ionic transport membranes for the recycle an disposal of radioactive sodium-ion waste” | 497           | 2,976 <sup>a</sup> | 0             |
| Conduct competitive evaluation of advanced remediation technologies   | 0             | 9,920 <sup>a</sup> | 0             |
| Nanotube research and development at the Materials Reliability Center at the University of Nevada-Reno  | 0             | 992 <sup>a</sup>   | 0             |
| <b>Total Congressionally Directed Activities.....</b>   | <b>40,709</b> | <b>40,771</b>      | <b>0</b>      |
| <b>Total, Technology Development and Deployment.....</b>  | <b>61,358</b> | <b>59,726</b>      | <b>21,389</b> |

### Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

|   |                |
|---|----------------|
| <b>Eliminating Technical Barriers to Accelerated Closure / Alternative Projects</b>                               |                |
| ▪ Reduction reflects reliance on market-driven technology solutions through new cleanup contracts. No new starts. | -37,398        |
| <b>Risk Reduction Assistance Program</b>  |                |
| ▪ No significant change.  | 29             |
| <b>Small Business Innovative Research Program</b>   |                |
| ▪ Reduction results from SBIR assessment being applied to a smaller research and development program.             | -968           |
| <b>Total Funding Change, Technology Development and Deployment.....</b>   | <b>-38,337</b> |

<sup>a</sup> These FY 2005 Congressionally directed activities (\$40,771,200) are funded within the available funds in the Technology Development and Deployment account.

# **Defense Environmental Services**

# **Defense Environmental Services**

## Table of Contents

|  | Page |
|--|------|
| Appropriation Language .....                 | 255  |
| Community Regulatory Support .....           | 259  |
| Federal Contribution to the UE D&D Fund..... | 273  |
| Non-Closure Environmental Activities.....    | 277  |
| Program Direction.....                       | 291  |



## **Defense Environmental Services**

### **Proposed Appropriation Language**

For Department of Energy expenses necessary for defense-related environmental services activities that indirectly support the accelerated cleanup and closure mission at environmental management sites, including the purchase, construction, and acquisition of plant and capital equipment and other necessary expenses, [and the purchase of not to exceed three ambulances for replacement only,] [\$937,976,000] \$831,331,000, to remain available until expended. (*Energy and Water Development Appropriations Act, 2005.*)

### **Explanation of Change**

None.



## Defense Environmental Services

### Funding Profile by Program

(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments      | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|--|--|--------------------------------------|-----------------------------|--|--------------------|
| Defense Environmental Services   |  |                                      |                             |  |                    |
| Community and Regulatory Support.....  | 54,528                                 | 60,547                               | -6,223                      | 54,324                                 | 62,032             |
| Federal Contribution to the Uranium<br>Enrichment Decontamination and<br>Decommissioning Fund..... | 449,333                                | 463,000                              | -3,704                      | 459,296                                | 451,000            |
| Non-Closure Environmental Activities.....  | 155,841                                | 146,038                              | -44,788                     | 101,250                                | 87,368             |
| Spent Nuclear Fuel Management.....   | 0                                      | 17,332                               | -17,332                     | 0                                      | 0                  |
| Program Direction.....   | 258,943                                | 271,059                              | -20,225                     | 250,834                                | 230,931            |
| <b>Total, Defense Environmental Services.....</b>  | <b>918,645</b>                         | <b>957,976</b>                       | <b>-92,272 <sup>a</sup></b> | <b>865,704</b>                         | <b>831,331</b>     |

**Public Law Authorizations:**

Public Law 95-91, "Department of Energy Organization Act (1977)"

Public Law 102-579, "Waste Isolation Pilot Plant Land Withdrawal Act (1992)"

Public Law 103-62, "Government Performance and Results Act of 1993"

Public Law 108-136, "National Defense Authorization Act for Fiscal Year 2004"

Public Law 108-137, "Energy and Water Development Appropriations Act, 2004"

Public Law 108-375, "Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005"

Public Law 108-447, "Consolidated Appropriations Act, 2005"

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<sup>a</sup> Reflects the following adjustments:

- o Rescission reduction of -\$7,503,808.
- o Adjustment of -\$16,141,000 to the Defense Site Acceleration Completion appropriation for Spent Nuclear Fuel activities at Idaho.
- o Transfer of -\$391,000 related to realignment of responsibility for the Foreign Research Reactor Spent Nuclear Fuel Acceptance Program from EM to the National Nuclear Security Administration.
- o Adjustment of -\$95,000 to the Defense Site Acceleration Completion appropriation for Richland and River Protection activities.
- o Accounting adjustment of -\$478,000 related to A-76 savings.
- o Transfer of -\$67,663,000 related to realignment of responsibility for legacy waste treatment/storage/disposal and remediation activities at three sites (Nevada Test Site, Lawrence Livermore National Laboratory [Main Site and Site 300]); and newly-generated waste activities at two sites (Lawrence Livermore National Laboratory and Oak Ridge Y-12 Plant).

**Mission**

The mission of EM is the safe, accelerated risk reduction and cleanup of the environmental legacy resulting from the Nations's nuclear weapons development and government-sponsored nuclear energy research. Over the last four years, the program has delivered significant risk reduction and cleanup results while ensuring the cleanup is safe for the workers, protective of the environment and respectful of the taxpayer. The program, once focused on managing risk, is demonstrating the benefits of accelerating cleanup and closure by realizing the completion of tangible results. These outcomes are providing important and valuable benefits to the public, communities, and for the generations that will follow.

The Defense Environmental Services appropriation indirectly supports the primary mission of accelerated risk reduction and closure. This appropriation also funds defense service activities performed by the Environmental Management programs for other Departmental goals and objectives. This appropriation includes four programs: Non-Closure Environmental Activities; Community and Regulatory Support; Program Direction; and Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.

The FY 2006 Request for the Defense Environmental Services appropriation is \$831,331,000, a decrease of \$34,373,000 from the FY 2005 comparable appropriation of \$865,704,000.

**Benefits**

This appropriation provides funding for defense related activities that indirectly support the primary EM mission of the accelerated risk reduction and environmental cleanup of sites contaminated as a result of nuclear weapons production and nuclear research. The appropriation also funds services provided by EM in support of other Departmental missions and objectives such as management of non-EM newly generated waste and consolidation of nuclear materials.

As the EM cleanup progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. These indirect support activities ensure that EM's primary cleanup mission and other DOE missions and objectives proceed in an efficient and responsible manner.

## Community and Regulatory Support

### Funding Schedule by Activity

(dollars in thousands)

|   | FY 2004       | FY 2005       | FY 2006       | \$ Change    | % Change     |
|---|---------------|---------------|---------------|--------------|--------------|
| CB-0100 / U.S./Mexico/Border/Material Partnership Initiative.....               | 2,982         | 0             | 0             | 0            | 0.0%         |
| CB-0101 / Economic Assistance to the State of New Mexico.....                   | 22,916        | 23,452        | 24,548        | 1,096        | 4.7%         |
| ID-0100 / Idaho Community and Regulatory Support.....                           | 2,310         | 3,088         | 3,546         | 458          | 14.8%        |
| OR-0100 / Oak Ridge Reservation Community and Regulatory Support (Defense)..... | 3,439         | 3,592         | 5,670         | 2,078        | 57.9%        |
| OH-FN-0101 / Fernald Community and Regulatory Support.....                      | 1,484         | 1,134         | 877           | -257         | -22.7%       |
| OH-MB-0101 / Miamisburg Community and Regulatory Support .....                  | 890           | 1,346         | 800           | -546         | -40.6%       |
| ORP-0100 / River Protection Community and Regulatory Support .....              | 471           | 471           | 471           | 0            | 0.0%         |
| RF-0101 / Rocky Flats Community and Regulatory Support.....                     | 2,795         | 2,022         | 3,050         | 1,028        | 50.8%        |
| RL-0100 / Richland Community and Regulatory Support.....                        | 11,123        | 12,653        | 15,411        | 2,758        | 21.8%        |
| SR-0101 / Savannah River Community and Regulatory Support.....                  | 6,118         | 6,566         | 7,659         | 1,093        | 16.6%        |
| <b>Total, Community and Regulatory Support.....</b>                             | <b>54,528</b> | <b>54,324</b> | <b>62,032</b> | <b>7,708</b> | <b>14.2%</b> |

### Description

The Community and Regulatory Support program funds activities that are indirectly related to on-the-ground cleanup results but are none the less integral to EM's ability to conduct cleanup at its 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.

### Benefits

This program provides funding for activities that promote active involvement in EM's planning and decision-making processes. In addition, these activities provide state, tribal, and local governments and other interested stakeholders with opportunities for meaningful involvement in managing the cleanup and closure of the country's former nuclear weapons complex.

By providing opportunities for active involvement in DOE's planning processes, these activities facilitate and increase stakeholder communication and minimize misunderstanding. These activities also provide forums where issues can be discussed and resolved in an efficient and cooperative manner, which decreases the chances of costly legal or regulatory actions being taken against the Department.

## Funding by Site

(dollars in thousands)

|  | FY 2004       | FY 2005       | FY 2006       | \$ Change    | % Change      |
|--|---------------|---------------|---------------|--------------|---------------|
| <b>Carlsbad</b>                                    |               |               |               |              |               |
| Carlsbad Field Office.....                         | 25,898        | 23,452        | 24,548        | 1,096        | 4.7%          |
| <b>Idaho</b>                                       |               |               |               |              |               |
| Idaho National Laboratory.....                     | 2,310         | 3,088         | 3,546         | 458          | 14.8%         |
| <b>Oak Ridge</b>                                   |               |               |               |              |               |
| Oak Ridge Reservation.....                         | 3,439         | 3,592         | 5,670         | 2,078        | 57.9%         |
| <b>Ohio</b>  |               |               |               |              |               |
| Fernald.....                                       | 1,484         | 1,134         | 877           | -257         | -22.7%        |
| Miamisburg.....                                    | 890           | 1,346         | 800           | -546         | -40.6%        |
| <b>Total, Ohio.....</b>                            | <b>2,374</b>  | <b>2,480</b>  | <b>1,677</b>  | <b>-803</b>  | <b>-32.4%</b> |
| <b>Richland</b>                                    |               |               |               |              |               |
| Richland Operations Office.....                    | 11,123        | 12,653        | 15,411        | 2,758        | 21.8%         |
| <b>River Protection</b>                            |               |               |               |              |               |
| River Protection.....                              | 471           | 471           | 471           | 0            | 0.0%          |
| <b>Rocky Flats</b>                                 |               |               |               |              |               |
| Rocky Flats Field Office.....                      | 2,795         | 2,022         | 3,050         | 1,028        | 50.8%         |
| <b>Savannah River Operations Office</b>            |               |               |               |              |               |
| Savannah River Operations Office.....              | 6,118         | 6,566         | 7,659         | 1,093        | 16.6%         |
| <b>Total Community and Regulatory Support.....</b> | <b>54,528</b> | <b>54,324</b> | <b>62,032</b> | <b>7,708</b> | <b>14.2%</b>  |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|   |              |          |          |
|---|--------------|----------|----------|
| <b>CB-0100 / U.S./Mexico/Border/Material Partnership Initiative<br/>(life-cycle estimate \$8,991K).....</b> | <b>2,982</b> | <b>0</b> | <b>0</b> |
| <b>Congressionally Directed Activities.....</b>   | <b>2,982</b> | <b>0</b> | <b>0</b> |

There are significant energy and environmental needs for the communities along the 2,000-mile United States-Mexico border region, extending from Brownsville, Texas, and Matamoros, Mexico, to San Diego, California, and Tijuana, Mexico. These needs include: 1) public health; 2) energy generation and efficiency; 3) storage, treatment, and disposal of hazardous waste.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

This initiative supports the improvement of human health conditions and environmental security along the United States-Mexico border. By leveraging the results of DOE technology programs, the Carlsbad Field Office will work with industry and the national laboratories to deploy technologies that have been developed under DOE sponsorship to help meet current and future environmental needs; create new technology commercialization opportunities; enhance environmental and economic security; and help reduce public health risks and associated long-term health care costs and negative impacts on student learning. Those technologies include brick kilns, tire recycling, emergency response capabilities, subsurface contaminant detection, southwest ground water border initiative, transportation security enhancements, metal plating hazardous waste management innovations, and centralized hazardous materials facilities, personal ice cooling suits for emergency responders, solar distillers, Quick Slab plume, sediment plume for water quality, and Maya Blue.

This program is funded under PBS CB-0080, Operate Waste Disposal Facility – WIPP, under the Defense Site Acceleration Completion appropriation, 2035 Accelerated Completions account, in FY 2005 as the Center of Excellence for Hazardous Materials Management.

In FY 2006, no activities are planned.

- No FY 2006 funding is requested.

| Metrics                              | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--------------------------------------|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS. |         |         |         |                             |                     |                    |

**CB-0101 / Economic Assistance to the State of New Mexico  
(life-cycle estimate \$254,582K) ..... 22,916 23,452 24,548**

The Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579) authorizes payments to the State of New Mexico in the amount of \$20,000,000 plus inflation for each of the 14 fiscal years beginning with FY 1998. The purpose of this funding is for road improvements in connection with waste shipments to the Waste Isolation Pilot Plant. A portion of the payment: 1) will be made available to units of local government in Lea and Eddy counties in the state, and 2) can also be provided for independent Environment Assessments and Economic Studies associated with the Waste Isolation Pilot Plant. The DOE has made seven annual payments to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. The requirement under Public Law 102-579 will be completed in FY 2011.

In FY 2006, the following activity is planned:

- Provide funding to the State of New Mexico as required by Public Law 102-579.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Funding is provided to the State of New Mexico as required by the Waste Isolation Pilot Plant Land Withdrawal Act. This will allow for payments on previously issued highway bonds, and provide funds for maintenance of roads along the Waste Isolation Pilot Plant routes as truck volume increases due to accelerated waste disposal rates (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**ID-0100 / Idaho Community and Regulatory Support (life-cycle estimate \$172,502K) ..... 2,310 3,088 3,546**

This project encompasses work in three major areas for environmental regulatory oversight and stakeholder interactions and support:

- 1) State of Idaho Department of Environmental Quality Grant and Air Quality Permitting Fees. All industries subject to Clean Air Act Title V regulations are required to pay fees to support the state authorized program to be in compliance with the regulations. Technical assistance by the Idaho Department of Environmental Quality for compliance support and assistance on hazardous waste management project completion activities is also included. (This funding was appropriated in the Defense Site Acceleration Completion, 2035 Accelerated Completions Appropriation in FY 2004.)
- 2) The United States Geological Survey performs groundwater monitoring and subsurface investigation on the regional (Eastern Snake River Plain Aquifer) and subregional (site-wide) scale for the Idaho National Laboratory. The management and operating contractor monitors for compliance and immediate impacts only. The United States Geological Survey groundwater monitoring, conducted on the Idaho National Laboratory and off-site, supports the Idaho National Laboratory and cleanup activities by providing understanding of the effects of past waste disposal and defining the capacity of the geohydraulic system to accept and assimilate the waste, and provides surveillance data and an independent source of groundwater information for stakeholders. The United States Geological Survey monitoring information is used by EM programs for making site-remediation decisions and performing risk assessments necessary for accelerated cleanup.
- 3) The Idaho National Laboratory Citizens Advisory Board is chartered by the DOE as an EM Site-Specific Advisory Board. The Citizens Advisory Board provides informed recommendations to the Office of Nuclear Energy, Science, and Technology/Idaho Operations Office and Headquarters EM regarding the full scope of EM issues including environmental restoration, waste management, and economic aspects. The benefits of this work allow the DOE to reflect public values and concerns in remediation decisions. The Idaho Department of Environmental Quality task will be complete when the Idaho National Laboratory no longer has any operating hazardous waste management facilities and no air emissions requiring a Clean Air Act Title V operating permit. Any other remaining scope will continue through the end of site operations. As of June 30, 2004, Idaho National Laboratory performed

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

the on-going support of these regulatory oversight and stakeholder involvement activities.

In FY 2006, the following activities are planned:

- Secure a grant to fund the Idaho Department of Environmental Quality technical assistance for obtaining hazardous waste management closure plans, permits/modifications, and Comprehensive Environmental Response, Compensation and Liability Act and Resource Conservation and Recovery Act integration for decontamination and decommissioning of laboratory facilities.
- Continue the United States Geological Survey groundwater monitoring and subsurface investigation with analysis of contaminants and transport mechanisms affecting Snake River Aquifer, both on-site and off-site.
- Provide public source of groundwater information.
- Provide payment of fees for the Title V Air Permit and technical assistance for air quality compliance.
- Continue support to the Citizen Advisory Board providing recommendations and advice.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| <b>Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)</b>   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ The Department of Energy Quality grant enabled obtaining hazardous waste management closure plans for Test Area North Loss of Fluid Test Tanks/Sumps, and Idaho Nuclear Technology and Engineering Center Tank Farm Tanks 184-186, Chemical Processing Plant-603 Basin Water Treatment System Closure, permits or modifications for Liquid Waste Treatment System and High-Level Waste Evaporator (FY 2004).</li> <li>▪ The Citizens Advisory Board will hold six bi-monthly two-day meetings and will continue to provide recommendations and advice on issues and accelerated cleanup plans (FY 2004/September 2006).</li> <li>▪ The United States Geological Survey will provide expert analysis of contaminants and transport mechanisms affecting the Snake River Plain Aquifer to support decision-making and risk assessment regarding the following: necessity and extent of contaminant remediation; decontamination and decommissioning; the quantities of residual wastes to remain at the Idaho National Laboratory facilities; the capacity of the subsurface geohydraulic system to accept and assimilate the waste; quality of data used to meet DOE surveillance requirements; and groundwater information for stakeholders (FY 2004/September 2005/September 2006).</li> <li>▪ Department of Environmental Quality grants will enable obtaining hazardous waste management closure plans, permits or permit modifications; Comprehensive Environmental Response, Compensation and Liability Act and Resource Conservation and Recovery Act integration to achieve decontamination and decommissioning of Idaho Completion project facilities; and air compliance (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**OR-0100 / Oak Ridge Reservation Community and Regulatory Support (Defense) (life-cycle estimate \$135,846K)..... 3,439 3,592 5,670**

This PBS scope supports the two Tennessee non-regulatory Agreement-In-Principle grants and the activities of the Oak Ridge Site-Specific Advisory Board. The first grant supports the Tennessee

**Defense Environmental Services/  
Community and Regulatory Support**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Department of Environment and Conservation's independent environmental oversight and monitoring of DOE activities taking place both on-site and off-site at the Oak Ridge Reservation. The second grant provides for coordination with the Tennessee Emergency Management Agency in emergency response planning initiatives, including cooperative planning, conducting joint training exercises and developing public information regarding preparedness activities. This scope also supports the Federal Facility Agreement regulatory grant with the Tennessee Department of Environment and Conservation, which provides for the administrative support necessary to oversee the requirements of the interagency agreement under the Comprehensive Environmental Response, Compensation, and Liability Act. Environmental Management will support the Agreements-in-Principle until the planned Oak Ridge/EM mission completion in 2015. In addition to the above scope, this PBS also funds the support for the Site Specific Advisory Board chartered under the Federal Advisory Committee Act.

In FY 2006, the following activities are planned:

- Complete the FY 2006 media-monitoring activities. This includes periodic sampling of all media and pathway indicators, monitoring of discharges, emissions and biological parameters as necessary to verify the effectiveness of the Department's monitoring and surveillance programs for releases and emissions of hazardous, toxic, and radiological materials.
- Complete annual reporting to the public on management and operating activities.
- Complete FY 2005 media-monitoring report and the FY 2007 media monitoring plan.
- Participate in the Natural Resource Damage Assessment program for the Oak Ridge Reservation and in the Watts Bar Interagency Working Group.
- Complete review and approval of Federal Facility Agreements documents produced by DOE.
- Update, if necessary, the multi-jurisdictional plan for the Oak Ridge Reservation.
- Coordinate and conduct drills and exercises in accordance with the multi-jurisdictional plan or other regulation requirements.
- Maintain emergency communications capabilities for notification, emergency management, and information distribution relating to Oak Ridge Reservation emergencies.
- Continue support to the Site-Specific Advisory Board, providing advice and recommendations.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Continue annual monitoring, reporting, and emergency planning activities (FY 2004/September 2005/September 2006).</li> <li>▪ Provide financial support to the State of Tennessee for conducting annual oversight, monitoring, and reporting (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Continue activities by the Site-Specific Advisory Board sponsored by DOE-EM to assist in public participation activities (September 2005/September 2006).

**OH-FN-0101 / Fernald Community and Regulatory Support (life-cycle estimate \$14,060K) ..... 1,484 1,134 877**

The scope of work in the Community and Regulatory Support Project includes support for the Fernald Citizens Advisory Board, Ohio Environmental Protection Agency, and Payment-in-Lieu-of-Taxes. The Fernald Citizens Advisory Board is a group of volunteer Fernald area residents who provide advice and recommendations to EM Management on the remediation activities and future use of the Fernald property. This project provides for a technical facilitator, graphics, administration, and logistical support to operate the Fernald Citizens Advisory Board operational. It also provides for similar activities to support the oversight role of the Ohio Environmental Protection Agency.

In FY 2006, the following activities are planned:

- Continue support to the Fernald Citizens Advisory Board, providing advice and recommendations about site remediation and planning for long-term stewardship.
- Continue to provide funding to the Ohio Environmental Protection Agency in its role of overseeing the clean-up of the Site.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Facilitation for bi-monthly meetings of the Fernald Citizens Advisory Board and a Payment-in-Lieu-of-Taxes (FY 2004).</li> <li>The Ohio Environmental Protection Agency conducted reviews and assessments of reports and various documents, final remedial actions, remedial design and implementation, and site restoration. In addition, the Ohio Environmental Protection Agency also conducted oversight of environmental monitoring programs, participated in national dialogues and forums, and conducted public meetings. The planned activities for FY 2004 were consistent with the Fernald's accelerated cleanup strategy in the site's Performance Management Plan (FY 2004).</li> <li>Facilitate meetings of Fernald Citizens Advisory Board. The Ohio Environmental Protection Agency will review and assess final remedial actions, remedial designs and implementation, and conduct oversight of environmental monitoring programs (September 2005).</li> <li>Permit the Fernald Citizens Advisory Board to provide advice and recommendations about site remediation and help in the planning for long-term stewardship (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**OH-MB-0101 / Miamisburg Community and Regulatory Support (life-cycle estimate \$8,467K)..... 890 1,346 800**

This PBS scope contains all costs associated with the Ohio Environmental Protection Agency oversight of site remediation activities in addition to Payment-in-Lieu-of-Taxes to Montgomery County, Ohio.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Level of effort support will be provided by the Ohio Environmental Protection Agency and Payment-in-Lieu-of-Taxes payments will be made to Montgomery County, Ohio.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Level of effort support provided by the Ohio Environmental Protection Agency to continue review of regulatory documents and Payment-in-Lieu-of-Taxes payments made to Montgomery County, Ohio (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**ORP-0100 / River Protection Community and Regulatory Support (life-cycle estimate \$8,432K)..... 471 471 471**

The scope of this PBS is to provide support for the Hanford Advisory Board. These activities support public involvement related to the cleanup mission at the Hanford Site.

In FY 2006, the following activities are planned to support accelerated cleanup.

- Provide support for the Hanford Advisory Board for advice and recommendations on cleanup plans and issues; support includes: facilitation support; technical consultants; travel reimbursement; meeting facilities and arrangements; audio/visual; and general administrative support.
- Based upon a pre-determined work scope, the Hanford Advisory Board will review of Hanford cleanup activities, such as developing an Environmental Impact Statement, annual funding requests, development of closure permits, public values for clean-up at Hanford, etc. to provide advice and recommendations to DOE for consideration.

**RF-0101 / Rocky Flats Community and Regulatory Support (life-cycle estimate \$37,578K)..... 2,795 2,022 3,050**

The scope of this PBS is to provide support for educational and financial assistance agreements with other federal, state, and local entities. Examples of these agreements follow: Closure grant to the Colorado Department of Public Health and Environment to provide technical and regulatory oversight of closure related activities to implement the Rocky Flats Cleanup Agreement; Interagency Agreement with the Department of Interior for Fish and Wildlife Service Cooperative Management of the approximately 800 acre Rock Creek Reserve portion of the Site Buffer Zone; grant to the Rocky Flats Citizens Advisory Board, the site specific advisory board constituted in accordance with the Federal Advisory Committee Act to review and provide recommendations related to closure activities and decisions; Cooperative Agreement with the City of Westminster to support the Big Dry Creek Watershed Association to implement a watershed monitoring and management approach for headwaters originating on, and waters crossing, the Site to integrate the Site water management with the

**Defense Environmental Services/  
Community and Regulatory Support**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

downstream cities and authorities watershed approach; grant to the Pueblo Community College for equipment transfer to schools; and grants to Historical Black Colleges and Universities and to Native American universities and colleges. The end date for this activity is December 2006.

In FY 2006, the following activities are planned:

- Supports to the Colorado Department of Public Health and Environment, the U.S. Fish and Wildlife Service, and the Rocky Flats Citizens Advisory Board, will continue commensurate with the site closure responsibilities of these organizations. Support for additional site environmental monitoring may be required in support of transition of the site to the Fish and Wildlife Service control.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Provide educational and financial assistance up to the agreed upon level of support. Support to the Colorado Department of Public Health and Environment, the U.S. Fish and Wildlife Service, the City of Westminster, the Pueblo Community College (SEEDS Program), the Rocky Flats Citizens Advisory Board, and other entities will continue commensurate with the site closure responsibilities of these organizations (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**RL-0100 / Richland Community and Regulatory Support (life-cycle estimate \$326,604K)..... 11,123 12,653 15,411**

The scope of this PBS is to provide regulatory and stakeholder support, and assistance payments to offset lost property taxes (i.e., payment-in-lieu-of-taxes). The activities included in this PBS are: 1) Regulatory costs as required by Resource Conservation and Recovery Act, the Comprehensive Environmental Response, Compensation, and Liability Act, Tri-Party Agreement, Clean Air Act, and other State and local laws and regulations. These include payment of the Resource Conservation and Recovery Act Mixed Waste fee and the Comprehensive Environmental Response, Compensation, and Liability Act grant to the Washington State Department of Ecology as required by the Tri-Party Agreement, reimbursement to Washington State Department of Health for their costs associated with fulfilling their Clean Air Act responsibilities as well as other miscellaneous air monitoring support activities, payment of waste discharge permit fees to Washington State Department of Ecology and other miscellaneous permits and fees; 2) Costs associated with grants to Washington State and Oregon State for their participation in Hanford related activities including emergency preparedness activities; and 3) Payments-in-Lieu-of-Taxes made to the three host counties where the Hanford reservation is located. These activities fulfill regulatory requirements necessary for the continuation of site activities. This PBS scope will end upon completion of the Hanford EM mission in 2035. (Funding for these activities was appropriated in the Defense Site Acceleration Completion, 2035 Accelerated Completions Appropriation in FY 2004.)

As of September 2004, all required permits, fees, and invoices were paid.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**Congressionally Directed Activities ..... 0 500 0**

Energy and Environmental Hispanic Community Participation of Self Reliance Fund

In FY 2006, the following activities are planned:

- Reimburse regulators for costs incurred monitoring compliance with the Tri-Party Agreement and other regulatory requirements.
- Provide Payment-in-Lieu-of-Taxes to three host counties of the Hanford Site.
- Provide grants to Washington and Oregon for oversight activities.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Continued to make grants to the Washington State for emergency preparedness, regulatory oversight, permits, and fees (FY 2004).</li> <li>▪ Continued to fund activities of the Oregon Department of Energy and the Hanford Advisory Board (FY 2004).</li> <li>▪ Support activities required by the Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, Tri-Party Agreement, Clean Air Act, and other State and local laws and regulations (FY 2004/September 2006).</li> <li>▪ Support Hanford Advisory Board activities (September 2005).</li> <li>▪ Support Washington and Oregon States emergency preparedness and other activities related to Hanford cleanup (September 2005).</li> <li>▪ Provide Payment-in-Lieu-of-Taxes to Benton, Franklin, and Grant counties (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**SR-0101 / Savannah River Community and Regulatory Support (life-cycle estimate \$252,019K)..... 6,118 6,566 7,659**

This project provides independent environmental monitoring and emergency management activities by the States of South Carolina and Georgia under either an Agreement-in-Principle or grant. Independent State monitoring and emergency management activities verify Savannah River Site reporting results and support public awareness for off-site risks from Savannah River Site operations to stakeholders. The project also supports the South Carolina Department of Health and Environmental Control for oversight and implementation of the Federal Facility Agreement. The South Carolina Department of Health and Environmental Control reviews primary and secondary documents listed in the Federal Facility Agreement and coordinates public participation processes prescribed by Comprehensive Environmental Response, Compensation, and Liability Act/Resource Conservation and Recovery Act. Their reviews support the cleanup objectives of constructing final remedies for soil and groundwater by 2025. This project scope also provides for the operation and maintenance of a public reading room for Savannah River documents to support communication and stakeholder involvement, and Payments-In-Lieu-Of-

Defense Environmental Services/  
Community and Regulatory Support

FY 2006 Congressional Budget

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Taxes for three (3) South Carolina counties (Aiken, Allendale, and Barnwell). Support is provided to the Citizens Advisory Board to include facilitator, technical advisor, meeting rooms, and other logistical needs.

In FY 2006, the following activities are planned:

- Continue grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities).
- Continue Payment-in-Lieu-of-Taxes to Aiken, Allendale, and Barnwell counties.
- Continue support to the Citizens Advisory Board for advice and recommendations.
- Continue the operation and maintenance of a public reading room for Savannah River documents to support communication and stakeholder involvement.

| Metrics | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---------|---------|---------|---------|-----------------------------|---------------------|--------------------|
|---------|---------|---------|---------|-----------------------------|---------------------|--------------------|

No metrics associated with this PBS.

**Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)**

- Through their Environmental Surveillance and Oversight Program, South Carolina Department of Health and Environmental Control conducted atmospheric, water, terrestrial, and biological monitoring and provided independent oversight of the sampling activities performed by Savannah River Site. Under the Radiological and Hazardous Emergency Planning program, South Carolina Department of Health and Environmental Control provided necessary emergency planning and preparedness for the State of South Carolina from simulated or actual releases of hazardous or radiological materials from the Savannah River Site (FY 2004/September 2005/September 2006).
- Under the Radiological and Hazardous Emergency Planning program, South Carolina Department of Health and Environmental Control provided necessary emergency planning and preparedness for the State of South Carolina from simulated or actual release of hazardous or radiological materials from the Savannah River Site (FY 2004/September 2005/September 2006).
- Planned scope of Community and Regulatory Support activities includes continuation of grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities), as well as continuing to make Payments-in-Lieu-of-Taxes to the three indicated counties (FY 2004/September 2005/September 2006).

|  |        |        |        |
|--|--------|--------|--------|
| Total, Community and Regulatory Support..... | 54,528 | 54,324 | 62,032 |
|--|--------|--------|--------|

## Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**CB-0101 / Economic Assistance to the State of New Mexico**

- Increase based on the estimated Consumer Price Index as required by the Waste Isolation Pilot Plant Land Withdrawal Act (Public Law 102-579). ..... 1,096

**ID-0100 / Idaho Community and Regulatory Support**

- Increase supports Department of Environmental Quality grants necessary for obtaining assistance with closure plans and needed permits. .... 458

**OR-0100 / Oak Ridge Reservation Community and Regulatory Support (Defense)**

- The increase reflects the Tennessee Agreement in Principle and the Site Specific Advisory Board activities, previously funded under PBS OR-0103, being funded entirely within this PBS beginning in FY 2006. .... 2,078

**OH-FN-0101 / Fernald Community and Regulatory Support**

- Decrease in funding is due to change in oversight by the Citizens Advisory Board as the site approaches closure. .... -257

**OH-MB-0101 / Miamisburg Community and Regulatory Support**

- Decrease in oversight activities is due to reduced projected volumes of remediation actions and associated regulatory documentation in FY 2006 as the site approaches closure. .... -546

**RF-0101 / Rocky Flats Community and Regulatory Support**

- As the Rocky Flats site continues to accelerate closure, support from the State of Colorado and local monitoring requirements continue to decrease. In FY 2005, the State determined that they would not require as much funding as planned based upon their uncosted carryover. However, as the site begins the final closeout in early FY 2006 the support requirements will increase significantly as the final Record of Decision is completed. .... 1,028

**RL-0100 / Richland Community and Regulatory Support**

- Increase in funding is to accommodate Washington and Oregon State assistance as well as various permits, fees, and payments, including Payments-in-Lieu-of-Taxes to the host counties associated with accelerated cleanup activities. .... 2,758

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**SR-0101 / Savannah River Community and Regulatory Support**

|  |       |
|--|-------|
| <ul style="list-style-type: none"> <li>▪ Increase in funding to accommodate increased regulatory grant and Payment-in-Lieu-of-Taxes. ....</li> </ul> | 1,093 |
| <hr/>  |       |
| Total Funding Change, Community and Regulatory Support .....   | 7,708 |



# Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund

## Funding Schedule by Activity

|   | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|---|---------|---------|---------|-----------|----------|
| HQ-DD-0100 / Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund..... | 449,333 | 459,296 | 451,000 | -8,296    | -1.8%    |
| Total Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.....        | 449,333 | 459,296 | 451,000 | -8,296    | -1.8%    |

### Description

The Defense Environmental Services, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, funds the Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992 (The Act). The Act authorizes annual fund contributions to come from both a special assessment on domestic utilities and annual congressional appropriations. This fund is responsible for maintaining, decontaminating, decommissioning, and otherwise remediating uranium processing facilities. This includes the environmental management responsibilities at the nation's three gaseous diffusion plants at Paducah, Kentucky; Portsmouth, Ohio; and Oak Ridge, Tennessee.

### Benefits

This account provides funding for environmental management responsibilities at the nation's three gaseous diffusion plants. The account also provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites.

As the cleanup and decommissioning at the gaseous diffusion plants progresses, (as well as the cleanup at uranium/thorium processing sites), the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure will also be reduced.

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**HQ-DD-0100 / Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund (life-cycle estimate \$2,416,559K)..... 449,333 459,296 451,000**

The Energy Policy Act of 1992 created the Uranium Enrichment Decontamination and Decommissioning Fund to pay for the cost of cleanup of the gaseous diffusion facilities located in Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. The fund also covers the Federal cost to reimburse operating uranium or thorium processing site licensees for the costs of their environmental cleanup at designated sites, subject to a specific reimbursement limit. The Department compensates site owners on a per-ton basis for the restoration costs for those tailings attributable to the Federal Government. The Act authorizes annual contributions to the fund of \$518,233,233 (amended August 2002) adjusted for inflation, from two sources: up to \$150,000,000 from a special assessment on domestic utilities based on the ratio of their separative work unit purchases from the Department to total purchases from the Department including those produced for defense purposes, with the remainder to come from annual Congressional appropriations. The purpose of this activity is to provide the annual Federal contribution. The contribution is authorized through FY 2007.

- Provide the FY 2006 Federal Government contribution to the Uranium Enrichment Decontamination and Decommissioning Fund, as required by the Energy Policy Act of 1992.

|  |
|--|
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005 / FY 2006) |
|--|

- |   |
|---|
| <ul style="list-style-type: none"> <li>▪ Make annual Federal contributions into the Fund as required by the Act (FY 2004/September 2005/September 2006).</li> </ul> |
|---|

---

|  |         |         |         |
|--|---------|---------|---------|
| Total, Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund ..... | 449,333 | 459,296 | 451,000 |
|--|---------|---------|---------|

## Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**HQ-DD-0100 / Federal Contribution to the Uranium Enrichment Decontamination and Decommissioning Fund**

|  |        |
|--|--------|
| <ul style="list-style-type: none"> <li>▪ Change is based on the Office of Management and Budget estimates. ....</li> </ul> | -8,296 |
|  |        |
| Total Funding Change, Federal Contribution to the Uranium Enrichment<br>Decontamination and Decommissioning Fund.....      | -8,296 |



## Non-Closure Environmental Activities

### Funding Schedule by Activity

(dollars in thousands)

|  | FY 2004        | FY 2005        | FY 2006       | \$ Change      | % Change      |
|--|----------------|----------------|---------------|----------------|---------------|
| CBC-RF-0102 / Rocky Flats Future Use.....  | 1,210          | 0              | 246           | 246            | 100.0%        |
| HQ-MS-0100 / Policy, Management, and Technical Support.....  | 29,038         | 32,707         | 32,600        | -107           | -0.3%         |
| HQ-SNF-0012X / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository.....      | 29,572         | 18,696         | 28,368        | 9,672          | 51.7%         |
| HQ-SNF-0012Y / SNF Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository..... | 43,162         | 9,718          | 0             | -9,718         | -100.0%       |
| HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation.....                    | 20,574         | 18,220         | 18,267        | 47             | 0.3%          |
| OR-0101 / Oak Ridge Contract/Post-Closure Liabilities/Administration.....                                  | 15,908         | 14,583         | 0             | -14,583        | -100.0%       |
| RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities.....                              | 2,367          | 2,300          | 2,500         | 200            | 8.7%          |
| SR-0100 / Non-Closure Mission Support.....   | 14,010         | 5,026          | 5,387         | 361            | 7.2%          |
| <b>Total, Non-Closure Environmental Activities.....</b>  | <b>155,841</b> | <b>101,250</b> | <b>87,368</b> | <b>-13,882</b> | <b>-13.7%</b> |

### Description

The Non-Closure Environmental Activities program funds ongoing activities that indirectly support the Environmental Management accelerated cleanup and closure mission. These include national crosscutting initiatives, policy development, and coordination and integration of mission activities across the complex. Also included are services provided by EM in support of other Departmental missions and objectives, such as management of newly generated non-EM waste.

### Benefits

As the EM cleanup progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. The integration, policy development, crosscutting and other activities funded by this account ensures that the EM's primary cleanup mission and other DOE objectives proceed in a consistent, responsible and efficient manner.

## Funding by Site

(dollars in thousands)

|   | FY 2004        | FY 2005        | FY 2006       | \$ Change      | % Change      |
|---|----------------|----------------|---------------|----------------|---------------|
| <b>Headquarters</b>                                     |                |                |               |                |               |
| Hanford.....  | 3,429          | 896            | 1,813         | 917            | 102.3%        |
| Headquarters.....                                       | 29,038         | 32,707         | 32,600        | -107           | -0.3%         |
| Idaho National Laboratory.....                          | 54,927         | 16,278         | 12,666        | -3,612         | -22.2%        |
| Savannah River Site.....                                | 14,378         | 11,240         | 13,889        | 2,649          | 23.6%         |
| Oak Ridge National Laboratory.....                      | 20,574         | 18,220         | 18,267        | 47             | 0.3%          |
| <b>Total, Headquarters.....</b>                         | <b>122,346</b> | <b>79,341</b>  | <b>79,235</b> | <b>-106</b>    | <b>-0.1%</b>  |
| <b>Oak Ridge</b>  |                |                |               |                |               |
| Oak Ridge Reservation.....                              | 15,908         | 14,583         | 0             | -14,583        | -100.0%       |
| <b>Rocky Flats</b>                                      |                |                |               |                |               |
| Rocky Flats Environmental Technology Site.....          | 2,367          | 2,300          | 2,500         | 200            | 8.7%          |
| Savannah River Operations Office.....                   | 14,010         | 5,026          | 5,387         | 361            | 7.2%          |
| <b>Consolidated Business Center.....</b>                |                |                |               |                |               |
| Rocky Flats Field Office.....                           | 1,210          | 0              | 246           | 246            | 100.0%        |
| <b>Total, Non-Closure Environmental Activities.....</b> | <b>155,841</b> | <b>101,250</b> | <b>87,368</b> | <b>-13,882</b> | <b>-13.7%</b> |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**CBC-RF-0102 / Rocky Flats Future Use (life-cycle estimate \$2,662K)..... 1,210 0 246**

This PBS supports the transition activities leading to the establishment of a National Wildlife Refuge on the Rocky Flats Site as required in the Rocky Flats National Wildlife Refuge Act of 2001. Transition activities include preparation of a Memorandum of Understanding between DOE and the United States Fish and Wildlife Service, development of a Comprehensive Conservation Plan by the Fish and Wildlife Service, and a report to Congress by DOE on the establishment of a Rocky Flats Museum.

The Department of Energy and the Fish and Wildlife Service are finalizing the draft Memorandum of Understanding for transferring administrative control of the site from DOE to the Fish and Wildlife Service. The Fish and Wildlife Service has developed a Comprehensive Conservation Plan for management of the refuge. The Department of Energy will provide an annual report to Congress on the funding required to implement the Rocky Flats Refuge Act. The Department, in consultation with the city of Arvada, other local communities, and the Colorado State Historical Society will provide a report to Congress in FY 2005, on the development, siting, and any other issues relating to the development and construction of the Rocky Flats Museum.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

The final end-state for this PBS will be the transfer of the Rocky Flats Museum to the Fish and Wildlife Service currently planned to coincide with the Rocky Flats closure on December 15, 2006.

In FY 2006, the following activities are planned:

- Provide the Annual Report to Congress in December 2005.
- The Fish and Wildlife Service will continue to provide technical assistance and guidance to DOE to help ensure that the cleanup and closure of Rocky Flats is consistent with the purposes of the Refuge.
- The Fish and Wildlife Service will complete the Level III Contamination Survey required under the Department of Interior directives for land being acquired.
- The Fish and Wildlife Service will continue to assume responsibility for selected flora and fauna surveys and monitoring activities from DOE at Rocky Flats.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006).  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Provide Annual Report to Congress on funding the Rocky Flats Wildlife Refuge Act (FY 2004/December 2005).</li> <li>▪ Complete Memorandum of Understanding between DOE and the Department of Interior, Fish and Wildlife Service (FY 2005).</li> <li>▪ Provide report to Congress on issues related to development and construction of the Rocky Flats Museum (January 2005).</li> </ul> |         |         |         |                             |                     |                    |

**HQ-MS-0100 / Policy, Management, and Technical Support**

**(life-cycle estimate \$1,761,529K) ..... 29,038 32,707 32,600**

This PBS provides management and direction for various crosscutting EM and DOE initiatives; establishes and implements national and departmental policy; and conducts analyses and integration activities across the DOE complex. Also, the scope of this PBS enables Headquarters and national programs to provide government-furnished services and items necessary to accelerate site cleanup and risk reduction efforts; assure pathways to disposition waste and materials; conduct transportation, packaging, and emergency preparedness activities; complete necessary policy analyses; support legal claims; and effectively communicate with the public and stakeholders regarding the EM program's activities. The scope of this PBS will be completed in 2035 or earlier.

In FY 2006, the following activities are planned:

- Continue support of Tribal, State, and local government participation through the State and Tribal Government Working Group, local officials exchange seminars, government-to-government interactions with the Native American Tribes and grants with the National Governors Association.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Provide expertise in the areas of safety, health and security; as well as in emergency management, package certification, quality assurance, nuclear criticality safety, and risk management.
- Instill safety awareness by utilizing the National Safety Council to conduct surveys, which will indicate whether and how EM's commitment to safety is working.
- Support various Secretarial and Departmental initiatives, including the Government Industry Data Exchange Program and Consolidated Accounting Investment System.
- Support the Central Information Database, which integrates existing DOE information on radioactive and non-radioactive waste, contaminated media and facilities, spent nuclear fuel, materials inventory and toxic chemicals managed by EM, the National Nuclear Security Administration, the Office of Science, and the Office of Nuclear Energy, Science, and Technology.
- Provide support to various advisory groups to obtain technical assistance/expertise that indirectly supports the EM mission objectives.
- Administer the EM and DOE-wide transportation and packaging responsibilities and the Transportation Emergency Preparedness Program.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Enhanced Tribal, State, and local government participation in EM through the continuation of State and Tribal Government Working Group, local officials exchange seminars, government-to-government interactions with the Native American Tribes and grants with the National Governors Association (FY 2004/September 2005/September 2006).</li> <li>▪ Provide expertise in the areas of safety, health and security; as well as in emergency management, package certification, quality assurance, analytical services, and risk management (FY 2004/September 2005/September 2006).</li> <li>▪ Instill safety awareness by utilizing the National Safety Council to conduct surveys, which will indicate whether and how EM's commitment to safety is working (FY 2004/September 2005/September 2006).</li> <li>▪ Provide support to various advisory groups to obtain technical assistance/expertise that indirectly support the EM mission objectives (FY 2004/September 2005/September 2006).</li> <li>▪ Support various Secretarial and Departmental initiatives, including the Government Industry Data Exchange Program, and Consolidated Accounting Investment System (FY 2004/September 2005/September 2006).</li> <li>▪ Support the Central Information Database, which integrates existing DOE information on radioactive and non-radioactive waste, contaminated media and facilities, spent nuclear fuel, materials inventory and toxic chemicals managed by EM, the National Nuclear Security Administration, the Office of Science, and the Office of Nuclear Energy, Science, and Technology (FY 2004/September 2005/September 2006).</li> <li>▪ Administer the EM and DOE-wide transportation and packaging responsibilities and Transportation Emergency Preparedness Program (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**HQ-SNF-0012X / Spent Nuclear Fuel Stabilization and Disposition-Storage Operations Awaiting Geologic Repository (life-cycle estimate \$2,224,718K).....** **29,572 18,696 28,368**

This PBS covers scope and funding for the storage of non legacy spent nuclear fuel originating from non DOE activities. The storage sites include the Idaho National Laboratory, Richland, and the Savannah River Site. Legacy spent nuclear fuel originating from Atomic Energy Commission and DOE activities is covered in PBS ID-0012B-D, PBS RL-0012, and PBS SR-0012, Spent Nuclear Fuel Stabilization and Disposition, for the respective sites.

**IDAHO:** (FY 2004 \$11,765,000; FY 2005 \$6,560,000; FY 2006 \$12,666,000)

- This PBS covers scope and funding for the storage of non-legacy spent nuclear fuel originating from non-DOE activities. The Idaho National Laboratory currently stores approximately 235 metric tonnes of heavy metal legacy and non-legacy spent nuclear fuel, and currently expects to receive an additional 70 metric tonnes heavy metal of legacy and non-legacy spent nuclear fuel for interim storage pending shipment to the monitored geologic repository.
- The end-state of this project is the safe receipt of all legacy and non-legacy spent nuclear fuel identified within DOE's long range plans, the safe storage of that spent nuclear fuel, and the safe packaging and transfer of the spent nuclear fuel to the mined geologic repository. The project will be complete, and the environmental and security risks eliminated, when all legacy and non-legacy spent nuclear fuel has been shipped to the mined geologic repository by January 1, 2035, in accordance with both the Idaho Settlement Agreement and the Performance Management Plan for accelerating cleanup of the Idaho National Laboratory. Under this PBS, the Idaho National Laboratory receives, stores, and prepares a variety of non-legacy spent nuclear fuel for disposition. This project includes the operations of the Spent Nuclear Fuel Dry Storage Project, which covers the repackaging of spent nuclear fuel into repository-acceptable standard canisters.
- As of September 30, 2004, the Idaho National Laboratory received and successfully unloaded foreign research reactor shipments from Japan and Indonesia, along with domestic research reactor shipments from four U.S. sites. This PBS supports the United States nuclear weapons nonproliferation policy concerning DOE programmatic spent nuclear fuel management policy regarding the safe, interim storage of spent nuclear fuel awaiting monitored geologic repository disposition.

In FY 2006, the following activities related to non-legacy spent nuclear fuel are planned to support accelerated cleanup of the Idaho National Laboratory.

- Transfer Peach Bottom spent nuclear fuel stored at the Chemical Processing Plant-603/Irradiated Fuel Storage Facility and Chemical Processing Plant-747 to the Spent Nuclear Fuel Dry Storage Project according to the published contract schedule.

**RICHLAND:** (FY 2004 \$3,429,000; FY 2005 \$896,000; FY 2006 \$1,813,000)

- Richland activities will include operation of the 200 Area Interim Storage Area to receive and store non-legacy spent nuclear fuel. This PBS will include a portion of the costs for Canister Storage Building operations, based on a prorated share related to the estimated amount of non-

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

legacy spent nuclear fuel being stored (5 percent) .

In FY 2006, the following activities are planned to support accelerated cleanup of Richland.

- Operate the 200 Area, Interim Storage Area, to receive and store EM non-legacy spent nuclear fuel.
- Provide a portion of the funding for the operation of the Canister Storage Building.

**SAVANNAH RIVER:** (FY 2004 \$14,378,000; FY 2005 \$11,240,000; FY 2006 \$13,889,000)

- In 1996, a decision was made to receive foreign research reactor fuel at Savannah River when the Record of Decision for the Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuel Environmental Impact Statement was issued. At that time, up to 17,800 foreign research reactor spent nuclear fuel elements were planned for return to the Savannah River Site by 2009. That number has since been reduced due to some foreign countries electing not to participate. The Foreign Research Reactor receipt program has been extended through 2019 but the projected receipts are not expected to exceed the authorized total.
- Spent nuclear fuel will also be received at the Savannah River Site from government and domestic research reactors in addition to the foreign research reactor sources. The receipts are expected to average between 20-75 casks per year through 2014. The receipt rate will vary after 2014 consistent with the operation of government and domestic research reactors. As specified in the Performance Management Plan, domestic research reactor receipts may continue through 2019. The scope of this PBS includes programmatic and physical support efforts related to safe receipt, storage and preparation for final disposition of non-legacy spent nuclear fuel inventories.
- The end-state of this project is the safe receipt and storage of all non-legacy spent nuclear fuel sent to the Savannah River Site, and the safe preparation of the non-legacy spent nuclear fuel for final disposition in the monitored geologic repository in accordance with the Performance Management Plan for accelerating cleanup of the Savannah River Site.

In FY 2006, the following activities are planned:

- Facility Surveillance and Maintenance activities, including sampling, radiation monitoring and nuclear safety systems maintenance will be performed to ensure compliance with Federal regulations and the facility's authorization basis.
- Spent Nuclear Fuel/Basin operation activities to include operation of deionization systems, fuel handling (loading and unloading capability), spent nuclear fuel receipt scheduling and transportation coordination, safe storage of existing inventories, and maintaining the capability to receive (at a rate capable of supporting program requirements).
- The installation of spent nuclear fuel storage racks to accommodate the projected inventory requirements will be completed.
- Heavy water inventories will remain in storage pending disposition guidance from DOE.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Received one shipment of domestic research reactor spent nuclear fuel from Cornell University (ID/FY 2004).</li> <li>▪ Received one shipment of foreign research reactor spent nuclear fuel (ID/FY 2004).</li> <li>▪ Receive two foreign research reactor spent nuclear fuel shipments (ID/September 2005).</li> <li>▪ Receive three domestic research reactor spent nuclear fuel shipments (ID/September 2005).</li> <li>▪ Receive two foreign research reactor spent nuclear fuel shipments (ID/September 2005).</li> <li>▪ Sixty-six offsite casks (40 foreign research reactor, 26 domestic research reactor) containing 1,443 assemblies (1,255 foreign research reactor, 188 domestic research reactor) of spent nuclear fuel and 15 High Flux Isotope Reactor cores are scheduled for receipt (SR/FY 2004).</li> <li>▪ Thirty eight offsite casks (18 foreign research reactor, 20 domestic research reactor) containing 635 assemblies (580 foreign research reactor, 55 domestic research reactor) of spent nuclear fuel received and stored (SR/September 2005).</li> <li>▪ Maintain L-Area spent nuclear fuel receipt, storage and shipping facilities in an operable condition capable of supporting planned program requirements (SR/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**HQ-SNF-0012Y / Spent Nuclear Fuel Stabilization and Disposition-New/Upgraded Facilities Awaiting Geologic Repository (life-cycle estimate \$180,800K) .....**

**43,162      9,718      0**

This PBS provides for the design, licensing and construction of a privatized spent nuclear fuel dry transfer and storage facility at the Idaho National Laboratory. This project is needed to provide core capability to support/replace old legacy facilities not capable of meeting the disposition strategy for the Idaho National Laboratory spent nuclear fuel, and provides an efficient, cost-effective facility to condition, package into road ready Nuclear Regulatory Commission licensed standard canisters, and dry store spent nuclear fuel prior to shipment and disposal in the mined geologic repository. Operation of this facility is estimated to significantly reduce the Idaho National Laboratory spent nuclear fuel program life cycle cost. This PBS provides for the new facility to consolidate the Idaho National Laboratory spent nuclear fuel by transferring the fuel from wet (underwater) storage to dry storage, which reduces environmental risk, increases the safeguard and security stature of the fuel, and reduces storage costs.

The future end-state for this PBS will be achieved in FY 2007 when the Nuclear Regulatory Commission license is granted, the dry storage facility has been constructed, cold and hot start-up are complete, and the amortized capital cost for the facility is paid incrementally as fuel transfers are made. Beginning in FY 2006, the facility will be operated beginning in FY 2006 under a separate PBS (HQ-SNF-0012X).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- No funding is requested for this PBS in FY 2006.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Maintained the design documents current with the updated Safety Analysis Report throughout the Nuclear Regulatory Commission license review period to incorporate comments made by the Nuclear Regulatory Commission and public on the Safety Analysis report and the Environmental Impact Statement (FY 2004).</li> <li>▪ Received the Nuclear Regulatory Commission license (December 2004).</li> <li>▪ Begin construction (June 2005).</li> </ul> |         |         |         |                             |                     |                    |

**HQ-SW-0013X / Solid Waste Stabilization and Disposition-**

**Science Current Generation (life-cycle estimate \$155,746K) ..... 20,574 18,220 18,267**

This PBS scope collects, stores, treats, and disposes of newly generated low-level, mixed low-level waste, hazardous, and sanitary waste for the Office of Science in Oak Ridge. Both newly generated low-level waste (DOE Order 435.1) and hazardous waste (Resource Conservation and Recovery Act) require disposal within one year of generation. This project includes the operation of the Liquid Low-Level Waste System, Process Waste System, the Off-gas Collection and Treatment System, and storage facilities for low-level, hazardous and mixed wastes.

In FY 2006, the following activities are planned:

- Oak Ridge National Laboratory Liquid Low-Level Waste Operations
  - Provide regulatory compliant operations of the liquid low-level waste collection, transfer, evaporator, and storage system with an operation goal of 375,000 gallons of evaporator throughput.
- Oak Ridge National Laboratory Gaseous Waste Operations
  - Provide regulatory compliant operation of the Gaseous Waste Collection and Treatment System with an operational goal of continuous ventilation service to Oak Ridge National Laboratory and EM facilities except during periods of scheduled routine maintenance.
- Oak Ridge National Laboratory Process Waste Operations
  - Provide regulatory compliant operation of the Process Waste Collection/Transfer System with an operational goal of 180,000,000 gallons discharged.
  - Newly generated mixed and low-level waste at the Oak Ridge National Laboratory that is not treated on-site will be treated and disposed of off-site at Envirocare, the Nevada Test Site, or treatment contractors, etc.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level Waste/Mixed Low-Level Waste Disposed (m <sup>3</sup> )  | 1,761   | 1,116   | 852     | 7,024                       | 8,849               | 79%                |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Oak Ridge National Laboratory Gaseous Waste Operations                             <ul style="list-style-type: none"> <li>• Provide regulatory compliant operation of the Gaseous Waste Collection and Treatment System with an operational goal of continuous ventilation service to Oak Ridge National Laboratory and EM facilities except during periods of scheduled routine maintenance (FY 2004/September 2005/September 2006).</li> </ul> </li> <li>▪ Oak Ridge National Laboratory Process Waste Operations                             <ul style="list-style-type: none"> <li>• Provide regulatory compliant operation of the Process Waste Collection/Transfer System with an operational goal of 180,000,000 gallons discharged (FY 2004/September 2005/September 2006).</li> </ul> </li> </ul> |         |         |         |                             |                     |                    |

**OR-0101 / Oak Ridge Contract/Post-Closure**

**Liabilities/Administration (life-cycle estimate \$123,968K)..... 15,908 14,583 0**

This PBS scope in conjunction with PBS OR-0102, East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration, supports DOE-Oak Ridge program management, National Center of Excellence for Metal Recycle, Lockheed Martin Energy Systems contract closeout, post-retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits. These activities require Defense Environmental Services and Uranium Enrichment Decontamination and Decommissioning Fund support. Administration of the National Center of Excellence for Metal Recycle facilitates the cost-effective recycle of clean and decontaminated metals and equipment at DOE sites across the country. Administration of the Sample Management Office supports audits of commercial laboratories used by the EM program in Oak Ridge and coordinates sampling in support of closure activities.

FY 2004 was the last budget year for the Lockheed Martin Energy Systems contract closeout requirement and the contract was terminated. This project includes activities and expenses associated with post-retirement life and medical benefits and long-term disability benefits to transitioned Bechtel Jacobs Company employees who supported enrichment facilities programs while working as first or second tier subcontractors. The scope also covers pre-April 1, 1998, retiree costs and employees on long-term disabilities prior to April 1, 1998, who were associated with enrichment facilities programs. Severance costs for Bechtel Jacobs Company grandfathered employees and workforce transition employees are included in this project. Also included is a task for legacy documents and litigations to provide support for processing legacy workers' compensation claims and the associated records that must be provided, as well as the cost of risk management and legal staff supporting this effort. The scope also includes pension contributions.

In FY 2006, the following activities are planned:

- In FY 2006, due to the accelerated closure of East Tennessee Technology Park, the scope at the East

**Defense Environmental Services/  
Non-Closure Environmental Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Tennessee Technology Park will be primarily funded in the Uranium Enrichment Decontamination and Decommissioning Fund. Therefore, it is appropriate that the contract liabilities reside there as well. Historically, these costs were prorated between the various appropriations.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Support provided to the DOE Oak Ridge Program Management, National Center of Excellence for Metal Recycle, Lockheed Martin Energy Systems contract closeout, post-retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (FY 2004).</li> <li>Support provided to the DOE Oak Ridge Program Management, National Center of Excellence for Metal Recycle, post-retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

**RF-0100 / Rocky Flats Environmental Technology Site**

**Contract Liabilities (life-cycle estimate \$2,828,718K)..... 2,367 2,300 2,500**

The scope of this PBS is to provide support for site litigation and for post-closure contract liabilities. Site litigation support provides for legal expenses relating to the continuing class actions and other civil litigation activities of former site management and operating and existing site contractors under the litigation and claims clause of those contracts. This support does not include closure contract litigation support incurred by the current site closure contractor. Post closure contract liabilities support provides for projected pension, retiree medical and life insurance, and workmen's compensation requirements subsequent to site closure. The full scope and extent of these activities will be more fully identified as closure becomes imminent. The current scope of these activities is defined under Federal Accounting Standard 87 (Employers' Accounting for Pension), Federal Accounting Standard 106 (Employers' Accounting for Post-Retirement Benefits Other Than Pension), and estimated workmen's compensation. The projected end date for this activity is 2070.

In FY 2006, the following activities are planned:

- Support site litigation activities and former site management and operating and existing site contractor contract closeouts.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>Support site litigation activities and former site management and operations, and existing site contractor contract closeouts (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**SR-0100 / Non-Closure Mission Support (life-cycle estimate \$574,919K) ..... 14,010 5,026 5,387**

The purpose and scope of this project is to provide support that enables the Savannah River Site to perform its missions and accelerated cleanup initiatives. Support activities include medical and archaeological research, geological surveys, forestry management, project management, training activities, and diversity. Other activities include support for Historically Black Colleges and Universities, and the Medical University of South Carolina, and development of a long-term observation network to monitor water level, flow paths, and water quality. Critical support activities will continue through EM target completion date of 2025. Beginning in 2026, remaining support activities, for example, natural resource management will be transferred to either Office of Legacy Management or another Program Secretarial Office.

In FY 2006, the following activities are planned:

- Forest Management involves a comprehensive management program conducted to sustain the health, productivity and diversity of Savannah River Site's natural resources, as well as conduct a forest fire protection program, manage secondary road system, conduct erosion control, perform soil restoration and conduct exterior boundary maintenance.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Through their Environmental Surveillance and Oversight Program, South Carolina Department of Health and Environmental Control conducted atmospheric, water, terrestrial, and biological monitoring and provided independent oversight of the sampling activities performed by Savannah River Site. Under the Radiological and Hazardous Emergency Planning program, South Carolina Department of Health and Environmental Control provided necessary emergency planning and preparedness for the State of South Carolina from simulated or actual releases of hazardous or radiological materials from the Savannah River Site (FY 2004/September 2005).</li> <li>▪ Under the Radiological and Hazardous Emergency Planning program, South Carolina Department of Health and Environmental Control provided necessary emergency planning and preparedness for the State of South Carolina from simulated or actual release of hazardous or radiological materials from the Savannah River Site (FY 2004/September 2005).</li> <li>▪ Planned scope of Community and Regulatory Support activities includes continuation of grants to regulatory agencies under the Federal Facility Agreement and Agreement-in-Principle (including emergency management activities), as well as continuing to make Payments-in-Lieu-of-Taxes to the three indicated counties (FY 2004/September 2005).</li> <li>▪ Successfully manage Savannah River Site lands and natural resources in full compliance with Federal and state regulatory requirements (September 2006).</li> <li>▪ Manage a comprehensive fire management program that successfully protects the Savannah River Site from both on-site and off-site wildland fires (September 2006).</li> <li>▪ Maintain Savannah River Site secondary roads/bridges and perform site boundary maintenance (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**Congressionally Directed Activities.....** 0 50,939 0

In FY 2005, \$50,939,000 of Congressionally directed activities will be executed in this account. The Department is analyzing how best to satisfy these activities consistent with EM's FY 2005 Congressional Budget request and subsequent appropriation. Due to the nature of the Project Baseline Summaries (PBSs) in this account, these activities can not be attributed to or included specifically in any of the above PBSs. Of the 18 activities shown below, 7 are recurring and 11 are new to the Environmental Management Program. FY 2005 is the first year that activities are directed in the Defense Environmental Services, Non-Closure Environmental Activities account. The FY 2005 activities are as follows:

|  |   |                    |   |
|--|---|--------------------|---|
| Hazardous Waste Worker Training Program (HAZWOPER)...  | 0 | 9,920 <sup>a</sup> | 0 |
| Western Environmental Technology Office (WETO).....  | 0 | 5,952 <sup>b</sup> | 0 |
| Desert Research Institute's Yucca Mountain Environmental Monitoring Program.....   | 0 | 1,984 <sup>b</sup> | 0 |
| Hazardous Materials Management and Emergency Response (HAMMER).....  | 0 | 7,936 <sup>a</sup> | 0 |
| American Water Works Associated Research Foundation Arsenic removal.....   | 0 | 2,976 <sup>b</sup> | 0 |
| Desalination and Water Purification Technology Roadmap with the Bureau of Reclamation.....   | 0 | 3,968 <sup>b</sup> | 0 |
| Demonstration of a stand-alone Stirling engine that will run on any fuel.....  | 0 | 3,968 <sup>b</sup> | 0 |
| Nye County Groundwater Evaluation Program.....   | 0 | 992                |   |
| Defense and Security Research Center.....  | 0 | 1,984              | 0 |
| Amargosa Valley Science and Technology Park.....   | 0 | 992                | 0 |
| Hazardous Material Truck Tracking Facility.....  | 0 | 992                | 0 |
| University of Nevada-Reno to conduct research in the areas of materials evaluation, fundamental studies on nuclear degradation mechanisms, alternate materials and design and computational and analytical modeling..... | 0 | 744                | 0 |
| Research foundation at the University of Nevada-Las Vegas to asses earthquake hazards and seismic risk in Southern Nevada.....   | 0 | 992                | 0 |

<sup>a</sup> In FY 2004, Congress directed funding these activities in the Defense Site Acceleration Completion, 2035 Acceleration Completion account.

<sup>b</sup> In FY 2004, Congress directed funding these activities in the Defense Site Acceleration Completion, Technology Development and Deployment account.

(dollars in thousands)

|  | FY 2004        | FY 2005        | FY 2006       |
|--|----------------|----------------|---------------|
| Perchlorate Characterization study for the City of Simi Valley.....        | 0              | 99             | 0             |
| Initiate planning and creation of water for energy technology roadmap..... | 0              | 1,984          | 0             |
| Water technical assistance.....  | 0              | 3,472          | 0             |
| Energy –Water Nexus Committee Report to Congress.....                      | 0              | 496            | 0             |
| Deep Ocean Water Technology.....   | 0              | 1,488          | 0             |
| <b>Total Congressionally Directed Activities.....</b>                      | <b>0</b>       | <b>50,939</b>  | <b>0</b>      |
| <b>Total, Non-Closure Environmental Activities.....</b>                    | <b>155,841</b> | <b>101,250</b> | <b>87,368</b> |

### Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

#### CBC-RF-0102 / Rocky Flats Future Use

- Planned activities were accomplished in a more efficient and cost-effective manner. Sufficient FY 2004 carryover funds were available to perform FY 2005 activities. .... 246

#### HQ-MS-0100 / Policy, Management, and Technical Support

- No significant change. .... -107

#### HQ-SNF-0012X / Spent Nuclear Fuel Stabilization and Disposition – Storage Operations Awaiting Geologic Repository

##### IDAHO:

- Increase of \$6,105,867 is due to the start of operations for the Spent Nuclear Fuel Dry Storage Project.

##### RICHLAND:

- Increase of \$917,000 is due to providing the required funding for management of spent nuclear fuel in the Canister Storage Building.

**SAVANNAH RIVER:**

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>▪ Increase of \$2,649,000, due to increased amounts of Foreign Research Reactor fuels residing in the L Basin facility relative to EM legacy fuel. L Basin operating costs are split between this PBS and SR-0012 based on the volume of fuel material being stored. On-going receipt of Foreign Research Reactor Fuels continues to shift the relative share of basin costs to PBS SR-0012X. The offset to this increase is reflected in PBS SR-0012, SNF Stabilization and Disposition.</li> </ul> |         |
| Net Change .....  | 9,672   |
| <b>HQ-SNF-0012Y / SNF Stabilization and Disposition-Storage Operations Awaiting Geologic Repository</b>   |         |
| <ul style="list-style-type: none"> <li>▪ Decrease due to completion of facility construction. ....</li> </ul>   | -9,718  |
| <b>HQ-SW-0013X / Solid Waste Stabilization and Disposition-Science Current Generation</b>   |         |
| <ul style="list-style-type: none"> <li>▪ No significant change. ....</li> </ul>   | 47      |
| <b>OR-0101 / Oak Ridge Contract/Post-Closure Liabilities/Administration</b>   |         |
| <ul style="list-style-type: none"> <li>▪ This project will be totally funded within the Uranium Enrichment Decontamination and Decommissioning Fund. ....</li> </ul>  | -14,583 |
| <b>RF-0100 / Rocky Flats Environmental Technology Site Contract Liabilities</b>   |         |
| <ul style="list-style-type: none"> <li>▪ No significant change. ....</li> </ul>   | 200     |
| <b>SR-0100 / Non-Closure Mission Support</b>  |         |
| <ul style="list-style-type: none"> <li>▪ No significant change. ....</li> </ul>   | 361     |
| <hr/>   |         |
| Total Funding Change, Non-Closure Environmental Activities .....  | -13,882 |

## Program Direction

### Funding Profile by Category

(dollars in thousands/whole FTEs)

|  | FY 2004       | FY 2005       | FY 2006       | \$ Change     | % Change      |
|--|---------------|---------------|---------------|---------------|---------------|
| <b>Carlsbad</b>                                      |               |               |               |               |               |
| Salaries and Benefits.....                           | 6,247         | 5,652         | 6,716         | 1,064         | 18.8%         |
| Travel.....  | 278           | 339           | 331           | -8            | -2.4%         |
| Support Services.....                                | 221           | 76            | 74            | -2            | -2.6%         |
| Other Related Expenses.....                          | 1,441         | 1,605         | 1,565         | -40           | -2.5%         |
| <b>Total, Carlsbad.....</b>                          | <b>8,187</b>  | <b>7,672</b>  | <b>8,686</b>  | <b>1,014</b>  | <b>13.2%</b>  |
| Full Time Equivalents.....                           | 44            | 50            | 50            | 0             | 0.0%          |
| <b>Chicago</b>                                       |               |               |               |               |               |
| Salaries and Benefits.....                           | 3,204         | 2,507         | 2,164         | -343          | -13.7%        |
| Travel.....  | 45            | 101           | 74            | -27           | -26.7%        |
| Support Services.....                                | 0             | 450           | 332           | -118          | -26.2%        |
| Other Related Expenses.....                          | 85            | 667           | 490           | -177          | -26.5%        |
| <b>Total, Chicago.....</b>                           | <b>3,334</b>  | <b>3,725</b>  | <b>3,060</b>  | <b>-665</b>   | <b>-17.9%</b> |
| Full Time Equivalents.....                           | 19            | 19            | 15            | -4            | -21.1%        |
| <b>Idaho</b>   |               |               |               |               |               |
| Salaries and Benefits.....                           | 9,613         | 8,814         | 9,232         | 418           | 4.7%          |
| Travel.....  | 249           | 211           | 150           | -61           | -28.9%        |
| Support Services.....                                | 182           | 0             | 0             | 0             | 0.0%          |
| Other Related Expenses.....                          | 307           | 243           | 151           | -92           | -37.9%        |
| <b>Total, Idaho.....</b>                             | <b>10,351</b> | <b>9,268</b>  | <b>9,533</b>  | <b>265</b>    | <b>2.9%</b>   |
| Full Time Equivalents.....                           | 77            | 67            | 65            | -2            | -3.0%         |
| <b>Oak Ridge</b>                                     |               |               |               |               |               |
| Salaries and Benefits.....                           | 14,851        | 13,079        | 9,320         | -3,759        | -28.7%        |
| Travel.....  | 231           | 237           | 140           | -97           | -40.9%        |
| Support Services.....                                | 3,704         | 2,468         | 1,456         | -1,012        | -41.0%        |
| Other Related Expenses.....                          | 638           | 2,281         | 1,345         | -936          | -41.0%        |
| <b>Total, Oak Ridge.....</b>                         | <b>19,424</b> | <b>18,065</b> | <b>12,261</b> | <b>-5,804</b> | <b>-32.1%</b> |
| Full Time Equivalents.....                           | 104           | 98            | 73            | -25           | -25.5%        |
| <b>Portsmouth/Paducah Project Office</b>             |               |               |               |               |               |
| Salaries and Benefits.....                           | 2,935         | 4,055         | 4,710         | 655           | 16.2%         |
| Travel.....  | 102           | 171           | 162           | -9            | -5.3%         |
| Support Services.....                                | 1,660         | 604           | 572           | -32           | -5.3%         |
| Other Related Expenses.....                          | 1,589         | 611           | 579           | -32           | -5.2%         |
| <b>Total, Portsmouth/Paducah Project Office.....</b> | <b>6,286</b>  | <b>5,441</b>  | <b>6,023</b>  | <b>582</b>    | <b>10.7%</b>  |
| Full Time Equivalents.....                           | 18            | 34            | 34            | 0             | 0.0%          |
| <b>Ohio</b>  |               |               |               |               |               |
| Salaries and Benefits.....                           | 16,451        | 10,619        | 6,104         | -4,515        | -42.5%        |
| Travel.....  | 342           | 252           | 98            | -154          | -61.1%        |
| Support Services.....                                | 2,099         | 814           | 238           | -576          | -70.8%        |
| Other Related Expenses.....                          | 782           | 848           | 330           | -518          | -61.1%        |
| <b>Total, Ohio.....</b>                              | <b>19,674</b> | <b>12,533</b> | <b>6,770</b>  | <b>-5,763</b> | <b>-46.0%</b> |
| Full Time Equivalents.....                           | 122           | 75            | 44            | -31           | -41.3%        |

(dollars in thousands/whole FTEs)

|                                     | FY 2004        | FY 2005        | FY 2006        | \$ Change      | % Change      |
|-------------------------------------|----------------|----------------|----------------|----------------|---------------|
| <b>Richland</b>                     |                |                |                |                |               |
| Salaries and Benefits.....          | 35,500         | 30,831         | 26,504         | -4,327         | -14.0%        |
| Travel.....                         | 603            | 655            | 442            | -213           | -32.5%        |
| Support Services.....               | 588            | 959            | 647            | -312           | -32.5%        |
| Other Related Expenses.....         | 9,518          | 7,106          | 4,793          | -2,313         | -32.5%        |
| <b>Total, Richland.....</b>         | <b>46,209</b>  | <b>39,551</b>  | <b>32,386</b>  | <b>-7,165</b>  | <b>-18.1%</b> |
| Full Time Equivalents.....          | 292            | 251            | 204            | -47            | -18.7%        |
| <b>River Protection</b>             |                |                |                |                |               |
| Salaries and Benefits.....          | 15,029         | 14,224         | 15,551         | 1,327          | 9.3%          |
| Travel.....                         | 277            | 337            | 285            | -52            | -15.4%        |
| Support Services.....               | 539            | 1,431          | 1,209          | -222           | -15.5%        |
| Other Related Expenses.....         | 912            | 1,817          | 1,534          | -283           | -15.6%        |
| <b>Total, River Protection.....</b> | <b>16,757</b>  | <b>17,809</b>  | <b>18,579</b>  | <b>770</b>     | <b>4.3%</b>   |
| Full Time Equivalents.....          | 111            | 107            | 107            | 0              | 0.0%          |
| <b>Rocky Flats</b>                  |                |                |                |                |               |
| Salaries and Benefits.....          | 9,899          | 3,385          | 771            | -2,614         | -77.2%        |
| Travel.....                         | 147            | 176            | 23             | -153           | -86.9%        |
| Support Services.....               | 595            | 0              | 0              | 0              | 0.0%          |
| Other Related Expenses.....         | 466            | 649            | 86             | -563           | -86.7%        |
| <b>Total, Rocky Flats.....</b>      | <b>11,107</b>  | <b>4,210</b>   | <b>880</b>     | <b>-3,330</b>  | <b>-79.1%</b> |
| Full Time Equivalents.....          | 56             | 25             | 5              | -20            | -80.0%        |
| <b>Savannah River</b>               |                |                |                |                |               |
| Salaries and Benefits.....          | 45,728         | 42,165         | 42,951         | 786            | 1.9%          |
| Travel.....                         | 783            | 705            | 415            | -290           | -41.1%        |
| Support Services.....               | 1,981          | 169            | 106            | -63            | -37.3%        |
| Other Related Expenses.....         | 2,635          | 4,553          | 2,828          | -1,725         | -37.9%        |
| <b>Total, Savannah River.....</b>   | <b>51,127</b>  | <b>47,592</b>  | <b>46,300</b>  | <b>-1,292</b>  | <b>-2.7%</b>  |
| Full Time Equivalents.....          | 382            | 374            | 348            | -26            | -7.0%         |
| <b>Subtotal, Field</b>              |                |                |                |                |               |
| Salaries and Benefits.....          | 159,457        | 135,331        | 124,023        | -11,308        | -8.4%         |
| Travel.....                         | 3,057          | 3,184          | 2,120          | -1,064         | -33.4%        |
| Support Services.....               | 11,569         | 6,971          | 4,634          | -2,337         | -33.5%        |
| Other Related Expenses.....         | 18,373         | 20,380         | 13,701         | -6,679         | -32.8%        |
| <b>Total, Field.....</b>            | <b>192,456</b> | <b>165,866</b> | <b>144,478</b> | <b>-21,388</b> | <b>-12.9%</b> |
| Full Time Equivalents.....          | 1,225          | 1,100          | 945            | -155           | -14.1%        |
| <b>Headquarters</b>                 |                |                |                |                |               |
| Salaries and Benefits.....          | 43,885         | 40,753         | 40,285         | -468           | -1.1%         |
| Travel.....                         | 2,278          | 1,299          | 1,072          | -227           | -17.5%        |
| Support Services.....               | 9,517          | 9,467          | 4,841          | -4,626         | -48.9%        |
| Other Related Expenses.....         | 10,807         | 11,515         | 9,031          | -2,484         | -21.6%        |
| <b>Total, Headquarters.....</b>     | <b>66,487</b>  | <b>63,034</b>  | <b>55,229</b>  | <b>-7,805</b>  | <b>-12.4%</b> |
| Full Time Equivalents.....          | 304            | 299            | 265            | -34            | -11.4%        |

|   | FY 2004        | FY 2005        | FY 2006        | \$ Change      | % Change     |
|---|----------------|----------------|----------------|----------------|--------------|
| <b>Consolidated Business Center</b>             |                |                |                |                |              |
| Salaries and Benefits.....                      | 0              | 16,865         | 20,651         | 3,786          | 22.4%        |
| Travel.....                                     | 0              | 145            | 353            | 208            | 143.4%       |
| Support Services.....                           | 0              | 855            | 2,768          | 1,913          | 223.7%       |
| Other Related Expenses.....                     | 0              | 4,069          | 7,452          | 3,383          | 83.1%        |
| <b>Total, Consolidated Business Center.....</b> | <b>0</b>       | <b>21,934</b>  | <b>31,224</b>  | <b>9,290</b>   | <b>42.4%</b> |
| Full Time Equivalents.....                      | 0              | 125            | 140            | 15             | 12.0%        |
| <b>Total, Environmental Management</b>          |                |                |                |                |              |
| Salaries and Benefits.....                      | 203,342        | 192,949        | 184,959        | -7,990         | -4.1%        |
| Travel.....                                     | 5,335          | 4,628          | 3,545          | -1,083         | -23.4%       |
| Support Services.....                           | 21,086         | 17,293         | 12,243         | -5,050         | -29.2%       |
| Other Related Expenses.....                     | 29,180         | 35,964         | 30,184         | -5,780         | -16.1%       |
| <b>Total, Environmental Management.....</b>     | <b>258,943</b> | <b>250,834</b> | <b>230,931</b> | <b>-19,903</b> | <b>-7.9%</b> |
| Full Time Equivalents.....                      | 1,529          | 1,524          | 1,350          | -174           | -11.4%       |

## Mission

Program Direction provides for the Federal workforce responsible for the overall direction and administrative support of the Environmental Management (EM) program, including both Headquarters and field personnel. The EM mission of protecting human health and the environment is carried out by a workforce composed largely of contractors, although there are a variety of functions that are inherently governmental (e.g., program management, contract administration, and interagency and international coordination) that require a dedicated Federal workforce. EM's FTEs for FY 2006 is built on the same assumptions as the EM funding request. The FTE level is based only on the work scope included in this budget.

The role of the Headquarters Federal workforce is to provide leadership, establish and implement national policy, conduct analyses and integrate activities across sites. Increasing standards of accountability for program performance and spending require Headquarters staff to closely analyze budget requests, track expenditures, and compile congressionally mandated and other program plans (e.g., life cycle baselines). Also, interactions with non-DOE government entities (e.g., participation in International Atomic Energy Agency activities, and negotiations with foreign embassies and reactor operators) are most appropriately performed by Federal employees rather than by contractors. Finally, Headquarters personnel assess the progress of planned program activities in order to report to Congress, Federal, State and local governments, Tribal Nations, citizen groups and the public on the status of EM programs.

Field personnel are responsible and directly accountable for implementing the EM program within the framework established by Headquarters policy and guidance. In addition, the field is responsible for the day-to-day oversight of the Department's facilities, the facility contractors and other support contractors, as well as construction and test activities that support EM activities for DOE. The field office personnel are responsible for planning and implementing performance improvement programs and the technical programs needed to comply with standards and regulations. They are also responsible for the preparation of regulatory documents and interaction with the regulators who have oversight of facility operations. The field staffing levels include personnel supporting the analytical laboratories.

Program Direction is grouped into four categories:

- Salaries and benefits for FY 2006 provide for 265 Federal full-time equivalents at Headquarters (employees based in Germantown, Maryland and Washington, DC), 945 Federal full-time equivalents under the Operations/Field/Site Offices located throughout the United States, and 140 full-time equivalent employees at the Environmental Management Consolidated Business Center in Cincinnati, Ohio. In addition, funding is provided for workers' compensation payments to the Department of Labor, benefits associated with permanent change of station, transit subsidies and incentive awards.
- Travel includes all costs of transportation, subsistence, and incidental travel expenses of EM's Federal employees in accordance with Federal Travel Regulations. This also includes travel costs associated with permanent change of duty station.
- Support services include technical and administrative support, program management and integration, management information and support systems, performance systems, cost/schedule studies and initial support for future liabilities planning. Program management includes support for organizational and strategic planning; coordination and interaction with other Federal, State and local government agencies and private industrial concerns; performance measurement; and cost assessment.

Technical support services include, but are not limited to, determining feasibility of design considerations; development of specifications, system definition, system review and reliability analyses; trade-off analyses; economic and environmental analyses which may be used in DOE's preparation of environmental impact statements; and test and evaluation, surveys or reviews to improve the effectiveness, efficiency and economy of technical operations.

Management support services include, but are not limited to, analyses of workload and work flow; directives management studies; automated data processing; manpower systems analyses; assistance in the preparation of program plans; training and education; analyses of Departmental management processes; and any other reports or analyses directed toward improving the effectiveness, efficiency and economy of management and general administrative services.

- Other related expenses include training the Federal workforce, rental of office space, building maintenance, telephone and network communication costs, utilities, computer/video support, printing and graphics, photocopying, postage, office supplies and equipment, and contractual services (storage of household goods and the buying/selling of homes in conjunction with directed permanent change of station) required for permanent change of duty station at Headquarters and the Operation/Field/Site Offices. A Working Capital Fund established at Headquarters allocates the costs of common administrative services to the recipient Headquarters organizations. Activities supported by the Working Capital Fund include automated office support, telephone services, postage, printing and graphics, supplies, photocopying, building occupancy, payroll processing, and contract closeouts.

## Workforce Restructuring

This budget provides funding to support EM’s complex wide human capital strategy, in conjunction with the President’s Management Agenda. To assure the required human capital resources are available with the right skills to meet the challenges ahead, EM has received buy-out authority, increased the training budgets, developed succession plans, and is encouraging rotational assignments. EM recognizes the invaluable breakthroughs that are the result of our talented and dedicated workforce and continues to encourage our workforce to look beyond the status quo for better, more efficient remedies for our cleanup responsibilities.

## Significant Program Shifts

- *Transfers to Other Department of Energy Organizations:* The FY 2006 EM Program Direction budget reflects the following transfers to other Department of Energy organizations: 100 Full-Time Equivalents to the National Nuclear Security Administration for National Nuclear Security Administration site offices (Kansas City Plant, Lawrence Livermore National Laboratory, Main Site, Site 300, Los Alamos National Laboratory, Nevada Test Site, Pantex, Y-12, and Sandia National Laboratory); and 3 Full-Time Equivalents to the National Nuclear Security Administration for the Foreign Research Reactor Spent Nuclear Fuel Acceptance program (which was transferred in FY 2005).

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

### Salaries and Benefits

203,342      192,949      184,959

Provides funding for 1,350 full-time equivalent employees in FY 2006 with the responsibility for the overall direction and administrative support of the EM program, including both Headquarters and field personnel. The federal workforce performs a variety of functions that are inherently governmental such as program management, contract administration, and interagency and international coordination.

### Travel

5,335      4,628      3,545

Includes all costs of transportation of persons, subsistence of travelers, and incidental travel expenses in accordance with Federal travel regulations that are directly chargeable to EM.

### Support Services

21,086      17,293      12,243

Provides for technical and administrative support for cost effective short-term/intermittent requirements not available from within the Federal workforce.

### Other Related Expenses

29,180      35,964      30,184

Provides for the physical and administrative support to the Federal workforce at both Headquarters and the field. The level of support provided by EM varies at each site depending on EM's role in relation to other Departmental programs. Examples of the type of support that may be provided include rents and utilities, supplies, printing, maintenance and repair of government vehicles and

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

equipment; maintenance and renovations of buildings; janitorial and custodial services; transit operations (shuttle bus); alarm protection systems; and other vendor services, including those associated with contractual services (storage of household goods and the buying/selling of homes in conjunction with directed permanent change of station) for permanent change of duty station. At Headquarters, administrative costs are included in the Working Capital Fund, which EM contributes to through this account. This category also includes the cost of training the Federal workforce. Significant portions of these expenditures are fixed in nature and do not change in relation to the workforce.

|                          |         |         |         |
|--------------------------|---------|---------|---------|
| Total, Program Direction | 258,943 | 250,834 | 230,931 |
|--------------------------|---------|---------|---------|

### Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

#### Salaries and Benefits

- Reflects government-wide increase for pay and personnel related costs for 1,350 full-time equivalent employees. .... 14,040
- Reflects the cost reduction attained by reducing the EM workforce by 174 full-time equivalent employees from the FY 2005 level. .... -22,030

#### Travel

- Reflects reduced travel requirements due to decrease in staffing. .... -1,083

#### Support Services

- Reflects management initiative to limit spending complex-wide. .... -6,963
- Reflects increase in support services requirements at the Consolidated Business Center in order to support the first full year of operations..... 1,913

#### Other Related Expenses

- Reflects management initiative to limit non-labor related spending complex-wide. .... -5,283
- Reflects increase in other related expenses requirements at the Consolidated Business Center in order to support the first full year of operations..... 1,173
- Reflects reduced post-stand up Permanent Change of Station requirement at the Consolidated Business Center. .... -2,210
- Reflects increased requirements associated with the working capital fund, to support the operating and maintenance costs for the newly deployed Standard Accounting and Reporting System..... 540

|   |         |
|---|---------|
| Total Funding Change, Program Direction | -19,903 |
|---|---------|

## Support Services by Category

(dollars in thousands/whole FTEs)

|   | FY 2004       | FY 2005       | FY 2006       | \$ Change     | % Change      |
|---|---------------|---------------|---------------|---------------|---------------|
| <b>Technical Support</b>  |               |               |               |               |               |
| Economic and Environmental Analyses.....                                    | 10,096        | 9,018         | 5,886         | -3,132        | -34.7%        |
| Test and Evaluation.....  | 1,923         | 1,377         | 1,039         | -338          | -24.5%        |
| <b>Total, Technical Support.....</b>  | <b>12,019</b> | <b>10,395</b> | <b>6,925</b>  | <b>-3,470</b> | <b>-33.4%</b> |
| <b>Management Support</b>   |               |               |               |               |               |
| Directives Management Studies.....  | 3,355         | 2,367         | 1,725         | -642          | -27.1%        |
| Training and Education.....   | 544           | 419           | 323           | -96           | -22.9%        |
| Reports and Analyses Management and General<br>Administrative Services..... | 5,168         | 4,112         | 3,270         | -842          | -20.5%        |
| <b>Total, Management Support.....</b>                                       | <b>9,067</b>  | <b>6,898</b>  | <b>5,318</b>  | <b>-1,580</b> | <b>-22.9%</b> |
| <b>Total, Support Services.....</b>   | <b>21,086</b> | <b>17,293</b> | <b>12,243</b> | <b>-5,050</b> | <b>-29.2%</b> |

## Other Related Expenses by Category

(dollars in thousands/whole FTEs)

|   | FY 2004       | FY 2005       | FY 2006       | \$ Change     | % Change      |
|---|---------------|---------------|---------------|---------------|---------------|
| <b>Other Related Expenses</b>             |               |               |               |               |               |
| Training.....                             | 1,310         | 3,072         | 2,724         | -348          | -11.3%        |
| Working Capital Fund.....                 | 7,639         | 6,830         | 7,370         | 540           | 7.9%          |
| Printing and Reproduction.....            | 213           | 338           | 259           | -79           | -23.4%        |
| Rent to GSA.....                          | 9,574         | 9,175         | 7,110         | -2,065        | -22.5%        |
| Communication, Utilities, Misc.....       | 1,705         | 2,702         | 2,077         | -625          | -23.1%        |
| Other Services.....                       | 8,739         | 13,847        | 10,644        | -3,203        | -23.1%        |
| <b>Total, Other Related Expenses.....</b> | <b>29,180</b> | <b>35,964</b> | <b>30,184</b> | <b>-5,780</b> | <b>-16.1%</b> |



**Non-Defense Site  
Acceleration  
Completion**

**Non-Defense Site  
Acceleration  
Completion**

## Table of Contents

|                                    | Page |
|------------------------------------|------|
| Appropriation Language .....       | 303  |
| 2006 Accelerated Completions ..... | 307  |
| 2012 Accelerated Completions ..... | 317  |
| 2035 Accelerated Completions ..... | 331  |



## **Non-Defense Site Acceleration Completion**

### **Proposed Appropriation Language**

For the Department of Energy expenses, including the purchase, construction, and acquisition of plant and capital equipment and other expenses necessary for non-defense environmental management site acceleration completion activities in carrying out the purposes of the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), including the acquisition or condemnation of any real property or any facility or for plant or facility acquisition, construction, or expansion, [\$151,850,000] \$172,400,000, to remain available until expended. (*Energy and Water Development Appropriations Act, 2005.*)

### **Explanation of Change**

None.



## Non-Defense Site Acceleration Completion

### Funding Profile by Program

(dollars in thousands)

|   | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|---|--|--------------------------------------|------------------------|--|--------------------|
| Non-Defense Site Acceleration Completion                |  |                                      |                        |  |                    |
| 2006 Accelerated Completions.....                       | 39,446                                 | 45,435                               | -8,748                 | 36,687                                 | 14,954             |
| 2012 Accelerated Completions.....                       | 132,906                                | 98,191                               | 14,280                 | 112,471                                | 128,950            |
| 2035 Accelerated Completions.....                       | 4,920                                  | 8,224                                | -66                    | 8,158                                  | 28,496             |
| Total, Non-Defense Site Acceleration<br>Completion..... | 177,272                                | 151,850                              | 5,466 <sup>a</sup>     | 157,316                                | 172,400            |

Public Law Authorizations:

Public Law 95-91, "Department of Energy Organization Act, 1977"

Public Law 95-604, "Uranium Mill Tailing Radiation Control Act of 1979"

Public Law 103-62, "Government Performance and Results Act of 1993"

Public Law 108-137, "Energy and Water Development Appropriations Act, 2004"

Public Law 108-447, "Consolidated Appropriations Act, 2005"

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<sup>a</sup> Reflects the following adjustments:

o Rescission reduction of -\$1,214,800.

o Transfer of \$6,681,000 related to the realignment of responsibility from the Office of Nuclear Energy to EM for NRC-licensed Fort St. Vrain independent spent nuclear fuel storage in Colorado and Three Mile Island spent nuclear fuel at the Idaho National Laboratory.

### Mission

The mission of EM is the safe, accelerated risk reduction and cleanup of the environmental legacy resulting from the Nation's nuclear weapons development and government-sponsored nuclear energy research. Over the last four years, the program has delivered significant risk reduction and cleanup results while ensuring the cleanup is safe for the workers, protective of the environment and respectful of the taxpayer. The program, once focused on managing risk, is demonstrating the benefits of accelerating cleanup and closure by realizing the completion of tangible results. These outcomes are providing important and valuable benefits to the public, communities, and for the generations that will follow.

The Non-Defense Site Acceleration Completion appropriation provides for the accelerated cleanup and risk reduction of sites used for civilian energy research. This appropriation includes three programs: 2006 Accelerated Completions; 2012 Accelerated Completions; and 2035 Accelerated Completions.

The FY 2006 request for the Non-Defense Site Acceleration Completion appropriation is \$172,400,000, an increase of \$15,084,000, from the FY 2005 comparable appropriation of \$157,316,000.

**Benefits**

This appropriation provides funding to accelerate risk reduction and environmental cleanup at sites contaminated as a result of nuclear research. As the cleanup of these sites progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

## 2006 Accelerated Completions

### Funding Schedule by Activity

| (dollars in thousands)                           |         |         |         |           |          |
|--|---------|---------|---------|-----------|----------|
|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
| BRNL-0030 / Soil and Water Remediation           |         |         |         |           |          |
| Brookhaven National Laboratory.....              | 29,119  | 28,785  | 6,713   | -22,072   | -76.7%   |
| CBC-ITL-0030 / Soil and Water Remediation -      |         |         |         |           |          |
| Inhalation Toxicology Laboratory.....            | 476     | 487     | 305     | -182      | -37.4%   |
| CBC-LBNL-0030 / Soil and Water Remediation -     |         |         |         |           |          |
| Lawrence Berkeley National Laboratory.....       | 3,228   | 4,038   | 3,900   | -138      | -3.4%    |
| CBC-SLAC-0030 / Soil and Water Remediation -     |         |         |         |           |          |
| Stanford Accelerator Center.....                 | 2,384   | 2,480   | 3,500   | 1,020     | 41.1%    |
| CH-ANLE-0030 / Soil and Water Remediation -      |         |         |         |           |          |
| Argonne National Laboratory - East.....          | 642     | 401     | 415     | 14        | 3.5%     |
| CH-ANLW-0030 / Soil and Water Remediation -      |         |         |         |           |          |
| Argonne National Laboratory - West.....          | 200     | 0       | 121     | 121       | 100.0%   |
| CH-PPPL-0030 / Soil and Water Remediation -      |         |         |         |           |          |
| Princeton Site A/B.....                          | 124     | 0       | 0       | 0         | 0.0%     |
| LEHR-0040 / Nuclear Facility Decontamination and |         |         |         |           |          |
| Decommissioning - Laboratory for Energy-Related  | 3,273   | 496     | 0       | -496      | -100.0%  |
| Total, 2006 Accelerated Completions.....         | 39,446  | 36,687  | 14,954  | -21,733   | -59.2%   |

### Description

The Non-Defense Site Acceleration Completion appropriation, 2006 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear energy research and development. This program includes all geographic sites with a planned closure date of 2006 or earlier (e.g., Stanford Linear Accelerator Center). In addition, this program provides funding for Environmental Management sites where overall site cleanup will not be completed by 2006, but certain non-defense cleanup projects within a site (e.g., soil contamination remediated, all waste shipped off-site) will be completed by 2006.

### Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at non-defense sites where cleanup will be completed by 2006 or certain cleanup projects within a site will be completed by 2006. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

## Funding by Site

(dollars in thousands)

|  | FY 2004       | FY 2005       | FY 2006       | \$ Change      | % Change      |
|--|---------------|---------------|---------------|----------------|---------------|
| <b>Chicago</b>                                   |               |               |               |                |               |
| Argonne National Laboratory - East.....          | 642           | 401           | 415           | 14             | 3.5%          |
| Argonne National Laboratory - West.....          | 200           | 0             | 121           | 121            | 100.0%        |
| Brookhaven National Laboratory.....              | 29,119        | 28,785        | 6,713         | -22,072        | -76.7%        |
| Princeton Plasma Physics Laboratory.....         | 124           | 0             | 0             | 0              | 0.0%          |
| <b>Total, Chicago Operations Office.....</b>     | <b>30,085</b> | <b>29,186</b> | <b>7,249</b>  | <b>-21,937</b> | <b>-75.2%</b> |
| <b>Consolidated Business Center</b>              |               |               |               |                |               |
| Inhalation Toxicology Laboratory.....            | 476           | 487           | 305           | -182           | -37.4%        |
| Lawrence Berkeley National Laboratory.....       | 3,228         | 4,038         | 3,900         | -138           | -3.4%         |
| Stanford Linear Accelerator Center.....          | 2,384         | 2,480         | 3,500         | 1,020          | 41.1%         |
| <b>Total, Consolidated Business Center.....</b>  | <b>6,088</b>  | <b>7,005</b>  | <b>7,705</b>  | <b>700</b>     | <b>10.0%</b>  |
| <b>Headquarters Operations</b>                   |               |               |               |                |               |
| Laboratory for Energy-Related Health Research... | 3,273         | 496           | 0             | -496           | -100.0%       |
| <b>Total, 2006 Accelerated Completions.....</b>  | <b>39,446</b> | <b>36,687</b> | <b>14,954</b> | <b>-21,733</b> | <b>-59.2%</b> |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

### **BRNL-0030 / Soil and Water Remediation-Brookhaven**

**National Laboratory (life-cycle estimate \$222,327K).....**                      **29,119**                      **28,785**                      **6,713**

Historical practices discharges and past spills have resulted in groundwater, sediment, and soil contamination at Brookhaven National Laboratory. As a result, off-site and onsite groundwater is contaminated with volatile organic compounds, in addition to onsite radionuclides. Historical discharges from the Laboratory's Sewage Treatment Plant have resulted in elevated levels of mercury in, on- and off-site Peconic River sediments. Some on-site soils are contaminated with radionuclides and chemicals (primarily mercury). This PBS addresses accelerated cleanup of these areas, under an Interagency Agreement with the United States Environmental Protection Agency, and New York State. Initiatives 1, 2 and 3 of Brookhaven's Performance Management Plan accelerate the Superfund cleanup program from FY 2006 to FY 2005 and discuss completion of all EM cleanup at Brookhaven including the Brookhaven Graphite Research Reactor and High Flux Beam Reactor by the end of FY 2008. However, with the increased workscope of pile and bioshield removal from the Brookhaven Graphite Research Reactor, the end state completion date is projected to be 2009. Initiative 5 is DOE's commitment to plan and implement an effective monitoring and treatment system operation program at the Laboratory.

The projected end-state of this project is that 17 groundwater treatment systems will be built and operating, and all required non-reactor facility decontamination and decommissioning, soil cleanup and cleanup of the Peconic River will be complete by the end of FY 2005. Continuing activities such as groundwater monitoring and treatment system operations and maintenance will be underway.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Groundwater cleanup is Brookhaven’s highest priority because it is located above Long Island's sole source aquifer. Cleanup consists of treating groundwater both on and off site, continued monitoring, source term removal, and natural attenuation. Identified contaminated sediments and soils will be excavated and disposed off-site.

As of September 30, 2004, approximately 1,500 homes were connected to the public water supply; three landfills were capped; and many contaminated soil, tank and cesspool cleanups have been completed. Cleanup of the on-site portion of the Peconic River is underway. Work plans have been prepared for the two remaining soil areas, the Former Hazardous Waste Management Facility and the Waste Concentration Facility. Ten groundwater treatment systems are operating; six are under construction and one is in design.

In FY 2006, the following activities are planned:

- Implement Long Term Response Actions and Long Term Stewardship activities since the end-state will be achieved in FY 2005.
- Maintain and monitor three capped landfills; operate, maintain and monitor 17 groundwater treatment systems; continue environmental monitoring programs including sample collection, sample analysis, data interpretation and management; records management; reporting; continuation of land use controls; community outreach; interaction with the regulatory agencies (i.e., the United States Environmental Protection Agency and New York State Department of Environmental Conservation.) In addition, the remaining transition activities involved with the transfer of the Long Term Response Action activities associated with this PBS to the Office of Science will be performed.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities)   | 0       | 3       | 0       | 3                           | 3                   | 100%               |
| Remediation Complete (Number of Release Sites)  | 4       | 4       | 0       | 75                          | 75                  | 100%               |
| Key Accomplishments (FY 2004/Planned Milestones (FY 2005/FY 2006  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Construction of the Airport/Long Island Power Authority Groundwater Treatment System was completed (FY 2004).</li> <li>▪ Complete Operable Unit I remediation (April 2005).</li> </ul> |         |         |         |                             |                     |                    |

**CBC-ITL-0030 / Soil and Water Remediation-Inhalation**

**Toxicology Laboratory (life-cycle estimate \$7,924K)..... 476 487 305**

Remedial activities for contaminated soil and groundwater at the site were completed in 1997. Currently, the environmental management mission at the Inhalation Toxicology Laboratory is comprised of two projects: (a) groundwater monitoring and reporting and (b) waste disposal. The groundwater monitoring is at two sites, the Sewage Lagoon Site and the Diesel Spill Site, pursuant to conditions imposed by the

**Non-Defense Site Acceleration Completion/  
2006 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

State. Monitoring is to continue until no contamination is observed above regulatory standards for four consecutive semiannual sampling events for the Sewage Lagoon Site and eight consecutive quarterly sampling events for the Diesel Spill Site. Labs and facilities that are contaminated from DOE projects have been vacated and are in the process of being surveyed, surface decontaminated, and released for other research purposes. Legacy low-level radioactive waste and hazardous waste within the laboratories and facilities are being identified and disposed of as funding allows.

In FY 2006, the following activities are planned:

- Pursuant to conditions of the New Mexico Environment Department, conduct and report on semi-annual groundwater monitoring for the Sewage Lagoon Site for eight wells for four parameters, and annual monitoring for three wells for the same four parameters.
- Conduct and report on semi-annual groundwater monitoring for the Diesel Spill Site for one well for a variety of diesel related parameters.
- Collect, remove, characterize, package, and dispose of expired, outdated, or unused chemicals.
- Unlabeled chemicals will be analyzed and characterized.
- Chemicals will be disposed as appropriate.
- Collect, characterize and package radioactive waste for disposal.
- Radioactive items to be surveyed and packaged include old research samples, tissue blocks, contaminated equipment and instruments, small gloveboxes, lab coats and other clothing and miscellaneous lab items.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| LLW/MLLW Disposed (m <sup>3</sup> )   | 0       | 35      | 0       | 200*                        | 105                 | 190%               |
| Remediation Complete (Number of Release Sites)  | 0       | 0       | 0       | 9                           | 9                   | 100%               |
| * The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Conduct groundwater monitoring and reporting (FY 2004/September 2005).</li> <li>▪ Dispose of 35 m<sup>3</sup> of low-level waste (September 2005).</li> <li>▪ Inhalation Toxicology Laboratory will conduct groundwater monitoring and reporting to the New Mexico Environment Department (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**CBC-LBNL-0030 / Soil and Water Remediation-Lawrence**

**Berkeley National Laboratory (life-cycle estimate \$34,157K).. 3,228 4,038 3,900**

The activities performed under this PBS are directed at the investigation and clean up of past releases of hazardous and radioactive waste in soil and groundwater that may have occurred at Lawrence Berkeley

**Non-Defense Site Acceleration Completion/  
2006 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

National Laboratory and are under the purview of the Resource Conservation and Recovery Act. The laboratory has completed its Resource Conservation and Recovery Act Facility Investigation for 181 release sites to determine the amount and extent of contamination. Pilot testing to evaluate different remedial systems for use at the Laboratory was completed in FY 2004. The results were used to recommend full-scale remediation systems that will be constructed in FY 2005 and FY 2006. The Laboratory will meet the Environmental Management site end-state by reducing contaminants to acceptable levels or eliminating contamination in soil and completing construction to meet remediation objectives in groundwater.

The end-state of this project will be the completion of the final remediation systems in FY 2006 and the transfer of long-term surveillance and maintenance responsibilities to the site landlord, the Office of Science. The site landlord will continue surveillance and monitoring of the site.

In FY 2006, the following activities are planned:

- Complete the design and construction of remedial systems proposed in the Corrective Measures Study including soil excavation at B-51L and B-88, and abandonment of wells.
- Continue monitoring, maintenance and operations at the B-7 enhanced soil vapor extraction system, B-7 soil flushing system, B-64 soil flushing system, B-7, B-25, B-58 and B-53/58 trenches groundwater treatment systems, HRC/ORC injection at B-69, B-77, and B76/75 and in situ chemical oxidation groundwater system at B-71B and B-52.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)   | 0       | 5       | 15      | 181                         | 181                 | 100%               |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ The pilot remedial systems test construction was completed (FY 2004).</li> <li>▪ Implement remedial actions and construct treatment systems identified in corrective measures studies (September 2005).</li> <li>▪ Complete EM mission and transfer to the Office of Science for Long-Term Stewardship (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**CBC-SLAC-0030 / Soil and Water Remediation-Stanford**

**Linear Accelerator Center (life-cycle estimate \$20,184K)..... 2,384 2,480 3,500**

Activities in this PBS involve the cleanup of legacy contamination resulting from physics research mission operations over the past several decades at the Stanford Linear Accelerator Center. The EM mission includes the identification of chemical contaminants in soil and groundwater, and developing and implementing remedies to address these environmental concerns using Comprehensive Environmental Response, Compensation, and Liability Act technical guidance. The principal contaminants of concern include polychlorinated biphenyls, lead, and volatile organic compounds in soils

**Non-Defense Site Acceleration Completion/  
2006 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

and groundwater. There are no radiologically contaminated areas or contaminated buildings that require remediation at the Stanford Linear Accelerator Center.

Preliminary Site Assessments have identified 20 release sites requiring remediation. The strategy to accelerate the completion of the project includes tasks which are being worked in parallel rather than in series, whenever possible. Installing and testing treatment systems initially, as presumptive remedies, are occurring at the same time as the remedial investigation/feasibility study reports are processed through the approval cycle. Soils contaminated with polychlorinated biphenyls are being characterized to determine the extent of the contamination and the work will be carried out through a removal action, before reports are submitted for approval to regulators. This will lower the overall risk at the site, and thus, reduce the number of potential issues with the proposed remedial solution.

The EM end-state is to turn over long-term surveillance and maintenance activities at groundwater treatment sites to the Office of Science after FY 2006.

In FY 2006, the following activities are planned:

- Complete construction of a groundwater treatment system at the Plating Shop Area.
- Complete removal action at the Lower Salvage Yard – Phase II.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)   | 4       | 0       | 0       | 20                          | 20                  | 100%               |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Engineering controls at the IR6 Drainage Channel were constructed (FY 2004).</li> <li>▪ Removal action at the Former Hazardous Waste Storage Area and the Plating Shop was completed (FY 2004).</li> <li>▪ Complete construction and installation of groundwater treatment facilities, at the southern and northern portions, of the Former Hazardous Waste Storage Area (September 2006).</li> <li>▪ Complete Lower Salvage Yard Removal Action (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**CH-ANLE-0030 / Soil and Water Remediation-Argonne**

**National Laboratory - East (life-cycle estimate \$30,368K).... 642 401 415**

Contamination of groundwater, sediment, and soils has occurred at Argonne National Laboratory- East as a result of past laboratory operations and spills. Contaminants of concern include volatile organic compounds, petroleum hydrocarbons, metals, polychlorinated biphenyl compounds, and a variety of radioisotopes. This PBS involves investigation and remedial activities to reduce risk to human health and the environment at the release sites and thus comply with corrective action requirements of the Resource Conservation and Recovery Act Part B permit issued by the Illinois Environmental Protection Agency. The remaining Resource Conservation and Recovery Act solid waste management units/release sites were completed in FY 2003. Regulator acceptance was received and, therefore, EM completion was achieved

**Non-Defense Site Acceleration Completion/  
2006 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

in FY 2003 by formal acceptance of "No Further Actions" and by signature in August 2003 of the Land Use Control Memorandum of Agreement by the Illinois Environmental Protection Agency. However, residual contamination still remains at several areas of the Argonne National Laboratory- East site, which requires continued monitoring and/or remediation system operation.

The EM end-state of this project includes completion/installation of all Resource Conservation and Recovery Act solid waste management units/release site remedies; the Illinois Environmental Protection Agency has formally issued all "No Further Actions" as appropriate and has signed the Land Use Control Memorandum of Agreement; the remediation systems are operational; and maintenance activities have been integrated into the site monitoring and surveillance program conducted by the site landlord (Office of Science) at Argonne National Laboratory-East.

In FY 2006, the following activities are planned:

- Long Term Stewardship/Long Term Response Actions covering operation, surveillance and maintenance of soil and water treatment systems and decontaminated facilities.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-Cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites)   | 0       | 0       | 0       | 443                         | 443                 | 100%               |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Completed all remedial activities at the Argonne National Laboratory – East (FY 2004).</li> </ul> |         |         |         |                             |                     |                    |

**CH-ANLW-0030 / Soil and Water Remediation-Argonne**

**National Laboratory – West (life-cycle estimate \$8,758K)..... 200 0 121**

Past operations of the Experimental Breeder Reactor II and associated facilities at Argonne National Laboratory-West have resulted in contaminated surface soils and sediments. Primary contaminants of concern include cesium-137 and heavy metals. This PBS involves remediation activities at the Argonne National Laboratory-West Waste Area Group 9 to assess and reduce risk, as well as to comply with the Federal Facilities Agreement/Consent Order. All planned soil remediation activities were completed (geographic site completion) in FY 2001. Continuing operation and maintenance activities (related to the phytoremediation activities of vegetation planting and harvesting), monitoring, and verification sampling were completed in FY 2003.

The end-state of this project, completion of phytoremediation operation and maintenance activities (i.e., vegetation harvesting), and verification sampling was accomplished in FY 2003, with some minor post-remedy excavations completed in FY 2004. The tasks of monitoring and maintaining restricted areas, and enforcing institutional controls are expected to be transferred to the landlord (Office of Nuclear Energy, Science, and Technology) during FY 2005. EM retains responsibility for soil and water treatment systems.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Long Term Stewardship/Long Term Response Actions covering operation, surveillance and maintenance of soil and water treatment systems.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites) | 0       | 0       | 0       | 37                          | 37                  | 100%               |

**CH-PPPL-0030 / Soil and Water Remediation-Princeton**

**Site A/B (life-cycle estimate \$309K)..... 124 0 0**

Potentially Responsible Party payments are required to cover DOE's responsibility, as a previous lessee, for a portion of the characterization/remediation costs for cleanup of soil and groundwater volatile organic compounds contamination at Princeton University's Site A/B, in accordance with the New Jersey Department of Environmental Protection/Princeton University Memorandum of Understanding and DOE/Princeton University Memorandum of Agreement. Potentially Responsible Party payments began in 1995 and continued through FY 2004.

In FY 2006, the following activities are planned to support the Princeton Site A/B.

- No activities are planned for FY 2006.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005 / FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Payment made of DOE's annual portion, as a Potentially Responsible Party, for characterization and remediation costs (FY 2004).</li> </ul> |         |         |         |                             |                     |                    |

**LEHR-0040 / Nuclear Facility Decontamination and Decommissioning-Laboratory for Energy-Related Health Research (life-cycle estimate \$39,178K).....**

**3,273 496 0**

The Laboratory for Energy-Related Health Research conducted research from the 1950s through 1980s on the effects of radiation on humans by exposing dogs to various radionuclides. These research activities resulted in the chemical and radioactive contamination of the site and various facilities. This PBS involves the cleanup of the contamination and includes: 1) decontamination and decommissioning of radioactively contaminated facilities; 2) removal of on-site radioactive sources and wastes; 3) remediation and/or removal of soil contamination (radiological and/or hazardous) at southwest trenches, Radium and

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

Strontium Treatment Systems, domestic septic tanks, outdoor dog pens (western and eastern dog pens) and DOE disposal box; 4) closure or removal of underground tanks; 5) verification of cleanup completion; and 6) post closure monitoring as required by the Comprehensive Environmental Response, Compensation and Liability Act for National Priority List sites. The cleaned facilities and land will be returned to the University of California, Davis, for continued use as an educational/research facility.

The following removal actions have been completed: a time-critical removal action in the DOE disposal box area, and non-time-critical removal actions in the southwest trenches, the Radium and Strontium Treatment Systems, the western dog pens areas, and the domestic septic systems. These removal actions have eliminated the major risks at the site. Most of the legacy waste, including sources, and waste generated from the southwest trenches, DOE disposal box area, and the Radium and Strontium Treatment Systems have been disposed off-site. Since 1998, about 3,850 m<sup>3</sup> of low-level waste including remediated soil, 190 m<sup>3</sup> of hazardous waste and 1 m<sup>3</sup> of mixed waste have been disposed off-site.

The acceleration plan for cleanup of the site will result in completion by the end of FY 2005. The remaining cleanup work includes: disposal of all remaining remediation waste generated from the western dog pens and domestic septic systems (about 2,300 m<sup>3</sup>); disposal or reusing southwest trench overburden soil (about 300 m<sup>3</sup>); disposal of remaining sanitary waste (about 40 m<sup>3</sup>); disposal of contaminated equipment and miscellaneous waste (about 40 m<sup>3</sup>); disposal of thorium sources; remediating the eastern dog pens (i.e., excavate the contaminated media or consummate an agreement for University of California, Davis, to incorporate the eastern dog pen area into its landfill cap); transferring title of DOE-owned buildings to the University of California, Davis; and delisting DOE areas from the National Priority List.

In FY 2006, the following activities are planned:

- Long-Term surveillance and monitoring activities will be the responsibility of the Office of Legacy Management.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| LLW/MLLW Disposed (m <sup>3</sup> )   | 0       | 0       | 0       | 944                         | 948 <sup>a</sup>    | 100%               |
| Industrial Facility Completions (Number of Facilities)  | 1       | 0       | 0       | 1                           | 1                   | 100%               |
| Remediation Complete (Number of Release Sites)  | 0       | 0       | 1       | 17                          | 17                  | 100%               |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Compensate UC Davis for cost of including Eastern Dog Pens under their landfill cap (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

<sup>a</sup> This metric has been completed, actual amount of low-level waste/mixed low-level waste disposed was less than projected life-cycle under configuration control.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|   |               |               |               |
|---|---------------|---------------|---------------|
| <b>Total, 2006 Accelerated Completions.....</b> | <b>39,446</b> | <b>36,687</b> | <b>14,954</b> |
|---|---------------|---------------|---------------|

**Explanation of Funding Changes**

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**BRNL-0030 / Soil and Water Remediation-Brookhaven National Laboratory**

|   |         |
|---|---------|
| ▪ Decrease in funding is attributed to project completion in FY 2005. The funding requested will cover Long Term Response Actions. .... | -22,072 |
|---|---------|

**CBC-ITL-0030 / Soil and Water Remediation-Inhalation Toxicology Laboratory**

|   |      |
|---|------|
| ▪ Decrease is the result of a reduction of workscope as cleanup is achieved. .... | -182 |
|---|------|

**CBC-LBNL-0030 / Soil and Water Remediation-Lawrence Berkeley National Laboratory**

|   |      |
|---|------|
| ▪ Funding levels remain relatively constant to support the completion of the construction of remedial systems outlined in the Corrective Measures Study report. ... | -138 |
|---|------|

**CBC-SLAC-0030 / Soil and Water Remediation-Stanford Linear Accelerator Center**

|   |       |
|---|-------|
| ▪ Increase to complete cleanup in FY 2006. .... | 1,020 |
|---|-------|

**CH-ANLE-0030 / Soil and Water Remediation-Argonne National Laboratory –East**

|                               |    |
|-------------------------------|----|
| ▪ No significant change. .... | 14 |
|-------------------------------|----|

**CH-ANLW-0030 / Soil and Water Remediation-Argonne National Laboratory – West**

|   |     |
|---|-----|
| ▪ Increase in funding will cover Long Term Response Actions. .... | 121 |
|---|-----|

**LEHR-0040 / Nuclear Facility Decontamination and Decommissioning-Laboratory for Energy-Related Health Research**

|   |      |
|---|------|
| ▪ Decrease is the result of activities being complete and responsibility transferred to the Office of Legacy Management. .... | -496 |
|---|------|

|  |                |
|--|----------------|
| <b>Total Funding Change, 2006 Accelerated Completions.....</b> | <b>-21,733</b> |
|--|----------------|

## 2012 Accelerated Completions

### Funding Schedule by Activity

(dollars in thousands)

|   | FY 2004        | FY 2005        | FY 2006        | \$ Change     | % Change     |
|---|----------------|----------------|----------------|---------------|--------------|
| BRNL-0040 / Nuclear Facility Decontamination and Decommissioning - Brookhaven Graphite Research Reactor.....                | 8,966          | 8,385          | 20,122         | 11,737        | 140.0%       |
| BRNL-0041 / Nuclear Facility Decontamination and Decommissioning - High Flux Beam Reactor.....                              | 1,144          | 5,097          | 7,443          | 2,346         | 46.0%        |
| CBC-CA-0013B-N / Solid Waste Stabilization and Disposition - Oakland Sites - 2012 (Non-Defense).....                        | 57             | 58             | 60             | 2             | 3.4%         |
| CBC-EETEC-0040 / Nuclear Facility Decontamination..... and Decommissioning - Energy Technology..... Engineering Center..... | 18,217         | 18,238         | 9,000          | -9,238        | -50.7%       |
| CH-ANLE-0040 / Nuclear Facility Decontamination and Decommissioning - Argonne National Laboratory - East.....               | 1,297          | 384            | 10,072         | 9,688         | 2522.9%      |
| ID-0012B-N / Spent Nuclear Fuel Stabilization and Disposition - 2012 (Non Defense).....                                     | 4,861          | 6,681          | 5,153          | -1,528        | -22.9%       |
| OH-WV-0013 / Solid Waste Stabilization and Disposition - West Valley.....   | 24,260         | 40,214         | 19,500         | -20,714       | -51.5%       |
| OH-WV-0040 / Nuclear Facility Decontamination and Decommissioning - West Valley.....  | 74,104         | 33,414         | 57,600         | 24,186        | 72.4%        |
| <b>Total, 2012 Accelerated Completions.....</b>   | <b>132,906</b> | <b>112,471</b> | <b>128,950</b> | <b>16,479</b> | <b>14.7%</b> |

### Description

The Non-Defense Site Acceleration Completion appropriation, 2012 Accelerated Completions program provides funding for completing cleanup and closing down facilities contaminated as a result of nuclear energy research and development. It also provides for management and operations of two Nuclear Regulatory Commission-licensed, Department-owned independent spent fuel storage installations.

### Benefits

This account provides funding to accelerate risk reduction and environmental cleanup at non-defense sites where cleanup will be completed by 2012 or certain cleanup projects within a site will be completed by 2012. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

This program includes all geographic sites with a planned closure date of 2007 through 2012 (e.g., Brookhaven National Laboratory, and West Valley Demonstration Project). In addition, this program provides funding for EM sites where overall site cleanup will not be completed by 2012 but certain cleanup projects within a site (e.g., soil contamination remediated, all waste shipped off-site) will be

completed by 2012. This program also provides for the management and operations of two Nuclear Regulatory Commission-licensed Department-owned independent spent fuel storage installations. The Ft. St. Vrain facility is located in Eagle County, Colorado, and stores commercial Spent Nuclear Fuel from the shutdown Ft. St. Vrain high-temperature gas reactor. The Three Mile Island-2 Spent Nuclear Fuel is stored at the Idaho Nuclear Technology Engineering Center on the Idaho National Laboratory. Funding for this activity includes management and operation, and annual Nuclear Regulatory Commission license fees.

### Funding by Site

(dollars in thousands)

|   | FY 2004        | FY 2005        | FY 2006        | \$ Change     | % Change      |
|---|----------------|----------------|----------------|---------------|---------------|
| <b>Chicago</b>                                  |                |                |                |               |               |
| Argonne National Laboratory - East.....         | 1,297          | 384            | 10,072         | 9,688         | 2522.9%       |
| Brookhaven National Laboratory.....             | 10,110         | 13,482         | 27,565         | 14,083        | 104.5%        |
| <b>Total, Chicago Operations Office.....</b>    | <b>11,407</b>  | <b>13,866</b>  | <b>37,637</b>  | <b>23,771</b> | <b>171.4%</b> |
| <b>Consolidated Business Center</b>             |                |                |                |               |               |
| California Site Support.....                    | 57             | 58             | 60             | 2             | 3.4%          |
| Energy Technology Engineering Center.....       | 18,217         | 18,238         | 9,000          | -9,238        | -50.7%        |
| <b>Total, Consolidated Business Center.....</b> | <b>18,274</b>  | <b>18,296</b>  | <b>9,060</b>   | <b>-9,236</b> | <b>-50.5%</b> |
| <b>Idaho</b>                                    |                |                |                |               |               |
| Idaho National Laboratory.....                  | 4,861          | 6,681          | 5,153          | -1,528        | -22.9%        |
| <b>Ohio</b>                                     |                |                |                |               |               |
| West Valley Demonstration Project.....          | 98,364         | 73,628         | 77,100         | 3,472         | 4.7%          |
| <b>Total, 2012 Accelerated Completions.....</b> | <b>132,906</b> | <b>112,471</b> | <b>128,950</b> | <b>16,479</b> | <b>14.7%</b>  |

### Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**BRNL-0040 / Nuclear Facility Decontamination and Decommissioning – Brookhaven Graphite Research Reactor (life-cycle estimate \$95,632K)..... 8,966 8,385 20,122**

The Brookhaven Graphite Research Reactor was the world's first research reactor constructed solely for the peaceful use of atomic energy. The reactor operated from 1950-1969. During the initial deactivation of the reactor in 1969-1972, the spent reactor fuel was removed from the reactor and shipped to DOE's Savannah River Site. Also, the water within the spent fuel canal was pumped to Brookhaven National Laboratory's Waste Concentration Facility for storage and processing. These actions removed more than 95 percent of the radioactive material from the facility. However, the reactor core (graphite moderator) contains residual contamination and the spent fuel canal and cooling air ducts are contaminated with fission products, such as strontium-90 and cesium-137.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

This PBS scope characterizes, stabilizes, decontaminates and decommissions the reactor to remove or isolate sources of contamination and reduce any potential risk to human health and the environment. The reactor is an Area of Concern under the Brookhaven National Laboratory Interagency Agreement. The end-state of this project will be decided with the approval of the Record of Decision. Continuing activities such as access controls and surveillance and maintenance for the reactor will be transferred to the landlord (Office of Science) at project completion.

The following structures were remediated by the end of FY 2003: pile fans and sump removed, pile sealed, Building 701 isolated from Building 703, above grade canal and water treatment houses structures demolished, dismantled and shipped the above grade ducts for disposal, coolers removed from the below grade ducts, remediated below grade piping to and from the canal and portions of the canal walls, and completed characterization of Building 701, the pile, remaining soils, and the above grade and below grade ducts. A core team with representation from the United States Environmental Protection Agency, the New York State Department of Environmental Conservation, and the DOE have assessed the disposition of key Brookhaven Graphite Research Reactor structures such as the pile, the reactor building, below grade ducts, and the canal. A Feasibility Study, and Proposed Remedial Action Plan have been prepared to provide a foundation for the remaining remediation and recommends removal of the pile, bioshield, canal (external), and reasonably accessible soils.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$1,560,000 for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate decontamination and decommissioning projects. Base PBS funding will also be used to support these Indefinite Delivery/Indefinite Quantity projects.

In FY 2006, pending the submission and approval of a Record of Decision, the following activities are planned:

- Canal and Selected Soil Pockets Activities
  - Engineering for canal and deep soil pocket removals;
  - Removal of approximately 760 m<sup>3</sup> of clean over burden soils to expose the canal structure;
  - Removal of approximately 150 m<sup>3</sup> of contaminated canal concrete and soils; and
  - Removal of approximately 110 m<sup>3</sup> of contaminated soils adjacent to Below Ground Duct expansion joint #4, the bustle, and the trench area inside building 701 Closure of area.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Pile Activities
  - Engineering for pile and bioshield removal;
  - Refurbishment of needed facility equipment (elevators, crane);
  - Removal of 16 Control Rods and Drive Mechanisms;
  - Removal of North truck bay rooms and mezzanine to clear space for laydown and storage;
  - Construction of an enclosure for the Pile/Bioshield work;
  - Boring of fuel channels to remove high activity materials;
  - Pile removal; and
  - Waste shipping.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities) | 3       | 1       | 0       | 7                           | 7                   | 100%               |
| Remediation Complete (Number of Release Sites)          | 0       | 0       | 0       | 1                           | 1                   | 100%               |

Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)

- The Brookhaven Graphite Research Reactor Draft Record of Decision was submitted to the regulators to determine final end-state for Brookhaven Graphite Research Reactor (FY 2004).
- Removal of below ground piping completed (FY 2004).
- DOE submitted Draft completion report to the Environmental Protection Agency (December 2004).
- Complete WP 182 Canal and continue deep soil removal (May 2005).
- DOE submit draft below grade duct completion report to regulators, demonstrating completion of decontamination and decommissioning, for review and comment (July 2005).
- Canal removal complete (December 2005).
- Continue Brookhaven Graphite Research Pile removal (September 2006).

**BRNL-0041 / Nuclear Facility Decontamination and Decommissioning - High Flux Beam Reactor (life-cycle estimate \$60,083K).....**

**1,144      5,097      7,443**

The High Flux Beam Reactor was a heavy water moderated and cooled research reactor, which used highly enriched uranium to produce an operating power level of 30-60 megawatts thermal. In 1997, a tritium plume stemming from a leak in the reactor's spent fuel storage pool was identified, and reactor operations were halted. In 1999, the High Flux Beam Reactor was permanently shut down. From 1999-2001, DOE stabilized the facility for surveillance and maintenance. This PBS scope characterizes, deactivates and decommissions selected portions of the High Flux Beam Reactor complex at Brookhaven National Laboratory. The High Flux Beam Reactor Decontamination and Decommission Project mission is to develop end-state alternatives for the disposition of the facility, select the final end-state, and conduct the planning, engineering, and implementation of the activities necessary to

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

achieve the selected end-state.

In addition, the scope includes activities to perform routine facility maintenance; remove selected systems structures, and components inside the High Flux Beam Reactor; and to facilitate the implementation of a long-term surveillance and maintenance program that will be required while the facility awaits full decommissioning. The acceleration of decontamination and decommissioning of the Reactor is identified as Strategic Initiative 4 in the Brookhaven National Laboratory Performance Management Plan. With the completion of the High Flux Beam Reactor Decontamination and Decommissioning Project, the EM Program at Brookhaven National Laboratory will be completed. FY 2005 activities include planning and initial engineering for facility decontamination and decommissioning, as well as continuing surveillance and maintenance activities.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$1,560,000 for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate decontamination and decommissioning projects. Base PBS funding will also be used to support these Indefinite Delivery/Indefinite Quantity projects.

In FY 2006, the following activities are planned:

- In support of Strategic Initiative 4, accelerate decontamination and decommissioning of the High Flux Beam Reactor: planning and engineering for facility decommissioning will continue to be performed.
- Perform decontamination and decommissioning of selected systems, structures and components and perform partial demolition and removal of selected systems and structures.
- Waste disposal will occur from demolition and decommissioning activities.
- Continue to perform facility maintenance as needed, and facilitate the implementation of a long-term, surveillance and maintenance program that will be required while the facility awaits full decommissioning.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics are associated with this PBS.  |         |         |         |                             |                     |                    |
| <b>Key Accomplishments (FY 2004)/ Planned Milestones (FY 2005/FY 2006)</b> <ul style="list-style-type: none"> <li>▪ Continued to perform surveillance and maintenance activities (FY 2004).</li> <li>▪ Planning and engineering for facility decommissioning will continue including decontamination, partial demolition, and removal of selected structures and components (September 2005).</li> <li>▪ Complete Action Memorandum and start physical decontamination and decommissioning (September 2005).</li> <li>▪ HFBR D&amp;D surveillance and maintenance (September 2005).</li> <li>▪ Establish Statement(s) of Work and Bid Packages for Indefinite Deliver/Indefinite Quantity contracts (June 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**CBC-CA-0013B-N / Solid Waste Stabilization and Disposition – Oakland Sites – 2012 (Non-Defense) (life-cycle estimate \$6,747K).....**

**57                      58                      60**

The scope of work within this PBS achieves efficiencies by managing similar activities for waste management and environmental restoration at multiple Non-Defense sites. Rather than each project awarding its own separate contract, economies of scale are achieved by managing waste consolidation, characterization, aggregation, packaging, and transport-especially to commercial facilities. Services for site investigations, hydrogeologic studies, regulatory review, and stakeholder liaisons are also included within this project through wide applicability of these restoration activities to multiple projects/sites. This project will end when the underlying projects/sites supported by the waste management and environmental restoration activities achieve their end-state, and there is no longer a need for a separate project to achieve multi-project/site savings and efficiencies.

In FY 2006, the following activities are planned:

- Support ongoing environmental/safety activities and disposal activities related to all forms of waste.
- Continue to transport packaged wastes and materials to designated facilities.
- Perform assessment and cleanup tasks involving work plan preparation, site assessments, Resource Conservation and Recovery Act closures, environmental analysis, and other technical activities that pertain to environmental support.

| Metrics                             | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete | Life-cycle Quantity | FY 2006 % Complete |
|-------------------------------------|---------|---------|---------|---------------------|---------------------|--------------------|
| LLW/MLLW Disposed (m <sup>3</sup> ) | 0       | 0       | 0       | 83                  | 83                  | 100%               |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- There are no milestones associated with this PBS.

**CBC-EETEC-0040 / Nuclear Facility Decontamination and Decommissioning-Energy Technology Engineering Center (life-cycle estimate \$205,163K).....**

**18,217                      18,238                      9,000**

The Energy Technology Engineering Center historically was involved in testing reactor components and developing emerging energy technologies. During this testing and development mission, the site and facilities became contaminated. The purpose of this PBS scope is to: 1) clean up contaminated release sites; 2) decontaminate and decommission radioactively and chemically contaminated facilities for eventual release to the Boeing Company (the site owner); 3) perform Resource Conservation and Recovery Act cleanup involving the remediation of both contaminated groundwater and soil; and 4) remove radioactive and hazardous waste from the site applying (when possible) waste minimization principles (e.g., recycling). The end-state is to complete cleanup in FY 2007 and return the site to the

**Non-Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Boeing Company.

In FY 2006, the following activities are planned:

- Complete decontamination and decommissioning of the Radioactive Materials Handling Facility, Space Nuclear Auxiliary Power Reactor Prototype Facility, B4024.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006% Complete |
|--|---------|---------|---------|-----------------------------|---------------------|-------------------|
| LLW/MLLW Disposed (m <sup>3</sup> )  | 820     | 600     | 75      | 1,730*                      | 1,335               | 130%              |
| Radioactive Facility Completions (Number of Facilities)  | 1       | 2       | 0       | 6                           | 6                   | 100%              |
| Industrial Facility Completions (Number of Facilities)   | 5       | 1       | 0       | 25*                         | 13                  | 192%              |
| Remediation Complete (Number of Release Sites)   | 0       | 3       | 0       | 7                           | 10                  | 70%               |
| * The estimated performance targeted for completion through FY 2006 exceeds the projected life-cycle under configuration control.  |         |         |         |                             |                     |                   |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                   |
| <ul style="list-style-type: none"> <li>▪ Started decontamination and decommissioning of Radioactive Materials Handling Facility (FY 2004).</li> <li>▪ Completed decontamination and decommissioning of the subsurface of Space Nuclear Auxiliary Power Reactor Prototype Facility (B4059) (FY 2004).</li> <li>▪ Complete decontamination and decommissioning of Space Nuclear Auxiliary Power Reactor Prototype Facility (B4059) (September 2005).</li> <li>▪ Complete decontamination and decommissioning of Space Nuclear Auxiliary Power Reactor Environmental Test Facility (B4024) and the Radioactive Materials Handling Facility (September 2006).</li> </ul> |         |         |         |                             |                     |                   |

**CH-ANLE-0040 / Nuclear Facility Decontamination and Decommissioning - Argonne National Laboratory-East**

**(life-cycle estimate \$48,012K)..... 1,297 384 10,072**

Historic operations at Argonne National Laboratory-East focused on research reactor construction and operation, including nuclear support facilities such as glove boxes and hot cells. All the reactors are shut down as are most support facilities. Surplus contaminated facilities need to be decontaminated and in one case demolished, to reduce risk and support the overall Argonne National Laboratory – East mission of continuing science research and development work.

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$780,000 for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate outyear decontamination and decommissioning projects. Base PBS funding will also be used to support these Indefinite Delivery/Indefinite Quantity projects.

**Non-Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned to support the accelerated cleanup of the Argonne National Laboratory-East.

- Decontaminate for unrestricted research and development reuse the Zero Power Reactor at the Argonne National Laboratory - East site.
- Continue surveillance and maintenance of building 301, a former Hot Cell facility.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities)  | 3       | 0       | 1       | 66                          | 78                  | 85%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/ FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Continued the surveillance, monitoring, operation and maintenance of grounds and remedial systems to ensure protection of people and the environment (FY 2004).</li> <li>▪ Complete decontamination and decommissioning of Reactor 6 (September 2005).</li> <li>▪ Continue surveillance and maintenance of surplus, contaminated facilities to ensure protection of people, the environment, and the facilities; until funds can be provided to complete cleanup (September 2005).</li> <li>▪ Complete decontamination and decommissioning of Zero Power Reactor (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**ID-0012B-N / Spent Nuclear Fuel Stabilization and Disposition**

**– 2012 (Non-Defense) (life-cycle estimate \$TBD) ..... 4,861 6,681 5,153**

The purpose of this PBS is to stabilize legacy spent nuclear fuel through 2012. This project will be complete when all EM-managed spent nuclear fuel is safely transferred from wet to dry storage and consolidated to secure dry storage at the Idaho Nuclear Technology and Engineering Center. The Idaho National Laboratory currently stores approximately 180 metric tons heavy metal (legacy and non-legacy) spent nuclear fuel and expects to receive an additional 1.4 metric tons of spent nuclear fuel for interim storage pending shipment to the monitored geologic repository during FY 2006 through FY 2012. Approximately 22 metric tons of spent nuclear fuel is stored in water-filled pools within Chemical Processing Plant-666.

Environmental Management now manages spent nuclear fuel in dry storage at three facilities within the Idaho Nuclear Technology and Engineering Center: Chemical Processing Plant-603, Irradiated Fuel Storage Facility; Chemical Processing Plant-749; and 2707. Management of approximately 15 metric tons of spent nuclear fuel presently stored at Fort St. Vrain in Colorado and approximately 82 metric tons of spent nuclear fuel presently stored on-site in the Three Mile Island Independent Spent Fuel Storage Installations is budgeted in this Non-Defense Site Acceleration Completion, 2012 Accelerated Completions budget. In accordance with the Performance Management Plan, this project accelerates the consolidation of legacy spent nuclear fuel at the Idaho Nuclear Technology and Engineering Center.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

This project also accelerates the transfer of legacy spent nuclear fuel from wet to dry storage by the end of FY 2012, 11 years ahead of the previous baseline date of 2023. Accordingly, the last EM-managed spent nuclear fuel wet storage basin will be emptied by FY 2012.

|   |          |              |          |
|---|----------|--------------|----------|
| <b>Congressionally Directed Activities.....</b> | <b>0</b> | <b>1,500</b> | <b>0</b> |
|---|----------|--------------|----------|

Inspect and repackage the spent fuel stored at the Lynchburg Technology Center in Virginia

In FY 2006, the following activities are planned:

- Provide payments to the Nuclear Regulatory Commission for licensing-related activities related to both Ft. St. Vrain and TMI-2 Spent Nuclear Fuel.
- Provide security for Ft. St. Vrain Spent Nuclear Fuel.
- Monitor TMI-2 Spent Nuclear Fuel which is in dry storage at the Idaho Nuclear Technology and Engineering Center.

|  |               |               |               |
|--|---------------|---------------|---------------|
| <b>OH-WV-0013 / Solid Waste Stabilization and Disposition-<br/>West Valley (life-cycle estimate \$203,501K).....</b> | <b>24,260</b> | <b>40,214</b> | <b>19,500</b> |
|--|---------------|---------------|---------------|

The solid waste stabilization and disposition project at the West Valley Demonstration Project involves the waste management activities required, in accordance with the West Valley Demonstration Project Act of 1980, to disposition the low-level and transuranic waste produced as a result of high level waste solidification activities. When this EM project is completed, all demonstration project-generated low-level waste and transuranic waste will have been shipped off-site for disposal, reducing worker and environmental risk at the site. In order to prepare for legacy waste disposition efforts associated with transuranic and other high activity waste, a Remote Handled Waste Facility has been constructed which provides the capability to safely characterize, size reduce, package and prepare high activity and transuranic waste for off-site shipment and disposal.

As of September 2004, more than 8,400 m<sup>3</sup> of legacy and remediation low-level waste has been shipped off-site for disposal. Construction of the Remote Handled Waste Facility was completed and hot operations initiated. Processing of the first of thirteen legacy waste streams was accomplished, and processing of the second waste stream will be completed by the end of the calendar year.

In FY 2006, the following activities are planned:

- Continue processing of high activity and transuranic wastes through the Remote-Handled Waste Facility.
- Continue waste management operations for disposal of low-level waste.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| TRU Waste Shipped for Disposal at WIPP (m <sup>3</sup> )  | 0       | 0       | 80      | 80                          | 692                 | 12%                |
| LLW/MLLW Disposed (m <sup>3</sup> )   | 527     | 9,900   | 4,600   | 19,049                      | 23,844              | 80%                |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ The performance testing was completed for the Remote-Handled Waste Facility (FY 2004).</li> <li>▪ Hot operations were initiated for the Remote-Handled Waste Facility (FY 2004).</li> <li>▪ Complete the off-site disposition of legacy Class-A low-level waste with a pathway for disposal (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

**OH-WV-0040 / Nuclear Facility Decontamination and Decommissioning - West Valley (life-cycle estimate \$498,043K)      74,104      33,414      57,600**

The decontamination and decommissioning program at the West Valley Demonstration Project involves those activities required, per the West Valley Demonstration Project Act of 1980, to decontaminate and decommission the facilities, tanks and hardware used during conduct of the high level waste solidification efforts. Decommissioning criteria for the West Valley Demonstration Project were established by the Nuclear Regulatory Commission in 2002. An Environmental Impact Statement to support a subsequent Record of Decision for Decommissioning and/or Long-Term Stewardship of the West Valley site is currently under development by DOE and New York State (the West Valley site owner). Decontamination and decommissioning will be performed consistent with the Nuclear Regulatory Commission criteria and Record of Decision to most effectively reduce worker, public, and environmental risk at the West Valley Demonstration Project. To support decontamination and decommissioning efforts, this program also involves those activities required to safely manage and maintain the site in compliance with federal and state statutes, as well as DOE orders and requirements. The high-level waste canisters produced as a result of solidifying liquid high level waste are stored in a cell in the former spent fuel reprocessing facility. Once decommissioning is completed to the extent possible, they will remain safely configured in their current storage location until they can be transported to a federal repository for disposal. Once the canisters are dispositioned, any final decontamination and decommissioning will be performed and Project facilities returned to the state of New York.

As of September FY 2004, continued decontamination operations in the Head-End Cells (General Purpose and Process Mechanical Cells) and Extraction Cell #2. Activities were initiated to decontaminate the vitrification facility, and continued development of the Decommissioning and/or Long-Term Stewardship Environmental Impact Statement, including the initiation of efforts to draft a Decommissioning Plan consistent with DOE's preferred alternative for decommissioning of Project facilities.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

EM continues to incorporate opportunities to further accelerate risk reduction. Included in this PBS is an additional \$3,900,000 for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate outyear decontamination and decommissioning projects. Base PBS funding will also be used to support these Indefinite Delivery/Indefinite Quantity projects.

In FY 2006, the following activities are planned:

- Continue decontamination operations in the former spent nuclear fuel reprocessing facility; and initiate dispositioning.
- Continue removal and/or dismantlement of ancillary Project facilities/infrastructure.
- Maintain safe interim storage of 275 high-level waste canisters, legacy transuranic (approximately 692 m<sup>3</sup>) and low-level waste (approximately 19,822 m<sup>3</sup>).
- Continue development of the Decommissioning and/or Long-Term Stewardship Environmental Impact Statement.
- Continue safe site operations in compliance with federal and state statutes and regulations, as well as DOE orders and requirements.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Liquid Waste Tanks Closed (Number of Tanks)   | 0       | 0       | 0       | 0                           | 2                   | 0%                 |
| Remediation Complete (Number of Release Sites)  | 0       | 0       | 0       | 0                           | 1                   | 0%                 |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ The Waste Management Environmental Impact Statement was published (FY 2004).</li> <li>▪ The decontamination operations, in the Head End Cells (General Purpose and Process Mechanical Cells) were completed (November 2004).</li> <li>▪ The decontamination operations in the extraction Cell 2 was completed (November 2004).</li> <li>▪ The Dismantlement of the Vitrification Facility In-Cell was completed (December 2004).</li> <li>▪ The Record of Decision for Waste Management will be issued (March 2005).</li> <li>▪ Complete removal of trailers and ancillary facilities on south end of project premises (September 2005).</li> <li>▪ Initiate dispositioning of former spent nuclear fuel processing facility (January 2006).</li> <li>▪ Continue dismantlement/removal of facilities and structures no longer necessary to support safe site operations (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

|   |                |                |                |
|---|----------------|----------------|----------------|
| <b>Total, 2012 Accelerated Completions.....</b> | <b>132,906</b> | <b>112,471</b> | <b>128,950</b> |
|---|----------------|----------------|----------------|

**Non-Defense Site Acceleration Completion/  
2012 Accelerated Completions**

**FY 2006 Congressional Budget**

## Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**BRNL-0040 / Nuclear Facility Decontamination and Decommissioning-Brookhaven Graphite Research Reactor**

- Increase in funding is for initiation of significant decontamination and decommissioning activities in accordance with the baseline and for new workscope. An earlier plan was for the reactor to be decommissioned with the pile and bio-shield left in place. However, upon agreement with the regulators, the reactor pile and bio-shield must now be completely removed and disposed. Funding was transferred from the Non-Defense Site Acceleration Completion, 2006 Accelerated Completions account. An additional \$1,560,000 has been included for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate outyear decontamination and decommissioning activities of this project to further accelerate risk reduction. .... 11,737

**BRNL-0041 / Nuclear Facility Decontamination and Decommissioning - High Flux Beam Reactor**

- Increase in funding due, in part, to ramp up of High Flux Beam Reactor. An additional \$1,560,000 has been included for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate outyear decontamination and decommissioning activities of this project to further accelerate risk reduction. .... 2,346

**CBC-CA-0013B-N / Solid Waste Stabilization and Disposition – California Sites – 2012 (Non-Defense)**

- No significant change. .... 2

**CBC-ETEC-0040 / Nuclear Facility Decontamination and Decommissioning - Energy Technology Engineering Center**

- Funds reduced due to ramp down of cleanup activities for completion in FY 2007. .... -9,238

**CH-ANLE-0040 / Nuclear Facility Decontamination and Decommissioning - Argonne National Laboratory – East**

- Increase in funding provides for accelerated decontamination of the Zero Power Reactor (from FY 2009 to FY 2006). An additional \$780,000 has been included for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate this outyear decontamination and decommissioning project to further accelerate risk reduction. ... 9,688

**ID-0012B-N / Spent Nuclear Fuel Stabilization and Disposition – 2012 (Non-Defense)**

- Request does not include funds for the Lynchberg Technology Center..... -1,528

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**OH-WV-0013 / Solid Waste Stabilization and Disposition - West Valley**

- The decrease in funding reflects lower cost estimates to support Remote-Handled Waste Facility operations and waste disposition efforts at the West Valley Demonstration Project due to completion of legacy low-level Class A waste disposition in FY 2005. .... -20,714

**OH-WV-0040 / Nuclear Facility Decontamination and Decommissioning - West Valley**

- The increase in funding supports decontamination operations and initiation of dispositioning at the former spent nuclear fuel reprocessing facility and dismantlement/removal of structures and facilities no longer needed to support safe operations. An additional \$3,900,000 is provided for the use of Indefinite Delivery/Indefinite Quantity contracts to accelerate outyear decontamination and decommissioning projects to further accelerate risk reduction..... 24,186

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**Total Funding Change, 2012 Accelerated Completions..... 16,479**



## 2035 Accelerated Completions

### Funding Schedule by Activity

|   | (dollars in thousands) |         |         |           |          |
|---|------------------------|---------|---------|-----------|----------|
|   | FY 2004                | FY 2005 | FY 2006 | \$ Change | % Change |
| CBC-MOAB-0031 / Soil and Water Remediation -<br>Moab.....   | 4,473                  | 7,711   | 28,006  | 20,295    | 263.2%   |
| VL-LANL-0040-N / Nuclear Facility Decontamination<br>Decontamination and Decommissioning-Los Alamos<br>National Laboratory (Non-Defense)..... | 447                    | 447     | 490     | 43        | 9.6%     |
| Total, 2035 Accelerated Completions.....  | 4,920                  | 8,158   | 28,496  | 20,338    | 249.3%   |

### Description

The Non-Defense Site Acceleration Completion appropriation, 2035 Accelerated Completions program provides funding for completing cleanup and closing facilities contaminated as a result of nuclear energy research and development. This program provides funding for site closures and site specific cleanup and closure projects that are expected to be completed after 2012. EM has established a goal of completing cleanup at all its sites by 2035.

### Benefits

This program provides funding to accelerate risk reduction and environmental cleanup at non-defense sites where cleanup will be completed by 2035. As the cleanup of these sites and projects progress, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. By focusing resources on accelerating risk reduction and cleanup rather than managing risk, the cleanup of these sites will be achieved in a shorter timeframe and at less cost.

### Funding by Site

|   | (dollars in thousands) |         |         |           |          |
|---|------------------------|---------|---------|-----------|----------|
|   | FY 2004                | FY 2005 | FY 2006 | \$ Change | % Change |
| Consolidated Business Center<br>Atlas Site.....               | 4,473                  | 7,711   | 28,006  | 20,295    | 263.2%   |
| Los Alamos Site Office<br>Los Alamos National Laboratory..... | 447                    | 447     | 490     | 43        | 9.6%     |
| Total, 2035 Accelerated Completions.....                      | 4,920                  | 8,158   | 28,496  | 20,338    | 249.3%   |

**Detailed Justification**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**CBC-MOAB-0031 / Soil and Water Remediation - Moab  
(life-cycle estimate \$187,534K)..... 4,473 7,771 28,006**

This PBS covers remediation of the former Atlas Mill Site, with 11.8 million tons of contaminated mill tailings, mill debris, contaminated groundwater, and vicinity properties in Moab, Utah, under authority of the Uranium Mill Tailings Radiation Control Act. An Environmental Impact Statement to be completed in 2005, will evaluate alternatives for remediation, with a focus on capping the tailings in place or relocation to a commercial facility or DOE constructed repository. Vicinity properties contaminated with mill tailings as a result of past construction practices will be remediated and contaminated materials will be disposed in conjunction with the mill site cleanup. When remediation is complete, consistent with the Record of Decision, disturbed areas around the former mill site will be restored to pre-mill conditions, and institutional controls on land, surface, and groundwater use may be necessary to protect human health and the environment. The site is of particular public interest due to its unique setting on the banks of the Colorado River. The tailings pile is leaching contaminants to the river through the groundwater, potentially impacting critical habitat for endangered native fish species. Local citizens are concerned about the environmental effects posed by the pile, and downstream water users are concerned about contaminants entering the river. Public interest is also heightened by the site's proximity to a Nature Conservancy wetlands preserve directly across the river and its shared boundary with Arches National Park.

The end-state will be achieved after contaminated soil, tailings, vicinity properties, and surface and groundwater are remediated. Specific actions to be taken will be determined by the results of the Environmental Impact Statement. The site will then be transferred to the Office of Legacy Management for monitoring and required stewardship.

**Congressionally Directed Activities..... 2,485 0 0**

Atlas Moab Accelerated Remediation

In FY 2006, the following activities are planned:

- Complete Remedial Action Plan (conceptual design).
- Support Nuclear Regulatory Commission review and concurrence with remedial action plan.
- Initiate detailed reclamation design.
- Initiate construction of final groundwater corrective action system.
- Continue operation/optimization of interim groundwater corrective actions to accelerate interim protection of threatened and endangered species.
- Continue to monitor the groundwater and surface water.
- Continue characterization and remediation of vicinity properties.
- Operate and maintain site including tailings dewatering system, access controls, health and safety, surface controls and air monitoring, vegetation/habitat improvements.

**Non-Defense Site Acceleration Completion/  
2035 Accelerated Completions**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/ FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Complete Final Environmental Impact Statement (July 2005).</li> <li>▪ Issue Record of Decision (August 2005).</li> <li>▪ Complete disposal of remnant chemicals (September 2005).</li> <li>▪ Complete radiological assessment of mill site soils (September 2005).</li> <li>▪ Complete Remedial Action Plan (conceptual design) (December 2005).</li> </ul> |         |         |         |                             |                     |                    |

**VL-LANL-0040-N / Nuclear Facility Decontamination and Decommissioning - Los Alamos National Laboratory**

**(Non-Defense) (life-cycle estimate \$17,712K)..... 447 447 490**

The Tritium System Test Assembly Facility was transferred into the EM Program in FY 2003 for continued surveillance and maintenance, with limited deactivation, and eventual demolition. This transfer is documented in a Memorandum of Agreement that was signed by EM, National Nuclear Security Administration, and the Office of Science on March 19, 2002. Prior to transfer, the facility was placed in a safe shutdown mode. The shutdown mode is documented in an end point transition report. Several glove boxes, which contain small amounts of radioactive tritium residue, were left in place as approved and documented in the Safety Authorization Basis. As a result, the facility emissions stack system will continue to operate. Until the ultimate disposition of the facility is achieved, which is demolition and disposal of resulting waste, the facility will remain in a shutdown mode, and surveillance and maintenance activities will be performed. Surveillance and maintenance activities include facility walk-throughs, maintaining the Safety Authorization Basis, stack monitoring, and security.

The end-state of this activity, to occur in FY 2011, is demolition of the EM facilities as defined in the Memorandum of Agreement. In the case of any facilities demolished as part of the decontamination and decommissioning process, the remaining facility sites may be transferred to the Environmental Restoration program for remediation and then to the site landlord along with responsibility for any long term monitoring.

In FY 2006, the following activities are planned:

- Continue surveillance and maintenance (with limited deactivation) for the Tritium Systems Test Assembly facility, which includes maintaining air emissions permit, facility walk-throughs, maintaining the safety basis authorization, stack monitoring, and security.
- Perform limited deactivation, such as removal of excess equipment (e.g. glove boxes), which was left in place per the signed Memorandum of Agreement.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities)   | 0       | 0       | 0       | 0                           | 1                   | 0%                 |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Continue surveillance and maintenance activities at the Tritium Systems Test Assembly to ensure safe and environmentally compliant conditions until final demolition (FY 2004/September 2005/September 2006).</li> <li>▪ Develop Project Baseline (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

|   |              |              |               |
|---|--------------|--------------|---------------|
| <b>Total, 2035 Accelerated Completions.....</b> | <b>4,920</b> | <b>8,158</b> | <b>28,496</b> |
|---|--------------|--------------|---------------|

**Explanation of Funding Changes**

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**CBC-MOAB-0031 / Soil and Water Remediation – Moab**

|   |        |
|---|--------|
| <ul style="list-style-type: none"> <li>▪ Increase of funds for initiation of major remedial activities, including construction of a long-term groundwater corrective action system for the protection of threatened and endangered aquatic species; completion of Remedial Action Plan conceptual design and initiation of regulatory concurrence, and initiation of detailed reclamation design through procurement of an A/E design contractor. ....</li> </ul> | 20,295 |
|---|--------|

**VL-LANL-0040-N / Nuclear Facility Decontamination and Decommissioning - Los Alamos National Laboratory (Non-Defense)**

|   |    |
|---|----|
| <ul style="list-style-type: none"> <li>▪ No significant change. ....</li> </ul> | 43 |
|---|----|

|  |               |
|--|---------------|
| <b>Total Funding Change, 2035 Accelerated Completions.....</b> | <b>20,338</b> |
|--|---------------|

# **Non-Defense Environmental Services**

# **Non-Defense Environmental Services**

## Table of Contents

|   | Page |
|---|------|
| Appropriation Language .....              | 339  |
| Community and Regulatory Support .....    | 343  |
| Environmental Cleanup Projects.....       | 347  |
| Non-Closure Environmental Activities..... | 351  |
| Construction.....                         | 363  |



## **Non-Defense Environmental Services**

### **Proposed Appropriation Language**

For the Department of Energy expenses necessary for non-defense environmental services activities that indirectly support the accelerated cleanup and closure mission at environmental management sites, including the purchase, construction, and acquisition of plant and capital equipment and other necessary expenses, [\$291,296,000] *and the purchase of not to exceed six passenger motor vehicles, of which five shall be for replacement only; \$177,534,000*, to remain available until expended. (*Energy and Water Development Appropriations Act, 2005.*)

### **Explanation of Change**

None.



## Non-Defense Environmental Services

### Funding Profile by Program

(dollars in thousands)

|   | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments    | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|---|--|--------------------------------------|---------------------------|--|--------------------|
| Non-Defense Environmental Services                    |  |                                      |                           |  |                    |
| Community and Regulatory Support.....                 | 1,030                                  | 90                                   | -1                        | 89                                     | 90                 |
| Environmental Cleanup Projects.....                   | 43,589                                 | 46,083                               | -368                      | 45,715                                 | 46,113             |
| Non-Closure Environmental Activities.....             | 273,178                                | 245,123                              | -1,961                    | 243,162                                | 131,331            |
| <b>Total, Non-Defense Environmental Services.....</b> | <b>317,797</b>                         | <b>291,296</b>                       | <b>-2,330<sup>a</sup></b> | <b>288,966</b>                         | <b>177,534</b>     |

Public Law Authorizations:

Public Law 95-91, "Department of Energy Organization Act, 1977"

Public Law 103-62, "Government Performance and Results Act, 1993"

Public Law 108-137, "Energy and Water Development Appropriations Act, 2004"

Public Law 108-447, "Consolidated Appropriations Act, 2005"

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<sup>a</sup> Reflects the following adjustments:

o Rescission reduction of -\$2,330,368.

### Mission

The mission of EM is the safe, accelerated risk reduction and cleanup of the environmental legacy resulting from the Nation's nuclear weapons development and government-sponsored nuclear energy research. Over the last four years, the program has delivered significant risk reduction and cleanup results while ensuring the cleanup is safe for the workers, protective of the environment and respectful of the taxpayer. The program, once focused on managing risk, is demonstrating the benefits of accelerating cleanup and closure by realizing the completion of tangible results. These outcomes are providing important and valuable benefits to the public, communities, and for the generations that will follow.

The Non-Defense Environmental Services appropriation indirectly supports the primary mission of accelerated risk reduction and closure. This appropriation also funds non-defense service activities performed by the Environmental Management program for other Department goals and objectives.

This appropriation includes three programs: Non-Closure Environmental Activities; Community and Regulatory Support; and Environmental Cleanup Projects. The FY 2006 Request for the Non-Defense Environmental Services appropriation is \$177,534,000, a decrease of \$111,432,000, from the comparable FY 2005 comparable appropriation of \$288,966,000.

### **Benefits**

This appropriation provides funding for non-defense related activities that indirectly support the primary EM mission of accelerated risk reduction and environmental cleanup of sites contaminated as a result of nuclear research. The appropriation also funds services provided by EM in support of other Departmental missions and objectives to include cleanup and management of the nation's three gaseous diffusion plants and the construction and operation of two depleted uranium hexafluoride conversion facilities.

As the EM cleanup progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed and sites are closed, the financial resources needed to maintain site infrastructure will no longer be required. These indirect support activities ensure that EM's primary cleanup mission and other DOE missions and objectives proceed in an efficient and responsible manner.

## Community and Regulatory Support

### Funding Schedule by Activity

(dollars in thousands)

|   | FY 2004      | FY 2005   | FY 2006   | \$ Change | % Change    |
|---|--------------|-----------|-----------|-----------|-------------|
| BRNL-0100 / Brookhaven Community and Regulatory Support.....                | 660          | 49        | 50        | 1         | 2.0%        |
| CBC-CA-0100-N / Oakland Community and Regulatory Support (Non-Defense)..... | 39           | 40        | 40        | 0         | 0.0%        |
| PA-0100 / Paducah Community and Regulatory Support (Non-Defense).....       | 331          | 0         | 0         | 0         | 0.0%        |
| <b>Total, Community and Regulatory Support.....</b>                         | <b>1,030</b> | <b>89</b> | <b>90</b> | <b>1</b>  | <b>1.1%</b> |

### Description

The Community and Regulatory Support program includes activities that are not directly related to on-the-ground cleanup results but are none-the-less integral to EM's ability to conduct cleanup at EM 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 funding level to support stakeholder participation, and ensure that maximum funding is directed to real cleanup.

### Benefits

This program provides funding for non-defense related activities that indirectly support on-the-ground cleanup and are integral to DOE's ability to conduct cleanup at its sites.

In particular, these activities promote active involvement in EM's planning and decision-making processes. In addition, 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 DOE's non-defense sites.

By providing opportunities for active involvement in DOE's planning processes, these activities facilitate and increase stakeholder communication and minimize misunderstanding. These activities also provide forums where issues can be discussed and resolved in an efficient and cooperative manner which decreases the chances of costly legal or regulatory actions being taken against the Department.

### Funding by Site

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 | \$ Change | % Change |
|--|---------|---------|---------|-----------|----------|
| Chicago                                      |         |         |         |           |          |
| Brookhaven National Laboratory.....          | 660     | 49      | 50      | 1         | 2.0%     |
| Consolidated Business Center.....            |         |         |         |           |          |
| California Site Support.....                 | 39      | 40      | 40      | 0         | 0.0%     |
| Paducah                                      |         |         |         |           |          |
| Paducah Gaseous Diffusion Plant.....         | 331     | 0       | 0       | 0         | 0.0%     |
| Total, Community and Regulatory Support..... | 1,030   | 89      | 90      | 1         | 1.1%     |

### Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**BRNL-0100 / Brookhaven Community and Regulatory Support (life-cycle estimate \$2,976K)..... 660 49 50**

This PBS assists New York State in carrying out its oversight responsibilities under the Brookhaven National Laboratory Comprehensive Environmental Response, Compensation, and Liability Act Interagency Agreement between DOE, the United States Environmental Protection Agency, and the New York State Department of Environmental Conservation, for addressing remedial activities at Brookhaven National Laboratory. This project will continue until the Comprehensive Environmental Response, Compensation, and Liability Act cleanup activities, as identified in the Brookhaven National Laboratory Performance Management Plan (August 2002) and site Records of Decision, are completed.

In FY 2006, the following activities are planned:

- The New York State Department of Environmental Conservation will continue oversight of the Brookhaven Graphite Research Reactor decontamination and decommissioning and progress in groundwater cleanup with continued operation of the groundwater treatment systems.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Provided involvement in the initiation, development, selection and enforcement of Remedial Actions to be undertaken at Brookhaven National Laboratory, including review of all applicable data; development of studies, reports and action plans; oversight for implementation of the selected Removal Actions, Operable Units and Remedial Actions; and the continued operation and maintenance of the implemented Remedial Action(s) (FY 2004).</li> <li>▪ Continue review and grant amendment for post-buildout phase (September 2005).</li> <li>▪ DOE will review and amend grant after soil and groundwater remedy implementation (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**CBC-CA-0100-N / Oakland Community and Regulatory**

**Support (life-cycle estimate \$2,353K)..... 39 40 40**

This project provides funding for grants to the Regional Water Quality Control Board and California Department of Toxic Substances Control Board for 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 and to Indian Nations for grants supporting activities at tribal universities and colleges related to environmental cleanup.

In FY 2006, the following activities are planned:

- Continue support of State regulatory oversight of EM programs at non-Defense sites. This includes the review of data and documentation associated with waste management and environmental restoration activities. Also includes active participation in review and endorsement of EM accelerated site closure proposals by DOE when requested.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ 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 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PA-0100 / Paducah Community and Regulatory Support**

**(Non-Defense) (life-cycle estimate \$10,203K)..... 331 0 0**

This PBS is being funded under PBS PA-0103 in the Uranium Enrichment Decontamination and Decommissioning Fund appropriation.

- No funding is being requested for this PBS in FY 2006.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)                                    |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ There are no milestones associated with this PBS.</li> </ul> |         |         |         |                             |                     |                    |

**Total, Community and Regulatory Support..... 1,030 89 90**

**Non-Defense Environmental Services/  
Community and Regulatory Support**

**FY 2006 Congressional Budget**

**Explanation of Funding Changes**

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**BRNL-0100 / Brookhaven Community and Regulatory Support**

|  |          |
|--|----------|
| ▪ No significant change. ....                                      | 1        |
| <hr/>  |          |
| <b>Total Funding Change, Community and Regulatory Support.....</b> | <b>1</b> |

# Environmental Cleanup Projects

## Funding Schedule by Activity

(dollars in thousands)

|  | FY 2004       | FY 2005       | FY 2006       | \$ Change  | % Change    |
|--|---------------|---------------|---------------|------------|-------------|
| RL-0042 / Nuclear Facility Decontamination and<br>Decommissioning-Fast Flux Test Facility..... | 43,589        | 45,715        | 46,113        | 398        | 0.9%        |
| <b>Total, Environmental Cleanup Projects.....</b>  | <b>43,589</b> | <b>45,715</b> | <b>46,113</b> | <b>398</b> | <b>0.9%</b> |

### Description

The Environmental Cleanup Projects program provides for surveillance and maintenance and eventual decontamination and decommissioning of the Fast Flux Test Facility at the Hanford Site in Richland, Washington.

### Benefits

This program provides funding for surveillance and maintenance and eventual decontamination and decommissioning.

The Fast Flux Test Facility will undergo surveillance and maintenance to ensure safety. As the facility is decontaminated and decommissioned, the risk to human health and the environment is greatly reduced. In addition, when facility decontamination and decommissioning is completed the financial resources needed for facility surveillance and maintenance will no longer be required.

### Funding by Site

(dollars in thousands)

|   | FY 2004       | FY 2005       | FY 2006       | \$ Change  | % Change    |
|---|---------------|---------------|---------------|------------|-------------|
| Richland<br>Hanford Site.....                     | 43,589        | 45,715        | 46,113        | 398        | 0.9%        |
| <b>Total, Environmental Cleanup Projects.....</b> | <b>43,589</b> | <b>45,715</b> | <b>46,113</b> | <b>398</b> | <b>0.9%</b> |

## Detailed Justification

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

|   |               |               |               |
|---|---------------|---------------|---------------|
| <b>RL-0042 / Nuclear Facility Decontamination and Decommissioning-Fast Flux Test Facility Project (life-cycle estimate \$812,118K).....</b> | <b>43,589</b> | <b>45,715</b> | <b>46,113</b> |
|---|---------------|---------------|---------------|

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 December 19, 2001, concluded that this facility will be permanently closed. On November 8, 2002, a legal action was filed in federal court to halt the sodium drain activity. After a five month work stoppage due to a court injunction, deactivation activities were resumed in early April 2003. Sodium drainage from the plant's secondary system, which constitutes 34 percent of the sodium inventory, was completed and activities related to fuel washing, removal, and storage were initiated.

This PBS deactivates and decommissions the Fast Flux Test Facility: a 400-megawatt (thermal) liquid-metal (sodium) cooled fast neutron flux nuclear test reactor and forty-four 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 375 reactor fuel assemblies; the draining and disposition of approximately 195,000 gallons of sodium in operating plant systems and 65,000 gallons of sodium in the Sodium Storage Facility; and the shutdown of plant auxiliary systems.

The final facility disposition activity is decommissioning where the facility will be taken to its ultimate end-state through decontamination, dismantlement, and demolition or entombment. The facility end-state for the Fast Flux Test Facility containment building, including the defueled reactor vessel, will be determined following the appropriate environmental analysis process. For planning purposes it is assumed the below-grade reactor containment building will be entombed, and the support facilities and structures will be demolished to three feet below grade and backfilled.

By the end of FY 2004 the sodium was drained from the primary and secondary heat transport system cooling loops. The sodium level was lowered in the reactor vessel to just above the emersion heaters. Sodium-potassium was flushed from the in-containment cooling loops and sodium-potassium was drained from the Fuel Storage Facility cooling loop. Of the 375 fuel assemblies, 262 assemblies were washed, dried, and loaded into above ground interim storage casks. A performance based contract was awarded in September 2004 as a small business set-aside for the accelerated completion of work in this PBS.

In FY 2006, the following activities are planned:

- Complete washing, drying, and offloading reactor fuel to above ground storage.
- Complete pin processing of the specialty fuel assemblies in the Interim Examination and Maintenance cell. The assemblies require disassembly due to failed fuel pins, mixture of type of fuels, and assembly configuration.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Complete sodium drain from the Fuel Storage Facility vessel (approximately 31,000 gallons) to the Sodium Storage Facility.
- Complete sodium drain from the Interim Decay Storage vessel (approximately 23,000 gallons) to the Sodium Storage Facility.
- Continue shutdown and deactivation of auxiliary plant systems.
- Complete the Environmental Impact Statement and Record of Decision for the decommissioning and dismantlement of the Fast Flux Test Facility.
- Initiate shutdown of the Interim Examination and Maintenance Cell.
- Initiate decontamination and decommissioning of the Fast Flux Test Facility support facilities and structures.
- Focus on completing fuel offload activities, continuing sodium drain activities, and initiating decommissioning of support facilities and structures.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Pu Metal/Oxide Packaged for Long-Term Disposition (Number of Containers)  | 400     | 0       | 0       | 400                         | 400                 | 100%               |
| SNF Packaged for Disposition (MTHM)   | 3       | 2       | 2       | 7                           | 7                   | 100%               |
| Radioactive Facility Completions (Number of Facilities)   | 0       | 0       | 0       | 0                           | 23                  | 0%                 |
| <b>Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)</b>   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Completed the washing and packaging of one metric ton heavy metal of Fast Flux Test Facility Spent Nuclear Fuel for disposition (FY 2004).</li> <li>▪ Completed cleaning 21 additional reactor fuel assemblies and staged them for packaging in storage/shipping casks (FY 2004).</li> <li>▪ Completed washing and packaging a second metric ton heavy metal of Fast Flux Test Facility Spent Nuclear Fuel for disposition (December 2004).</li> <li>▪ Complete sodium drain of the primary heat transport system loops and the reactor vessel (June 2005).</li> <li>▪ Complete wash, dry and storage of Fast Flux Test Facility spent nuclear fuel (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

|   |               |               |               |
|---|---------------|---------------|---------------|
| <b>Total, Environmental Cleanup Projects.....</b> | <b>43,589</b> | <b>45,715</b> | <b>46,113</b> |
|---|---------------|---------------|---------------|

## Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

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

|  |            |
|--|------------|
| ▪ No significant change. ....                                    | 398        |
| <hr/>  |            |
| <b>Total Funding Change, Environmental Cleanup Projects.....</b> | <b>398</b> |

## Non-Closure Environmental Activities

### Funding Schedule by Activity

(dollars in thousands)

|  | FY 2004        | FY 2005        | FY 2006        | \$ Change       | % Change      |
|--|----------------|----------------|----------------|-----------------|---------------|
| OR-0011Y / Nuclear Materials Stabilization and Disposition - East Tennessee Technology Park Uranium Uranium Facilities Management..... | 13,406         | 7,923          | 1,600          | -6,323          | -79.8%        |
| PA-0011 / Nuclear Materials Stabilization and Disposition - Paducah Uranium Facilities Management.....                                 | 4,258          | 4,892          | 2,420          | -2,472          | -50.5%        |
| PA-0011X / Nuclear Materials Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion.....                             | 56,656         | 50,592         | 48,400         | -2,192          | -4.3%         |
| PA-0101 / Paducah Contract/Post-Closure Liabilities/Administration (Non-Defense).....  | 472            | 0              | 0              | 0               | 0.0%          |
| PO-0011 / Nuclear Materials Stabilization and Disposition - Portsmouth Other Uranium Facilities Management.....                        | 16,461         | 11,611         | 10,536         | -1,075          | -9.3%         |
| PO-0011X / Nuclear Materials Stabilization and Disposition - Depleted Uranium Hexafluoride Conversion.....                             | 44,727         | 55,949         | 48,400         | -7,549          | -13.5%        |
| PO-0041 / Nuclear Facility Decontamination and Decommissioning - Portsmouth Gaseous Centrifuge Enrichment Plant.....                   | 24,130         | 19,840         | 19,975         | 135             | 0.7%          |
| PO-0101 / Portsmouth Cold Standby .....  | 113,068        | 92,355         | 0              | -92,355         | -100.0%       |
| <b>Total, Non-Closure Environmental Activities.....</b>  | <b>273,178</b> | <b>243,162</b> | <b>131,331</b> | <b>-111,831</b> | <b>-46.0%</b> |

### Description

The Non-Closure Environmental Activities program includes activities that indirectly support the Environmental Management accelerated cleanup and closure mission and services provided by Environmental Management 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.

### Benefits

This program provides funding for non-defense related activities that indirectly support the primary EM cleanup mission. These include services provided by EM in support of other Departmental missions and objectives such as cleanup and management of the nation's three gaseous diffusion plants and construction and operation of two depleted uranium hexafluoride conversion facilities. As the cleanup at the gaseous diffusion plants progresses and the conversion of depleted uranium hexafluoride into a safe form is completed, the risk and hazard to human health and the environment is greatly reduced. In

addition, as cleanup is completed, the financial resources needed to maintain site infrastructure will also be reduced.

**Funding by Site**

(dollars in thousands)

|   | FY 2004        | FY 2005        | FY 2006        | \$ Change       | % Change      |
|---|----------------|----------------|----------------|-----------------|---------------|
| Oak Ridge   |                |                |                |                 |               |
| East Tennessee Technology Park.....                     | 13,406         | 7,923          | 1,600          | -6,323          | -79.8%        |
| Paducah   |                |                |                |                 |               |
| Paducah Gaseous Diffusion Plant.....                    | 61,386         | 55,484         | 50,820         | -4,664          | -8.4%         |
| Portsmouth  |                |                |                |                 |               |
| Portsmouth Gaseous Diffusion Plant.....                 | 198,386        | 179,755        | 78,911         | -100,844        | -56.1%        |
| <b>Total, Non-Closure Environmental Activities.....</b> | <b>273,178</b> | <b>243,162</b> | <b>131,331</b> | <b>-111,831</b> | <b>-46.0%</b> |

**Detailed Justification**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**OR-0011Y / Nuclear Materials Stabilization and Disposition-  
East Tennessee Technology Park Uranium Facilities  
Management (life-cycle estimate \$54,895K)..... 13,406 7,923 1,600**

This PBS scope reduces the environmental and safety concerns associated with approximately 6,350 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. All of the uranium hexafluoride cylinders pose a security risk, and the continued deterioration of the cylinders is a threat for release of radioactive and toxic contaminants to the environment. Thus, there is a risk to on-site workers as well as the off-site public. Constant surveillance and maintenance required to mitigate these risks is a significant part of East Tennessee Technology Park's landlord cost.

As of September 2004, 429 empty cylinders were disposed at the Nevada Test Site and 1,710 full cylinders were shipped to Portsmouth. 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 2006. Site infrastructure services include fire protection, utility services, environmental, safety, and health programs, real property management, power operations and maintenance, and capital improvements and repairs.

**Non-Defense Environmental Services/  
Non-Closure Environmental Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Complete annual and quadrennial visual inspections to support safe storage and off-site shipments.
- Relocate, stage, inspect, and ship approximately 1,600 depleted uranium hexafluoride cylinders to Portsmouth. This will complete the end state for this PBS with all cylinders removed from the East Tennessee Technology Park Site in accordance with the Tennessee Department of Environment and Conservation Order.
- Complete disposition of the secondary wastes generated by cylinder storage operations.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )   | 0       | 0       | 0       | 93                          | 93                  | 100%               |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Shipped 1,710 uranium hexafluoride cylinders to Portsmouth, Ohio and shipped 429 empty cylinders to the Nevada Test Site (FY 2004).</li> <li>▪ Continue to maintain stored uranium hexafluoride cylinders and six cylinder yards (September 2005).</li> <li>▪ Complete American National Standards Institute non-compliant cylinder shipment (1,600) (December 2005).</li> <li>▪ Ship remaining uranium hexafluoride cylinders to Portsmouth (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PA-0011 / Nuclear Materials Stabilization and Disposition- Paducah Uranium Facilities Management (life-cycle estimate**

**\$59,386K)..... 4,258 4,892 2,420**

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. Safe storage of approximately 38,000 uranium hexafluoride cylinders is maintained by a cylinder inspection program to monitor the physical condition and record defects of the cylinders. Management of these cylinders will continue until FY 2005 when turnover to the depleted uranium hexafluoride conversion facility operator occurs.

This PBS scope also 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

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

used in motor and compressor bearings. The polychlorinated biphenyl project includes activities related to maintaining compliance with the Toxic Substances Control Act (40 CFR 761) and 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.

As of September 2004, 35,516 cylinders were relocated to improved storage (92 percent complete). Progress to date also includes cleanup of 2,496 polychlorinated biphenyl spills.

In FY 2006, the following activities are planned:

- Continue safe and compliant surveillance and maintenance of fifteen inactive facilities.
- Inspect and maintain the polychlorinated biphenyl collection and containment system.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Enriched Uranium Packaged for Disposition (Number of Containers)  | 0       | 0       | 0       | 0                           | 182                 | 0%                 |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Continue to maintain stored uranium hexafluoride cylinders and eleven cylinder yards in a safe condition (FY 2004/March 2005).</li> <li>▪ Transfer cylinder management activities to the depleted uranium hexafluoride conversion facility operating contractor (March 2005).</li> </ul> |         |         |         |                             |                     |                    |

**PA-0011X / Nuclear Materials Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion (life-cycle estimate \$1,269,939K).....**

**56,656      50,592      48,400**

Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in 64,000 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, suitable for reuse or disposition. The depleted uranium oxide will be disposed of at a commercial disposal facility, the hydrogen fluoride by-products will be sold on the commercial market, and the empty cylinders will either be crushed and sent to disposal or reused.

This project also includes surveillance and maintenance of all cylinders during conversion of the existing stockpile, which should take about 25 years. The conversion facility operator will assume responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2005.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Construction of the Paducah facility was initiated (July 2004). (This PBS includes the following amounts for line- item construction project 02-U-101, Depleted Uranium Hexafluoride Conversion Project: FY 2004 - \$55,077,000; FY 2005 - \$47,913,600; FY 2006 - \$42,901,000.

|  |               |              |          |
|--|---------------|--------------|----------|
| <b>Congressionally Directed Activities.....</b>                | <b>11,292</b> | <b>1,250</b> | <b>0</b> |
| Construction of depleted hexafluoride conversion project ..... | 11,929        | 0            | 0        |
| U.S. Army Corps of Engineers center of expertise review.....   | 0             | 1,250        | 0        |
| <b>Total Congressionally Directed Activities.....</b>          | <b>11,292</b> | <b>1,250</b> | <b>0</b> |

In FY 2006, the following activities are planned:

- Continue construction activities.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Depleted and Other Uranium Packaged for Disposition (mt)  | 0       | 0       | 0       | 0                           | 453,312             | 0%                 |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Initiated depleted uranium hexafluoride conversion facilities final design (FY 2004).</li> <li>▪ Began facility construction (July 2004).</li> <li>▪ Complete final project design (July 2005).</li> <li>▪ Complete A-E work (July 2005).</li> <li>▪ Continue construction which includes completion of site preparation work and initiating construction of administration, warehouse, and conversion buildings (September 2005).</li> <li>▪ Complete construction of the administration and warehouse buildings (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

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

**Liabilities/Administration (Non-Defense) (life-cycle estimate**

**TBD)..... 472 0 0**

- This activity is funded under the Uranium Enrichment Decontamination and Decommissioning Fund (PA-0102) in FY 2006. No funding is being requested for this PBS in FY 2006.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)                                  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>There are no milestones associated with this PBS.</li> </ul> |         |         |         |                             |                     |                    |

**PO-0011 / Nuclear Materials Stabilization and Disposition-  
Portsmouth Other Uranium Facilities Management (life-cycle  
estimate \$95,448K).....**

**16,461 11,611 10,536**

This PBS scope manages the Highly Enriched Uranium Program, performs surveillance and maintenance on the former Uranium Program facilities, manages approximately 19,000 uranium hexafluoride cylinders, and manages legacy polychlorinated biphenyl contamination. The Highly Enriched Uranium Program activities will continue until disposition of the highly enriched uranium in process building X-326. 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 activities are performed. Management of depleted uranium hexafluoride cylinders will continue until FY 2005, 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.

As of September 2004, Portsmouth received and stacked 1,710 cylinders from the East Tennessee Technology Park.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned:

- Continue management of legacy polychlorinated biphenyl waste in compliance with Toxic Substance Control Act Federal Facilities Compliance Agreement.
- Continue surveillance and maintenance of former Uranium Program facilities.
- Continue surveillance and maintenance of 158 permanently shutdown cells in X-326.
- Continue surveillance and maintenance of enriched uranium-DOE Material Storage Area 12.
- Continue safe and secure storage of highly enriched uranium materials at Nuclear Fuel Services and remaining materials at X-326 L-cage.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Enriched Uranium Packaged for Disposition (Number of Containers)   | 0       | 0       | 0       | 0                           | 1,450               | 0%                 |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Began to receive uranium hexafluoride cylinders from the East Tennessee Technology Park (FY 2004).</li> <li>▪ Received and stacked 1,710 cylinders from the East Tennessee Technology Park (FY 2004).</li> <li>▪ Transfer responsibility of cylinder management activities to conversion contractor (March 2005).</li> <li>▪ Manage stored uranium hexafluoride cylinders until transfer to conversion facility operating contractor (FY 2004/March 2005).</li> <li>▪ Continue off-site conversion to low enriched uranium and disposition of highly enriched uranium inventories at Nuclear Fuel Services (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PO-0011X / Nuclear Materials Stabilization and Disposition- Depleted Uranium Hexafluoride Conversion (life-cycle estimate \$885,031K).....**

**44,727 55,949 48,400**

Approximately 700,000 metric tons of depleted uranium hexafluoride are stored in 64,000 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 Portsmouth Gaseous Diffusion Plant site. The facility will convert depleted uranium hexafluoride into a more stable form, a depleted uranium oxide, suitable for reuse or disposition. The depleted uranium oxide will be disposed of at a commercial disposal facility, 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 during conversion of the existing stockpile, which should take about 20 years. The conversion facility operator will assume responsibility of maintenance and surveillance of all depleted uranium hexafluoride cylinders in FY 2005. This PBS

**Non-Defense Environmental Services/  
Non-Closure Environmental Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

includes the following amounts for line item construction project 02-U-101, Depleted Uranium Hexafluoride Conversion Project: FY 2004 - \$43,148,000; FY 2005 - \$51,286,400; FY 2006 - \$42,902,000.

In FY 2006, the following activities are planned:

- Continue construction activities.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Depleted and Other Uranium Packaged for Disposition (mt)  | 0       | 0       | 0       | 0                           | 205,567             | 0%                 |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Facility construction started (FY 2004).</li> <li>▪ Initiated depleted uranium hexafluoride conversion facilities final design (FY 2004).</li> <li>▪ Complete A-E Work (July 2005).</li> <li>▪ Complete final project design (July 2005).</li> <li>▪ Continue construction which includes completion of site preparation work and initiating construction of administration, warehouse, and conversion buildings (September 2005).</li> <li>▪ Complete construction of the administration warehouse buildings (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PO-0041 / Nuclear Facility Decontamination and Decommissioning-Portsmouth Gaseous Centrifuge Enrichment Plant (life-cycle estimate \$80,000K).....**

**24,130 19,840 19,975**

This PBS scope accelerates cleanup of the Gaseous Centrifuge Enrichment Plant 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 would locate its 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 includes cleanout of designated waste and centrifuge equipment in process buildings X-3001 and X-3002; Resource Conservation and Recovery Act closure of designated areas in building X-7725; facility repairs and modifications to existing facilities for relocated office space for waste management operations; for maintenance, storage and training; relocation of DOE operations, and project management and support.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

It is the intent to complete disposition of all Resource Conservation and Recovery Act waste in X-7725 by FY 2006. However, a small amount of the current inventory has been identified that may not be treatable or disposable under current methods.

As of September 2004, began Gas Centrifuge Enrichment Plant cleanup and equipment removal.

|   |              |          |          |
|---|--------------|----------|----------|
| <b>Congressionally Directed Activities.....</b> | <b>2,476</b> | <b>0</b> | <b>0</b> |
|---|--------------|----------|----------|

Accelerated cleanup of Gas Centrifuge Enrichment Plant

In FY 2006, the following activities are planned:

- Complete shipment of 720 disassembled centrifuges.
- Disposition of disposable Resource Conservation and Recovery Act waste currently located in X-7725 to a new location.
- Complete decontamination activities in designated X-7725 facility areas and turnover to the United States Enrichment Corporation.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.   |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Gaseous Centrifuge Enrichment Plant cleanup and equipment removal was started (FY 2004).</li> <li>▪ Clean designated areas in the X-7725 facility in accordance with the Resource Conservation and Recovery Act (September 2005).</li> <li>▪ Complete disposition of centrifuges and centrifuge components (September 2006).</li> <li>▪ Complete designated Resource Conservation and Recovery Act closure in X-7725 (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

|  |                |               |          |
|--|----------------|---------------|----------|
| <b>PO-0101 / Portsmouth Cold Standby (life-cycle estimate \$610,991K).....</b> | <b>113,068</b> | <b>92,355</b> | <b>0</b> |
|--|----------------|---------------|----------|

The Department placed the Portsmouth Gaseous Diffusion Plant in cold standby in 2001 after the United States Enrichment Corporation (USEC) ceased the production of enriched uranium at the Portsmouth plant. The plant was maintained in cold standby so that operations could 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, and heating several buildings on the site to prevent damage from freezing in the winter. The contract for the cold standby work expires in September 2005.

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

In January 2004, USEC chose Portsmouth as the site to implement a new centrifuge processing technology to enrich uranium for nuclear power plant reactors. In addition, other positive factors associated with the long-term stability of uranium for commercial nuclear power support a decision by DOE that Portsmouth no longer be kept in cold standby. The reduction in PO-0101 reflects the cessation of cold standby activities in FY 2005. USEC retains certain responsibilities for shutdown under their lease. DOE will begin discussions with USEC in FY 2005 to ensure USEC's satisfaction of the lease conditions.

In FY 2006, Portsmouth will transition from cold standby to final shutdown and begin preliminary decontamination and decommissioning activities. Funding under the Uranium Enrichment Decontamination and Decommissioning Fund (PO-0040) is being increased in FY 2006 to provide for the transition, final shutdown, and subsequent decontamination and decommissioning activities. These activities will include initiating plans for an integrated final decommissioning strategy for the diffusion facilities. DOE will develop procurement strategies and evaluate the regulatory transition from the NRC to DOE. Additional regulatory coordination with the State and EPA will be required. DOE will seek to minimize the impacts to the Portsmouth workforce by coordinating with expanding USEC commercial activities and other site work.

A significant portion of the Department's surplus (excess to defense requirements) uranium inventory is contaminated with technetium-99, dramatically reducing the value of this asset in the commercial market. The only operational facility for removing technetium-99 contamination from uranium feed in the United States is leased and operated by USEC under their NRC license at the Department's Portsmouth site, with the resultant product being further processed at the Paducah Gaseous Diffusion Plant. USEC has agreed to process contaminated uranium for the Department in exchange for an amount of marketable uranium equivalent in value to the costs of their operation. This self-funded arrangement (barter) capitalizes the value of surplus uranium in exchange for services restoring the market value of an asset that if left untreated would be dispositioned as waste. The Department began this arrangement in December of FY 2005. The technetium-99 barter arrangement does not affect the request for FY 2006 funding because it is budget neutral, thereby allowing the available resources to focus on other cleanup activities.

|   |               |          |          |
|---|---------------|----------|----------|
| <b>Congressionally Directed Activities.....</b> | <b>16,900</b> | <b>0</b> | <b>0</b> |
|---|---------------|----------|----------|

Continue Department activities including enhanced cold standby, deposit removal, and cleanup of technetium-99 contamination

In FY 2006, the following activities are planned:

- Complete closeout operations of cold standby activities.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Continued to operate the shipping and transfer facilities to remove technitium-99 from contaminated uranium inventory (FY 2004).</li> <li>▪ Complete cold standby activities and place facility in normal surveillance and maintenance mode (September 2005).</li> </ul> |         |         |         |                             |                     |                    |

|   |                |                |                |
|---|----------------|----------------|----------------|
| <b>Total, Non-Closure Environmental Activities.....</b> | <b>273,178</b> | <b>243,162</b> | <b>131,331</b> |
|---|----------------|----------------|----------------|

**Explanation of Funding Changes**

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

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

|   |        |
|---|--------|
| <ul style="list-style-type: none"> <li>▪ Decrease of funding is due to the prior year shipments off-site of over 3,200 cylinders and commensurate reduction in surveillance and maintenance.....</li> </ul> | -6,323 |
|---|--------|

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

|   |        |
|---|--------|
| <ul style="list-style-type: none"> <li>▪ Decrease of funding due to transfer of cylinder management activities to Depleted Uranium Hexafluoride conversion facility contractor in March 2005. ....</li> </ul> | -2,472 |
|---|--------|

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

|  |        |
|--|--------|
| <ul style="list-style-type: none"> <li>▪ Decrease of funding reflects updated construction cost and schedule baseline. ....</li> </ul> | -2,192 |
|--|--------|

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

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

- Decrease of funding due to transfer of cylinder management activities to Depleted Uranium Hexafluoride conversion facility contractor in March 2005. .... -1,075

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

- Decrease of funding reflects updated construction cost and schedule baseline. .... -7,549

**PO-0041 / Nuclear Facility D&D - Portsmouth GCEP**

- No significant change. .... 135

**PO-0101 / Portsmouth Cold Standby**

- Decrease of funding reflects cessation of cold standby activities; and provides resources for transition for final shutdown and subsequent start of D&D activities in PBS PO-0040, Nuclear Facility D&D – Portsmouth. .... -92,355

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**Total Funding Change, Non-Closure Environmental Activities..... -111,831**

# Capital Operating Expenses and Construction Summary

## Construction Projects

(dollars in thousands)

| Total<br>Estimated<br>Cost<br>(TEC) * | Prior Year<br>Appropriations | FY 2004 | FY 2005 | FY 2006 | Unappropriated<br>Balance |
|---------------------------------------|------------------------------|---------|---------|---------|---------------------------|
|---------------------------------------|------------------------------|---------|---------|---------|---------------------------|

### Non-Defense Environmental Services

#### Non-Closure Environmental Activities

|   |         |        |                     |        |        |        |
|---|---------|--------|---------------------|--------|--------|--------|
| 02-U-101, Depleted Uranium<br>Hexafluoride Conversion<br>Project, Paducah/Portsmouth,<br>PA-0011X/ PO-0011X | 343,682 | 10,000 | 97,291 <sup>a</sup> | 99,200 | 85,803 | 49,201 |
| <b>Total, Non-Closure Environmental Activities</b>  |         |        | 98,225              | 99,200 | 85,803 |        |

\*Includes \$2,187,000 of funds provided through Memorandum of Agreement between DOE and the United States Enrichment Corporation dated June 30, 1998.

<sup>a</sup> Reflects prior year reduction of \$934,000 against the original appropriation of \$98,225,000.

**02-U-101, Depleted Uranium Hexafluoride Conversion Project  
Paducah, Kentucky and Portsmouth, Ohio  
(PA-011X/PO-0011X)**

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

**Significant Changes**

The Total Project Cost has been updated to be consistent with preliminary design estimates. This has resulted in a total project cost decrease of \$23,146,000 and restored the 3<sup>rd</sup> quarter FY 2007 start of operations.

**1. Construction Schedule History**

(Based on Contract Period from August 2002 to May 2012)<sup>a</sup>

|   | Fiscal Quarter     |                      |                             |                                | Total Estimated Cost <sup>b</sup> (\$000) | Total Project Cost (\$000) |
|---|--------------------|----------------------|-----------------------------|--------------------------------|---|----------------------------|
|   | A-E Work Initiated | A-E Work Completed   | Physical Construction Start | Physical Construction Complete |   |                            |
| FY 2001 Budget Request<br><i>(Preliminary Estimate)</i> ..... | 1Q 2002            | 3Q 2003              | 2Q 2004                     | 4Q 2005                        | 365,000                                   | 461,800                    |
| FY 2002 Budget Request.....                                   | “                  | “                    | “                           | “                              | 365,000                                   | 461,800                    |
| FY 2004 Budget Request.....                                   | 1Q 2003            | 1Q 2005              | 3Q 2004                     | 3Q 2007                        | 296,460                                   | 731,572                    |
| FY 2005 Budget Request.....                                   | “                  | “                    | “                           | 2Q 2008                        | 375,263                                   | 804,318                    |
| FY 2006 Budget Request.....                                   | “                  | 4Q 2005 <sup>c</sup> | “                           | 3Q 2007 <sup>a</sup>           | 343,682                                   | 781,172                    |

<sup>a</sup> The operation period is based on 5 years of operation from contractor’s most current May 2007 start of operations estimate.

<sup>b</sup> This estimate is based on a contractor cost estimate and should not be construed as a project baseline.

<sup>c</sup> Reflects revised contractor estimate. Comprehensive performance baseline is expected by 4th quarter 2005. Phased approach to design and construction is being implemented.

## 2. Financial Schedule

| Fiscal Year | MOA   | Appropriations      | Obligations | Costs   |
|-------------|-------|---------------------|-------------|---------|
| 2001        | 0     | 0 <sup>a</sup>      | 0           | 0       |
| 2002        | 2,187 | 10,000              | 12,187      | 0       |
| 2003        | 0     | 0 <sup>b</sup>      | 0           | 11,710  |
| 2004        | 0     | 97,291 <sup>c</sup> | 97,291      | 21,315  |
| 2005        | 0     | 99,200 <sup>d</sup> | 99,200      | 90,414  |
| 2006        | 0     | 85,803 <sup>e</sup> | 85,803      | 166,555 |
| 2007        | 0     | 49,201              | 49,201      | 53,688  |
| 2008        | 0     | 0                   | 0           | 0       |
| Total       | 2,187 | 341,495             | 343,682     | 343,682 |

## 3. Project Description, Justification and Scope

Beginning with the Manhattan Project during World War II, large quantities of uranium were enriched for national defense and civilian purposes. Uranium enrichment by the Department of Energy (DOE) and its predecessor agencies was accomplished using gaseous diffusion technology, in which gaseous uranium hexafluoride is diffused through a porous barrier resulting in a stream of uranium hexafluoride enriched in uranium 235 (U235) and a stream of uranium hexafluoride depleted in U235. During the last five decades in which uranium enrichment took place, the depleted uranium hexafluoride accumulated as a byproduct of the enrichment process.

This legacy of approximately 700,000 metric tons of depleted uranium hexafluoride 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 depleted uranium hexafluoride inventory is stored outdoors in about 64,000 large steel cylinders, typically 12 feet long by 4 feet in diameter.

Since 1990, the DOE has conducted an active cylinder management program at the three sites to minimize risks to workers, the public, and the environment. The activities of the management program include conducting annual cylinder storage 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 with Recommendation 95-1 of the Defense Nuclear Facilities Safety Board. Through conversion of the depleted uranium hexafluoride to more stable forms, this project will significantly reduce potential environmental and safety hazards.

The mission of the Depleted Uranium Hexafluoride Conversion Project is to provide for the conversion of the DOE depleted uranium hexafluoride inventory to a more stable chemical form suitable for

<sup>a</sup> In FY 2001 operating funding of \$3,306,000 was received.

<sup>b</sup> In FY 2003 operating funding of \$2,208,000 was received.

<sup>c</sup> In FY 2004 operating funding of \$3,158,000 was received in PA11X and PO11X; reflects prior year reduction of \$934k against the original appropriation of \$98,225,000.

<sup>d</sup> In FY 2005 operating funding of \$7,340,000 was received in PA11X and PO11X.

<sup>e</sup> \$10,997,000 is requested in FY 2006 in operating funding in PA11X and PO11X; reflects the expected TPC decrease from greater design definition.

beneficial use or disposal. The project planning for construction of plants at Paducah and Portsmouth was authorized by Public Law 105-204, a final Environmental Impact Statement for each site was completed July 20, 2004, and construction started on July 27, 2004, per Public Law 107-206.

The project will provide for the design and construction of conversion facilities at Paducah and Portsmouth; cylinder surveillance and maintenance at all three sites; operation of the Paducah and Portsmouth facilities to convert the depleted uranium hexafluoride inventory; disposal or reuse of all converted depleted uranium hexafluoride, byproducts, and wastes; and for storage of low enriched uranium and natural assay uranium included in the inventory. The scope to perform the East Tennessee Technology Park cylinder overpack design and transportation to Portsmouth was initially included in the award to the depleted uranium hexafluoride conversion contractor. To accelerate cleanup of the East Tennessee Technology Park, it was decided to move this scope from the depleted uranium hexafluoride conversion contract to the Oak Ridge cleanup contractor workscope.

These conversion facilities will convert the Department's inventory of the depleted uranium hexafluoride to a more stable chemical form using the contractor's dry conversion process. This is a continuous process in which the depleted uranium hexafluoride is vaporized and converted to uranium oxide (predominantly  $U_3O_8$ ) in a fluidized bed conversion unit. The resulting powder will be collected and packaged for transportation, beneficial use/reuse, and/or disposal. The final disposal site has not yet been selected.

Each facility will consist of a building of approximately 55,000 square feet to house the equipment required for the dry conversion process, offices for plant personnel, and ancillary rooms. To support the conversion operations, additional buildings totaling approximately 36,500 square feet are required.

Prior to the start of conversion plant operations, the conversion contractor will assume cylinder surveillance and maintenance of the DOE inventory of the depleted uranium hexafluoride, low-enrichment uranium hexafluoride, natural assay hexafluoride, and cylinders from the former gaseous diffusion plants (both cylinders that are empty and those that contain a residual "heel" of depleted uranium hexafluoride). The contractor will also be responsible for the disposition of conversion products, all waste forms, and empty and heel cylinders, including the planned sale of the hydrogen fluoride byproduct.

Converting the Department's entire depleted uranium inventory is expected to take about 25 years of plant operations. At the end of the initial conversion contract, the next term of conversion operations will be recompeted and authorized under a new contract. The Department is examining the alternatives to increase production capacity at the Portsmouth facility to accelerate conversion of the current inventory.

#### 4. Details of Cost Estimate

|   | (dollars in thousands) |                   |
|---|------------------------|-------------------|
|   | Current Estimate       | Previous Estimate |
| Design Phase  |                        |                   |
| Engineering, Design, and Inspection at Approximately 11 percent of TEC..... | 37,317                 | 35,209            |
| Execution Management at Approximately 4 percent of TEC.....                 | 12,489                 | 24,017            |
| Project Management at Approximately 3 percent of TEC.....                   | 10,219                 | 21,015            |
| Subtotal, Design Phase.....   | 60,025                 | 80,241            |
| Execution Phase.....  | 234,657                | 246,022           |
| Contingencies at Approximately 14 percent of TEC.....                       | 49,000                 | 49,000            |
| Total, Line-Item Cost.....  | 343,682                | 375,263           |

#### 5. Method of Performance

The DOE Portsmouth/Paducah Project Office manages the current performance-based, cost-plus contract to design, construct, and operate (for a 5-year period) depleted uranium hexafluoride 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 is being performed on a fixed-fee basis. An incentive fee will be paid based on the successful completion of construction and the attainment of cost and schedule targets. An award fee will be paid for operation of the plants based on the quantity and cost of depleted uranium hexafluoride processed and other associated performance requirements.

In addition to activities included within the scope of the depleted uranium hexafluoride 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 is tracking activities to the contractor's current integrated project schedule. A working life-cycle baseline has been 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. The Department continues to evaluate and approve the baseline as part of the DOE Order 413.3 critical decision process, including the phased approach to design and construction necessary to comply with Public Law 107-206, and plans to have a comprehensive baseline by the 4<sup>th</sup> quarter 2005.

**Compliance with Project Management Order**

- Critical Decision – 0: Approved Mission Need - August 2000
- Critical Decision – 1: Approved Preliminary Baseline Range - August 2003
- Critical Decision – 2: Approved Performance Baseline – May 2005
- Critical Decision – 3: Approved Start of Construction – July 2005 (Groundbreaking occurred July 2004 as mandated by P.L. 107-206)
- Critical Decision – 4: Approved Start of Operations – May 2007

**6. Schedule of Project Funding**

(dollars in thousands)

|  | Prior Year | FY 2005 | FY 2006 | Outyears | Total   |
|--|------------|---------|---------|----------|---------|
| Project Cost   |            |         |         |          |         |
| Design and Construction Phase                            | 33,025     | 74,081  | 150,221 | 37,355   | 294,682 |
| Contingencies.....                                       | 0          | 16,333  | 16,334  | 16,333   | 49,000  |
| Total, Line-Item.....                                    | 33,025     | 90,414  | 166,555 | 53,688   | 343,682 |
| From Appropriations.....                                 | 30,838     | 90,414  | 166,555 | 53,688   | 341,495 |
| From MOA Funds.....                                      | 2,187      | 0       | 0       | 0        | 2,187   |
| Other Project Costs                                      |            |         |         |          |         |
| System Requirement’s Document.....                       | 1028       | 0       | 0       | 0        | 1,028   |
| Conceptual Design Report.....                            | 4,991      | 0       | 0       | 0        | 4,991   |
| RFP Development.....                                     | 3,440      | 0       | 0       | 0        | 3,440   |
| NEPA and Other Preparatory Work.....                     | 8,584      | 483     | 0       | 0        | 9,067   |
| Cylinder Management and Other Pre-Operational Costs..... | 0          | 12,191  | 22,176  | 14,536   | 48,903  |
| Total Plant Operations to FY 2012.....                   | 0          | 0       | 0       | 363,014  | 363,014 |
| DOE Plant Support to FY 2012.....                        | 0          | 0       | 0       | 7,047    | 7,047   |
| Total, Other Project Costs.....                          | 18,043     | 12,674  | 22,176  | 384,597  | 437,490 |
| From Appropriations.....                                 | 10,094     | 9,079   | 10,997  | 375,107  | 405,277 |
| From MOA Funds.....                                      | 7,949      | 3,595   | 11,179  | 9,490    | 32,213  |
| Grand Total.....   | 51,068     | 103,088 | 188,731 | 438,285  | 781,172 |
| From Appropriations.....                                 | 40,932     | 99,493  | 177,552 | 428,795  | 746,772 |
| From MOA Funds.....                                      | 10,136     | 3,595   | 11,179  | 9,490    | 34,400  |

**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)..... | 81,700 <sup>a</sup> | 70,000            |

<sup>a</sup> Escalated dollars to 2012 from estimated cost of first operations year.

# **Uranium Enrichment D&D Fund**

# **Uranium Enrichment D&D Fund**

## Table of Contents

|   | Page |
|---|------|
| Appropriation Language .....                        | 373  |
| Decontamination and Decommissioning Activities..... | 377  |
| Uranium/Thorium Reimbursement.....                  | 393  |



## **Uranium Enrichment Decontamination and Decommissioning Fund**

### **Proposed Appropriation Language**

For necessary expenses in carrying out uranium enrichment facility decontamination and decommissioning, remedial actions, and other activities of title II of the Atomic Energy Act of 1954, as amended, and title X, subtitle A, of the Energy Policy Act of 1992, [\$499,007,000] *\$591,498,000*, to be derived from the Fund, to remain available until expended, of which [\$80,000,000] *\$20,000,000* shall be available in accordance with title X, subtitle A, of the Energy Policy Act of 1992. (*Energy and Water Development Appropriations Act, 2005*).

### **Explanation of Change**

None.



# Uranium Enrichment Decontamination and Decommissioning Fund

## Funding Profile by Program

(dollars in thousands)

|  | FY 2004<br>Comparable<br>Appropriation | FY 2005<br>Original<br>Appropriation | FY 2005<br>Adjustments    | FY 2005<br>Comparable<br>Appropriation | FY 2006<br>Request |
|--|--|--------------------------------------|---------------------------|--|--------------------|
| Uranium Enrichment Decontamination and Decommissioning Fund                    |  |                                      |                           |  |                    |
| Decontamination and Decommissioning Activities.....                            | 363,328                                | 419,007                              | -3,352                    | 415,655                                | 571,498            |
| Uranium/Thorium Reimbursement.....   | 50,699                                 | 80,000                               | -640                      | 79,360                                 | 20,000             |
| <b>Total, Uranium Enrichment Decontamination and Decommissioning Fund.....</b> | <b>414,027</b>                         | <b>499,007</b>                       | <b>-3,992<sup>a</sup></b> | <b>495,015</b>                         | <b>591,498</b>     |

Public Law Authorizations:

- Public Law 95-91, "Department of Energy Organization Act, 1977"
- Public Law 102-486, Title X, Subtitle A "Energy Policy Act of 1992"
- Public Law 103-62, "Government Performance and Results Act of 1993"
- Public Law 108-137, "Energy and Water Development Appropriations Act, 2004"
- Public Law 108-447, "Consolidated Appropriations Act, 2005"

<sup>a</sup> Reflects the following adjustments:  
 - Rescission reduction of \$3,992,056.

### Mission

The mission of EM is the safe, accelerated risk reduction and cleanup of the environmental legacy resulting from the Nation’s nuclear weapons development and government-sponsored nuclear energy research. Over the last four years, the program has delivered significant risk reduction and cleanup results while ensuring the cleanup is safe for the workers, protective of the environment and respectful of the taxpayer. The program, once focused on managing risk, is demonstrating the benefits of accelerating cleanup and closure by realizing the completion of tangible results. These outcomes are providing important and valuable benefits to the public, communities, and for the generations that will follow.

The Uranium Enrichment Decontamination and Decommissioning Fund was established by the Energy Policy Act of 1992 to carry out Environmental Management responsibilities at the nation's three gaseous diffusion plants. The plants are the Paducah site in Kentucky, the Portsmouth site in Ohio and the East Tennessee Technology Park in Tennessee. The Fund includes contributions from annual appropriations and assessments from commercial utilities based upon historical purchases of enrichment services. In accordance with the Energy Policy Act, funds are also used to reimburse licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites, subject to a site-specific reimbursement limit. The two programs funded in this appropriation are the Decontamination and Decommissioning Activities and the Uranium/Thorium Reimbursement.

The FY 2006 request for the Uranium Enrichment Decontamination and Decommissioning Fund appropriation is \$591,498,000, an increase of \$96,483,000, from the FY 2005 comparable appropriation of \$495,015,000.

### **Benefits**

This appropriation provides funding for environmental management responsibilities at the nation's three gaseous diffusion plants. The appropriation also provides funding for reimbursement of licensees operating uranium or thorium processing sites for the cost of environmental cleanup at those sites.

As the cleanup and decommissioning at the gaseous diffusion plants progresses (as well as the cleanup at uranium/thorium processing sites), the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure will also be reduced.

## Decontamination and Decommissioning Activities

### Funding Schedule by Activity

| (dollars in thousands)  |                |                |                |                |              |
|---|----------------|----------------|----------------|----------------|--------------|
|   | FY 2004        | FY 2005        | FY 2006        | \$ Change      | % Change     |
| OR-0040 / Nuclear Facility Decontamination and Decommissioning - East Tennessee Technology Park (Decontamination and Decommissioning Fund)..... | 141,972        | 196,086        | 259,991        | 63,905         | 32.6%        |
| OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration.....  | 19,330         | 15,790         | 21,338         | 5,548          | 35.1%        |
| OR-0103 / Oak Ridge Reservation Community and Regulatory Support (Decontamination and Decommissioning Fund).....                                | 1,452          | 1,454          | 0              | -1,454         | -100.0%      |
| PA-0013 / Solid Waste Stabilization and Disposition.....  | 14,625         | 36,728         | 14,340         | -22,388        | -61.0%       |
| PA-0040 / Nuclear Facility Decontamination and Decommissioning - Paducah (Uranium Enrichment Decontamination and Decommissioning Fund).....     | 96,424         | 60,592         | 79,816         | 19,224         | 31.7%        |
| PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund).....           | 4,805          | 11,456         | 1,492          | -9,964         | -87.0%       |
| PA-0103 / Paducah Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund).....                           | 4,304          | 2,504          | 2,364          | -140           | -5.6%        |
| PO-0013 / Solid Waste Stabilization and Disposition.....  | 38,605         | 56,213         | 52,510         | -3,703         | -6.6%        |
| PO-0040 / Nuclear Facility Decontamination and Decommissioning - Portsmouth (Uranium Enrichment Decontamination and Decommissioning Fund).....  | 41,201         | 33,936         | 138,750        | 104,814        | 308.9%       |
| PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund).....        | 336            | 600            | 606            | 6              | 1.0%         |
| PO-0104 / Portsmouth Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund).....                        | 274            | 296            | 291            | -5             | -1.7%        |
| <b>Total, Decontamination and Decommissioning Activities.....</b>   | <b>363,328</b> | <b>415,655</b> | <b>571,498</b> | <b>155,843</b> | <b>37.5%</b> |

### Description

The Decontamination and Decommissioning Activities program supports Environmental Management activities and responsibilities at the nation's three gaseous diffusion plants located at the Paducah site in Kentucky, the Portsmouth site in Ohio, and the East Tennessee Technology Park in Tennessee. This program addresses cleanup liabilities that are attributable to historical DOE operations for production of enriched uranium for weapons and commercial fuel. Environmental Management activities include the decontamination and decommissioning of contaminated facilities, remediation of contaminated environmental media, waste treatment and disposal operations, and surveillance and maintenance of facilities to ensure safety. Also included is funding for post closure contract liabilities.

**Benefits**

This program provides funding for environmental management responsibilities at the nation’s three gaseous diffusion plants. These responsibilities include cleanup liabilities that are attributable to historical DOE operations for weapons and commercial fuel. EM activities include decontamination and decommissioning of contaminated facilities, waste treatment and disposal operations, and surveillance and maintenance of facilities to ensure safety.

As the cleanup and decommissioning at the gaseous diffusion plants progresses, the risk and hazard to human health and the environment is greatly reduced. In addition, as cleanup is completed, the financial resources needed to maintain site infrastructure and perform surveillance and maintenance will also be reduced.

**Funding by Site**

(dollars in thousands)

|   | FY 2004        | FY 2005        | FY 2006        | \$ Change      | % Change     |
|---|----------------|----------------|----------------|----------------|--------------|
| <b>Oak Ridge</b>  |                |                |                |                |              |
| East Tennessee Technology Park.....                               | 161,302        | 211,876        | 281,329        | 69,453         | 32.8%        |
| Oak Ridge Reservation.....  | 1,452          | 1,454          | 0              | -1,454         | -100.0%      |
| <b>Total, Oak Ridge Operations Office.....</b>                    | <b>162,754</b> | <b>213,330</b> | <b>281,329</b> | <b>67,999</b>  | <b>31.9%</b> |
| <b>Paducah</b>  |                |                |                |                |              |
| Paducah Gaseous Diffusion Plant.....                              | 120,158        | 111,280        | 98,012         | -13,268        | -11.9%       |
| <b>Portsmouth</b>   |                |                |                |                |              |
| Portsmouth Gaseous Diffusion Plant.....                           | 80,416         | 91,045         | 192,157        | 101,112        | 111.1%       |
| <b>Total, Decontamination and Decommissioning Activities.....</b> | <b>363,328</b> | <b>415,655</b> | <b>571,498</b> | <b>155,843</b> | <b>37.5%</b> |

**Detailed Justification**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

**OR-0040 / Nuclear Facility Decontamination and Decommissioning - East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$1,857,358K).....** **141,972 196,086 259,991**

This PBS scope covers decommissioning of facilities and remedial actions for contaminated sites at the East Tennessee Technology Park. It also funds a portion of site infrastructure services. There are approximately 2,200 acres with potential contamination, including known groundwater contaminant plumes from former burial grounds and contaminated soils, resulting in 163 release sites to be remediated. In addition, there are approximately 500 facilities, including 125 major buildings that require decommissioning. The strategy is to complete targeted remedial actions in Zone 1 (1,400 acres

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|
|---------|---------|---------|

located outside the fenced main plant area) and facility decommissioning and then follow with a comprehensive remedial action for the main plant area Zone 2 (800 acres inside the Main Plant area inside fence). This PBS also funds the Three-Building Decontamination and Decommissioning Recycle subproject, the largest decommissioning effort in DOE history. It includes over 110 acres of floor undergoing decontamination and decommissioning and this project was completed in FY 2004. Also included in this PBS are the K-25/K-27 building decontamination and decommissioning subproject and other facilities decontamination and decommissioning. The scope of the K-25/K-27 Buildings subproject is to abate the hazardous materials, remove the process equipment and excess materials stored in the buildings, demolish the building structures, and also appropriately characterize, package, transport and dispose of all the associated wastes. The scope of other facilities decontamination and decommissioning includes the planning, deactivation of utilities, asbestos and other hazardous material abatement, equipment dismantlement and disposal, structure demolition and waste disposal.

As of September 2004, 106 facilities were decommissioned and 19 release sites remediated. An earlier Record of Decision led to excavation of the K-1070-A Burial Ground. The Zone 1 Record of Decision has been approved and remedial action has begun (scrap metal removal and Blair Quarry excavation). In addition, 43 loose converters were shipped off-site, 80,000 square feet of asbestos siding was removed at the K-25 Facility and 3,432 tons of scrap metal was shipped to the Environmental Management Waste Management Facility.

The end-state for the East Tennessee Technology Park is to become a non-federal industrial park by FY 2008. Cleanup will be appropriate for uncontrolled industrial use for all areas of land down to a grade of ten feet below the surface. Land use controls will be required to ensure land use remains industrial.

In FY 2006, the following activities are planned.

- Continue the infrastructure support at the site.
- Complete the Zone 1 Soils Remedial Action Report and the Final Groundwater/Surface Water/Sediment Record of Decision.
- Continue to decontaminate and decommission the K-25 and K-27 Buildings, including completion of the pre-demolition utility reconfiguration.
- Begin K-25 and K-27 Buildings process equipment removal.
- Continue building decontamination and decommissioning.
- Continue East Tennessee Technology Park scrap removal.
- Complete Zone 1 remedial actions, seven release sites.
- Continue Zone 2 remedial actions.
- Complete decontamination and decommissioning of 51 facilities and continue other facilities.

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

- Begin facility deactivation for K-33; complete facility deactivation for buildings K-31 and K-29; begin facility demolition activities (asbestos siding removal, waste removal from within buildings, followed by conventional demolition activities) in all buildings.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> )..... | 0       | 0       | 0       | 5,178                       | 5,178               | 100%               |
| Nuclear Facility Completions (Number of Facilities).....            | 0       | 2       | 0       | 4                           | 8                   | 50%                |
| Radioactive Facility Completions (Number of Facilities).....        | 0       | 2       | 2       | 5                           | 13                  | 38%                |
| Industrial Facility Completions (Number of Facilities).....         | 32      | 8       | 49      | 160                         | 510                 | 31%                |
| Remediation Complete (Number of Release Sites).....                 | 0       | 9       | 7       | 35                          | 163                 | 21%                |

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)

- Completed equipment removal in building K-29 (FY 2004).
- Transferred five facilities to the Community Reuse Organization of East Tennessee (FY 2004).
- Completed decontamination in buildings K-33, K-31 and K-29 (FY 2004).
- Completed K-1064 Peninsular Demolition (FY 2004).
- Issue East Tennessee Technology Park balance of site demolition notice to proceed (January 2005).
- East Tennessee Technology Park Main Plant Area Facilities Decontamination and Decommissioning Construction Start (March 2005).
- Closeout three building decommissioning project and return buildings for reuse (March 2005).
- Complete hazardous material abatement in K-25 Building (March 2005).
- Complete Lab Group/K-1064 facilities decontamination and decommissioning (July 2005).
- Begin K-25/K-27 process equipment removal (October 2005).
- Complete East Tennessee Technology Park scrap removal construction [AKA Mobilization] (November 2005).
- Start East Tennessee Technology Park balance of site decontamination and decommissioning – utilities group (January 2006).
- Submit East Tennessee Technology Park Groundwater Record of Decision to Regulators for Approval (July 2006).
- Initiate deactivation/demolition of K-29, K-31 and K-33 (September 2006).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**OR-0102 / East Tennessee Technology Park Contract / Post Closure Liabilities / Administration (life-cycle estimate \$363,991K).....**

**19,330 15,790 21,338**

This PBS scope supports on-going, long-term obligations and central programs including post retirement medical benefits and long term disability for grandfathered employees, severance/reduction in-force-costs for workforce transition employees; legacy documents and litigation issues; administration of the Sample Management Office and the National Center of Excellence for Metal Recycle. FY 2004 was the last budget year for the Lockheed Martin Energy Systems contract closeout requirement and the contract was terminated. This PBS includes: activities and expenses associated with post retirement life and medical benefits, long-term disability benefits, and severance to transitioned Bechtel Jacobs Company employees who supported enrichment facilities programs while working as first or second tier subcontractors; pre-April 1, 1998, retiree costs and employees on long-term disabilities associated with enrichment facilities programs; Sample Management Office audits of commercial laboratories which the EM program uses to coordinate sampling in support of closure activities; funding for the National Center of Excellence for Metal Recycle which facilitates the cost-effective recycle of clean and decontaminated metals and equipment at DOE sites across the country; legacy documents and litigation to provide support for processing legacy worker's compensation claims and the associated records that must be provided, as well as the cost of risk management and legal staff supporting this effort.

In FY 2006, the following activities are planned.

- Severance costs, post retirement life and medical benefits, and long-term disability benefits will be paid as required.
- Contributions will be made to the pension plan for grandfathered employees.
- The Sample Management Office will continue to operate in support of the accelerated cleanup projects.
- Legal/risk management will continue to process legacy workers compensation claims.
- Support will continue for the National Center for Excellence for Metal Recycle.
- Support will continue for the DOE Information Center, which maintains the public documents related to the EM Program in Oak Ridge.

| Metrics                                  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS..... |         |         |         |                             |                     |                    |

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/ FY 2006)

- Support the National Center of Excellence for Metal Recycle, Lockheed Martin Energy Systems contract closeout, post retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (FY 2004).
- Support the National Center of Excellence for Metal Recycle, post retirement life and medical benefits, legacy documents and litigation, Sample Management Office, severance, and long-term disability benefits (September 2005).
- Support will continue for the National Center for Excellence for Metal Recycle (September 2006).
- Support will continue for the DOE Information Center, which maintains the public documents related to the EM Program in Oak Ridge (September 2006).

**OR-0103 / Oak Ridge Reservation Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$44,229K).....**

**1,452      1,454      0**

This PBS scope has been transferred to PBS OR-0100 under the Defense Environmental Services/Community and Regulatory Support appropriation.

- Transferred to OR-0100 (Defense Environmental Services/Community and Regulatory Support).

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.....                              |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006) |         |         |         |                             |                     |                    |
| ▪ There are no milestones associated with this PBS.                   |         |         |         |                             |                     |                    |

**PA-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$341,479K).....**

**14,625      36,728      14,340**

This PBS scope stores, treats, and disposes of all legacy waste generated by activities at the Paducah Gaseous Diffusion Plant prior to 1993, and small quantities of newly generated waste from waste storage, treatment, and disposal operations. Although the United States Enrichment Corporation handles its own waste treatment and disposal through DOE's lease agreement with them, DOE remains responsible for some waste streams which are generated by the United States Enrichment Corporation's operation of the plant. DOE handles this waste as newly generated waste. The primary waste streams are low-level, mixed low-level, hazardous, transuranic, polychlorinated biphenyl, and sanitary/industrial/construction wastes. The life-cycle scope for low level and mixed low-level wastes addresses approximately 16,622 m<sup>3</sup> of waste. DOE plans to disposition all the remaining legacy waste by FY 2011. The waste streams have been ranked for treatment and disposal using a risk-based prioritization system. Disposition of waste will reduce risk and storage costs. Disposition of the low-level/mixed low-level legacy waste is critical to accelerating the cleanup of the site.

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

As of September 2004, approximately 5,687 m<sup>3</sup> of low-level/mixed low-level legacy waste will be disposed either on-site or off-site. Most of the remaining legacy waste will need to be sorted, repackaged and characterized prior to either off-site treatment/disposal or on-site disposal at the C-746-U Landfill.

In FY 2006, the following activities are planned.

- Dispose of 50 m<sup>3</sup> of newly generated waste and 66 m<sup>3</sup> of legacy waste.
- Dispose of 900 polychlorinated biphenyl capacitors.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ).....  | 144     | 1,156   | 116     | 6,959                       | 16,622              | 42%                |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Disposed 144 m<sup>3</sup> of low-level legacy waste (FY 2004).</li> <li>▪ Dispose of 50 m<sup>3</sup> of newly generated waste and 1,106 m<sup>3</sup> legacy waste (1,106 above target) (September 2005).</li> <li>▪ Dispose of 50 m<sup>3</sup> of newly generated waste and 66 m<sup>3</sup> of legacy waste (September 2006).</li> <li>▪ Dispose of 900 polychlorinated biphenyl capacitors (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PA-0040 / Nuclear Facility Decontamination and Decommissioning Paducah (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$2,724,396K).....**

**96,424    60,592    79,816**

This PBS scope is for environmental cleanup and risk reduction through focused response actions and surveillance and maintenance activities at the Paducah Gaseous Diffusion Plant. This plant is an active uranium enrichment facility surrounded by a wildlife management area. Environmental problems include on- and off-site groundwater contamination, which had contaminated off-site residential water wells; and contaminated surface water, sediments and soil, with both radioactive and chemical contaminants. The current and future land uses at Paducah Gaseous Diffusion Plant are assumed to be industrial areas located primarily inside the security fence, recreational areas located outside the security fence, with adjacent private property, including some residential areas. The Commonwealth of Kentucky and the DOE signed a Letter of Intent in August 2003 that outlined the commitment of accelerating environmental cleanup at the plant. The parties will work to complete cleanup activities at the plant by 2019, in a manner that is safe, protects human health and the environment, and is in compliance with state and federal environmental laws. Initiatives for accelerating cleanup and reducing risks include the following: groundwater source term removal contributing to off-site contamination at the plant; decontamination and decommissioning of inactive facilities on site; investigation and any necessary mitigating actions at the on-site burial grounds; and characterization and removal of contaminated soils. The basic strategy includes implementation of a phased and sequenced approach.

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

There are ten scrap yards containing approximately 54,000 tons of scrap; twelve burial grounds containing a variety of radioactive and hazardous wastes; 160 DOE Material Storage Areas that must be characterized and dispositioned; and several contaminated surplus facilities which must be decontaminated and decommissioned.

As of September 2004, Sections 1 and 2 of the North/South Diversion Ditch remediation were completed; over 10,000 tons of scrap were processed; 14 of 17 outside DOE Material Storage Areas were emptied; and 54 of 56 fluorine cells were shipped offsite for reuse.

In FY 2006, the following activities are planned.

- Begin remedial action for full-scale deployment of dense non-aqueous phase liquid source treatment associated with groundwater contamination at C-400.
- Continue characterization and material disposition of DOE Material Storage Areas (150,000 ft<sup>3</sup>) and scrap metal.
- Continue decontamination and decommissioning of the C-410 complex.
- Continue site investigation activities for the Southwest Plume/Sources and the Surface Water (on-site) Project.
- Initiate the remedial investigation/feasibility study field work for the burial grounds.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Radioactive Facility Completions (Number of Facilities)..... | 0       | 0       | 0       | 0                           | 2                   | 0%                 |
| Remediation Complete (Number of Release Sites).....          | 1       | 2       | 0       | 88                          | 236                 | 37%                |

**Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)**

- Continued to decontaminate and decommission the C-410 complex which included completing the blasting of all 56 fluorine cells and shipping 54 offsite for reuse and completing demolition of Hydrogen Fluoride tank farm and shipping 11 tanks to the Nevada Test Site (FY 2004).
- Disposed of 4,973 tons of scrap metal (total to date 7,067 tons) and processed an additional 2,945 tons (FY 2004).
- Completed the North/South Diversion Ditch excavation inside the plant fence (FY 2004).
- Dispose of 12,400 tons of scrap metal (September 2005).
- Continue decontamination and decommissioning of C-410 complex (September 2005).
- Complete burial ground remedial investigation/feasibility study work plan (September 2005).
- Begin remedial action field work for groundwater contamination at C-400 (September 2006).
- Dispose of 23,900 tons of scrap metal (September 2006).

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

**PA-0102 / Paducah Contract/Post-Closure**

**Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$124,795K).....**

**4,805 11,456 1,492**

This PBS scope supports a contract liability to provide for 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.

In FY 2006, the following activities are planned.

- Provide support to DOE and Department of Justice for all investigations and litigations.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.....                              |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006) |         |         |         |                             |                     |                    |
| ▪ There are no milestones associated with this PBS.                   |         |         |         |                             |                     |                    |

**PA-0103 / Paducah Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$47,829K).....**

**4,304 2,504 2,364**

This PBS scope 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. Kentucky uses the grant funds to provide independent surface water, groundwater, air and other environmental monitoring at Paducah. These funds are not used by the State to provide regulatory oversight. This scope also supports the Federal Facility Agreement regulatory grant with the Commonwealth of Kentucky, which provides for the administrative support necessary to oversee the requirements of the interagency agreement under the Comprehensive Environmental Response, Compensation, and Liability Act. This project also covers the activities to be performed by the Paducah Citizens Advisory Board. The funds from the decontamination and decommissioning account are for activities directly related to the cleanup of the gaseous diffusion plants. Other activities not directly related to decommissioning of the gaseous diffusion plants are covered in the Non-Defense Environmental Services appropriation. Support for these activities from the Uranium Enrichment Decontamination and Decommissioning Fund will continue until final decontamination and decommissioning and remediation of the plant is complete.

**Congressionally Directed Activities..... 1,988 0 0**

Kentucky Consortium for Energy and Environment

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned.

- Complete annual reporting to the public on management and operations activities.
- Complete FY 2007 media monitoring plan.
- Complete review and approval of the Comprehensive Environmental Response, Compensation, and Liability Act, Federal Facility Agreement documents produced by DOE.
- Participate in the emergency preparedness plan for the DOE Paducah Site. Includes the organizations, authorities, and responsibilities for local governments' response and the authorities and responsibilities for the Kentucky state government.
- Coordinate and conduct drills and exercises in accordance with the multi-jurisdictional plan or other regulatory requirements.
- Continue activities by the Citizens Advisory Board sponsored by DOE EM to assist in the public participation activities required by the Comprehensive Environmental Response, Compensation, and Liability Act.

| Metrics                                  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS..... |         |         |         |                             |                     |                    |

**Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)**

- Provide financial support to the Commonwealth of Kentucky as required by the Agreement-in-Principle (FY 2004/September 2005/September 2006).
- Provide financial support to the State for all Federal Facility Agreement administrative activities, including review/approval of Comprehensive Environmental Response, Compensation, and Liability Act documents (September 2005/September 2006).

**PO-0013 / Solid Waste Stabilization and Disposition (life-cycle estimate \$355,621K)..... 38,605 56,213 52,510**

This PBS scope stores, characterizes, treats, and disposes of legacy waste generated by activities at the Portsmouth Gaseous Diffusion Plant prior to 1993. This will reduce risks and storage costs. The primary waste streams are low-level, mixed low-level, Toxic Substances Control Act low-level, hazardous, and sanitary wastes. The life-cycle estimate for the low-level and mixed low-level wastes to be addressed is 33,543 m<sup>3</sup>.

As of September 2004, approximately 17,298 m<sup>3</sup> of low-level and mixed low-level waste was dispositioned. DOE plans to disposition all of the remaining legacy waste by the end of FY 2007. The waste streams have been ranked for treatment and disposal using a risk-based prioritization system. This project also implements pollution prevention projects to reduce the generation, volume, toxicity, and release of multi-media waste, to promote the use of nonhazardous materials, and to achieve operating efficiency though the application of pollution prevention principles. Disposal of legacy is critical to

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

accelerating cleanup of the site.

In FY 2006, the following activities are planned.

- Continue to ship low-level waste for disposal.

| Metrics  | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|--|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Low-Level and Mixed Low-Level Waste Disposed (m <sup>3</sup> ).....  | 898     | 7,578   | 1,678   | 26,554                      | 33,543              | 79%                |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Disposed 898 m<sup>3</sup> of legacy waste (FY 2004).</li> <li>▪ Dispose of 7,578 m<sup>3</sup> of legacy waste (2,646 above target) (September 2005).</li> <li>▪ Dispose of 1,678 m<sup>3</sup> of legacy waste (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PO-0040 / Nuclear Facility Decontamination and Decommissioning-Portsmouth (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$4,229,723K).....**

**41,201 33,936 138,750**

Remedial action, decontamination and decommissioning, and surveillance and maintenance activities at the Portsmouth Gaseous Diffusion Plant are necessary due to contamination resulting from the plant's uranium enrichment operations. The Portsmouth mission began in 1954 to enrich uranium for naval and commercial reactors through the gaseous diffusion process. Enrichment operations were shutdown in 2001, and plant portions were placed in a cold-standby state. The plant, 70 miles south of Columbus, Ohio, covers 3,700 acres. Groundwater, sediment, and soil contamination exist at the site, and contaminants of concern include radioactive technetium-99, polychlorinated biphenyls, trichloroethylene, and heavy metals. DOE will continue to operate active and passive groundwater treatment systems until regulatory cleanup levels are reached. Approximately 14 excess facilities will be decontaminated and decommissioned by FY 2008, which will reduce surveillance and maintenance costs. In FY 2006, Portsmouth will transition from cold standby to final shutdown and begin preliminary decontamination and decommissioning activities. Activities will include initiating plans for an integrated final decommissioning strategy for the diffusion facilities. DOE will develop procurement strategies and evaluate the regulatory transition from the Nuclear Regulatory Commission to Department of Energy. This will require additional regulatory coordination with the State and the Environmental Protection Agency.

As of September 2004, 7,400 tons of scrap metal were dispositioned, and the Quadrant I corrective actions project closeout completed; and since cleanup activities began, all initial assessments required under the applicable regulations and agreements have been completed, all groundwater plumes contained onsite, and 18 hazardous and solid waste units remediated, including the X-747H scrap metal yard; one remaining non-deferred unit (X-701B) requires further remedial action.

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

In FY 2006, the following activities are planned.

- Complete installation of X-701B Oxidant Injection System and begin operations.
- Begin to transition the Portsmouth Gaseous Diffusion Plant to final shutdown, which includes initiating the removal of material and equipment no longer required for cold standby operations or infrastructure support and other activities leading up to preliminary decontamination and decommissioning activities.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| Remediation Complete (Number of Release Sites).....   | 0       | 0       | 1       | 20                          | 33                  | 61%                |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Disposed of approximately 3,800 tons of contaminated metal from the X-747 H scrap yard (FY 2004).</li> <li>▪ Operated the groundwater treatment system to control groundwater offsite migration (FY 2004).</li> <li>▪ Initiate construction of X-701B Plume remediation technology, pending approved Decision Document (June 2005).</li> <li>▪ Process approximately 42 million gallons of water through Groundwater Pump and Treat facilities (September 2005).</li> <li>▪ Complete installation of X-701B Oxidant Injection System and begin operations (September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund) (life-cycle estimate \$6,789K)..... 336 600 606**

The scope of this PBS supports ongoing litigation expenses and record searches in support of litigation. These are ongoing level of effort tasks that require annual funding. The litigation funding supports the defense of numerous legal cases filed by plaintiffs alleging damages from or relating to the Portsmouth Gaseous Diffusion Plant. The record search task provides support to the legal effort as well as record searches for DOE and Department of Justice investigations/studies, Freedom of Information Act requests, and requests from both State and Federal regulatory and elected officials. There is no clean end-state to these activities. DOE will be required to defend itself against current legal cases as well as cases that may be filed in the future. The record search activity will continue in support of litigation as well as miscellaneous requests for information.

In FY 2006, the following activities are planned.

- Continue to provide defense against legal claims filed against the Government's contractors.
- Continue record searches in support of legal claims, DOE and Department of Justice

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

investigations/studies, Freedom of Information Act requests, and requests from both State and Federal regulatory and elected officials.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.....  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/ FY 2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Defend against legal claims filed against the Government's contractors (FY 2004/September 2005/September 2006).</li> <li>▪ Continue record searches in support of legal claims, DOE and Department of Justice investigations/studies, Freedom of Information Act requests, and requests from both State and Federal regulatory and elected officials (FY 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

**PO-0104 / Portsmouth Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund) (life cycle estimate \$778K).....** **274      296      291**

This PBS supports the Ohio Environmental Protection Agency responsible for oversight of EM cleanup activities at the Portsmouth Gaseous Diffusion Plant. These activities help to promote active involvement with the state in the EM planning and decision-making processes and the opportunity for meaningful involvement in managing the cleanup and closure of the site.

- Continue support to the Ohio Environmental Protection Agency.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.....  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004) / Planned Milestones (FY 2005/FY2006)   |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Support to the Ohio Environmental Protection Agency associated with the Portsmouth Decontamination and Decommissioning and solid waste stabilization and disposition activities (September 2004/September 2005/September 2006).</li> </ul> |         |         |         |                             |                     |                    |

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**Total, Decontamination and Decommissioning Activities.....** **363,328    415,655    571,498**

**Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities**

**FY 2006 Congressional Budget**

## Explanation of Funding Changes

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**OR-0040 / Nuclear Facility Decontamination and Decommissioning - East Tennessee Technology Park (Uranium Enrichment Decontamination and Decommissioning Fund)**

- The increase reflects the ramp up of activities associated with start of deactivation/ demolition work, removal and disposal of process equipment; activities associated with the Zone 2 remedial actions; and increased decontamination and decommissioning activities of other facilities at the East Tennessee Technology Plant. The increased funding will allow the accelerated completion of the cleanup of the East Tennessee Technology Park to remain on schedule for FY 2008.
 
63,905

**OR-0102 / East Tennessee Technology Park Contract/Post-Closure Liabilities/Administration**

- The increase reflects a change in funding assumptions. PBS OR-0101 (Defense Environmental Services) and this PBS provide funding for several contract liabilities such as post retirement life and medical payments, pension contributions and legacy sick worker compensation claims. Historically, funding for those liabilities has been split between appropriations. Because of the accelerated closure of East Tennessee Technology Park, the majority of East Tennessee's Technology Park's scope is in the Uranium Enrichment Decontamination and Decommissioning Fund; therefore, it is appropriate to have the contract liabilities also within this appropriation.
 
5,548

**OR-0103 / Oak Ridge Reservation Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund)**

- The decrease in funding results from the transfer of the Agreement in Principle and Site Specific Advisory Board activities to PBS OR-0100.
 
-1,454

**PA-0013 / Solid Waste Stabilization and Disposition**

- Decrease in funding reflects reduced disposal requirements from the FY 2005 levels.
 
-22,388

**PA-0040 / Nuclear Facility Decontamination and Decommissioning Paducah (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Increase in funding reflects initiating the Burial Ground Remedial Investigation field work after the completion of the Remedial Investigation/Feasibility Study Work Plan in FY 2005; and the field work for the C-400 groundwater remedial action will be initiated after the completion of the Remedial Action Work Plan for FY 2005.
 
19,224

**PA-0102 / Paducah Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Decrease reflects a payment in FY 2005 for the pension contribution; there is no payment contribution currently scheduled for FY 2006.
 
-9,964

Uranium Enrichment Decontamination and Decommissioning Fund/Decontamination and Decommissioning Activities

FY 2006 Congressional Budget

|                                   |
|-----------------------------------|
| FY 2006 vs.<br>FY 2005<br>(\$000) |
|-----------------------------------|

**PA-0103 / Paducah Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund)**

- No significant change. -140

**PO-0013 / Solid Waste Stabilization and Disposition**

- Decrease in funding reflects reduced activities in FY 2006 due to delays in processing and resolution of the disposition of certain problematic waste streams. -3,703

**PO-0040 / Nuclear Facility Decontamination and Decommissioning - Portsmouth (Uranium Enrichment Decontamination and Decommissioning Fund)**

- Increased funding based on transition of inactive gaseous diffusion facilities and equipment to decontamination and decommissioning, including initiating preliminary deactivation, equipment removal, shutdown, and preliminary decontamination and decommissioning activities. 104,814

**PO-0103 / Portsmouth Contract/Post-Closure Liabilities/Administration (Uranium Enrichment Decontamination and Decommissioning Fund)**

- No significant change. 6

**PO-0104 / Portsmouth Community and Regulatory Support (Uranium Enrichment Decontamination and Decommissioning Fund)**

- No significant change. -5

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**Total Funding Change, Decontamination and Decommissioning Activities..... 155,843**



## Uranium/Thorium Reimbursement

### Funding Schedule by Activity

(dollars in thousands)

|   | FY 2004       | FY 2005       | FY 2006       | \$ Change      | % Change      |
|---|---------------|---------------|---------------|----------------|---------------|
| HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees..... | 50,699        | 79,360        | 20,000        | -59,360        | -74.8%        |
| <b>Total, Uranium/Thorium Reimbursement.....</b>              | <b>50,699</b> | <b>79,360</b> | <b>20,000</b> | <b>-59,360</b> | <b>-74.8%</b> |

#### Description

The Uranium/Thorium Reimbursement program reimburses licensees (subject to a site-specific limit) for the cost of environmental cleanup of uranium and thorium processing sites attributable to materials sold to the Government.

#### Benefits

This program reimburses licensees who operate uranium or thorium processing sites for the cost of environmental cleanup at those sites. As the environmental cleanup at these sites progresses, the risk and hazard to human health and the environment is greatly reduced.

### Funding by Site

(dollars in thousands)

|  | FY 2004       | FY 2005       | FY 2006       | \$ Change      | % Change      |
|--|---------------|---------------|---------------|----------------|---------------|
| Headquarters.....                                | 50,699        | 79,360        | 20,000        | -59,360        | -74.8%        |
| <b>Total, Uranium/Thorium Reimbursement.....</b> | <b>50,699</b> | <b>79,360</b> | <b>20,000</b> | <b>-59,360</b> | <b>-74.8%</b> |

### Detailed Justification

(dollars in thousands)

|  | FY 2004 | FY 2005 | FY 2006 |
|--|---------|---------|---------|
|--|---------|---------|---------|

**HQ-UR-0100 / Reimbursement to Uranium/Thorium Licensees (life-cycle estimate 442,372K).....** **50,699    79,360    20,000**

This PBS scope reimburses the fourteen active uranium and thorium processing site licensees for a portion (the Federal-related byproduct material portion determined to be at each site) of their costs of cleanup pursuant to Title X of the Energy Policy Act of 1992 and 10 CFR Part 765. The maximum reimbursement to the individual uranium licensees is limited to \$6.25 per dry short ton of Federal-related byproduct material; and total reimbursement to all thirteen uranium licensees and the

(dollars in thousands)

|         |         |         |
|---------|---------|---------|
| FY 2004 | FY 2005 | FY 2006 |
|---------|---------|---------|

thorium licensee is limited to \$350 million and \$365 million respectively (Congress increased the original reimbursement ceiling four times since Enactment in 1992). These monetary ceilings are adjusted annually for inflation. Funding for the reimbursements is appropriated from the Uranium Enrichment Decontamination and Decommissioning Fund. DOE is implementing the reimbursement program using Federal staff to review and process claims. The Defense Contract Audit Agency assists DOE in the auditing of claims. Reimbursements have been completed for two sites (ARCO-Bluewater mill site and the Moab mill site) with no further Title X liability. In addition, the Tennessee Valley Authority has completed remedial action at its Edgemont mill site but is eligible for reimbursement of some excess remedial action costs under Title X. Eight of the remaining eleven licensee's project completion of remedial action no later than 2013. The total estimated future liability, including excess claims, for the program is about \$201 million, which is within the remaining authority. Through FY 2004, DOE has reimbursed the thirteen uranium licensees \$220,530,000 and the thorium licensee \$214,988,000, for an aggregate reimbursement amount of \$435,518,000.

- Complete audit of claims received in FY 2005 and issue prorated reimbursement payments by May 1, 2006, to uranium and thorium licensees on newly approved claim amounts and prior years' unpaid backlog claim balances.

| Metrics   | FY 2004 | FY 2005 | FY 2006 | Cumulative Complete FY 2006 | Life-cycle Quantity | FY 2006 % Complete |
|---|---------|---------|---------|-----------------------------|---------------------|--------------------|
| No metrics associated with this PBS.....  |         |         |         |                             |                     |                    |
| Key Accomplishments (FY 2004)/Planned Milestones (FY 2005/FY 2006)  |         |         |         |                             |                     |                    |
| <ul style="list-style-type: none"> <li>▪ Annually reimburse uranium and thorium licensees for a portion (the Federal-related byproduct material at each site) of their costs of cleanup in accordance with Title X of the Energy Policy Act of 1992 and 10 Code of Federal Regulations Part 765 (FY 2004/May 2005/May 2006).</li> </ul> |         |         |         |                             |                     |                    |

|  |               |               |               |
|--|---------------|---------------|---------------|
| <b>Total, Uranium/Thorium Reimbursement.....</b> | <b>50,699</b> | <b>79,360</b> | <b>20,000</b> |
|--|---------------|---------------|---------------|

### Explanation of Funding Changes

|   |                                   |
|---|-----------------------------------|
|   | FY 2006 vs.<br>FY 2005<br>(\$000) |
| <b>HQ-UR-0100 / Reimbursements to Uranium/Thorium Licensees.....</b>  |                                   |
| <ul style="list-style-type: none"> <li>▪ Decrease due to completion of excess unpaid backlog claims.</li> </ul> | -59,360                           |
| <b>Total Funding Change, Uranium/Thorium Activities.....</b>  | <b>-59,360</b>                    |

**Title X of the Energy Policy Act of 1992: Uranium/Thorium Reimbursement Program  
Status of Payments through Fiscal Year 2004 and Estimated Future Payments**

| <u>Licensees</u>  | Total<br>Payments<br>FY 1994-<br>FY 2004 | Approved but<br>Unpaid Claim<br>Balances After<br>FY 2004<br>Payment | Estimated<br>Payments:<br>FY 2005 through<br>End of Program | Estimated<br>Unpaid Uranium<br>Claim Balances<br>in Excess of Dry<br>Short Ton<br>Ceilings at End<br>of Program |
|---|--|--|---|---|
| <b>Uranium</b>  |  |  |   |   |
| American Nuclear Corp. Site   |  |  |   |   |
| American Nuclear Corporation.....                                   | 820                                      | 0  | 0   | 0   |
| State of Wyoming.....   | 1,228                                    | 5  | 750   | 0   |
| Atlantic Richfield Company <sup>a</sup> .....                       | 32,306                                   | 0  | 0   | 0   |
| Atlas Corporation/Moab Mill Reclamation<br>Trust <sup>a</sup> ..... | 9,694                                    | 0  | 0   | 0   |
| Cotter Corporation.....   | 2,506                                    | 798  | 684   | 1,537   |
| Dawn Mining Company.....  | 3,871                                    | 464  | 6,973   | 0   |
| Homestake Mining Company.....                                       | 38,602                                   | 1,527  | 17,013  | 0   |
| Pathfinder Mines Corporation.....                                   | 9,482                                    | 998  | 1,339   | 0   |
| Petrotomics Company.....  | 2,668                                    | 27   | 130   | 0   |
| Quivira Mining Company.....   | 16,302                                   | 982  | 6,362   | 0   |
| Tennessee Valley Authority.....                                     | 12,928                                   | 12,202   | 3,530   | 8,673   |
| Umetco Minerals Corporation-CO.....                                 | 45,356                                   | 14,609   | 12,383  | 14,652  |
| Umetco Minerals Corporation-WY.....                                 | 15,974                                   | 4,036  | 5,325   | 2,660   |
| Western Nuclear, Incorporated.....                                  | 28,793                                   | 496  | 1,246   | 0   |
| Subtotal, Uranium.....  | 220,530                                  | 36,144   | 55,735  | 27,522  |

<sup>a</sup> Reimbursements have been completed to the Atlantic Richfield Company and the licensees of the Moab site.

**Thorium**

|                                 |         |        |                      |                     |
|---------------------------------|---------|--------|----------------------|---------------------|
| Kerr-McGee Chemical Corp.....   | 214,988 | 49,636 | 117,802              | 0                   |
| Subtotal, Thorium.....          | 214,988 | 49,636 | 117,802              | 0                   |
| Total, Uranium and Thorium..... | 435,518 | 85,780 | 173,537 <sup>b</sup> | 27,522 <sup>c</sup> |

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<sup>b</sup> These amounts are the totals of approved, unpaid claims within the uranium dry short ton ceiling and estimates of future claims provided voluntarily by licensees in late 2003.

<sup>c</sup> These amounts are estimates of approved claims that would be in excess of the uranium dry short ton ceiling near the end of the program. Under Sec. 1001. (b) (2) (E) of the Energy Policy Act of 1992, the Secretary may allow reimbursement of these claims if there is an excess of uranium reimbursement authority.

## PBS Subprojects Summary

(dollars in thousands)

|   | Total<br>Estimated<br>Cost<br>(TEC) | Prior Year<br>Appropriations | FY 2004 | FY 2005 | FY 2006 | Unappropriated<br>Balance |
|---|-------------------------------------|------------------------------|---------|---------|---------|---------------------------|
| <b>Defense Site Acceleration Completion</b>                                     |                                     |                              |         |         |         |                           |
| <b>2012 Accelerated Completions</b>   |                                     |                              |         |         |         |                           |
| Advanced Mixed Waste Treatment Project, ID, ID-0013                             | 630,456                             | 517,831                      | 112,625 | 0       | 0       | 0                         |
| Exhaust Upgrades, 221-H, SR, SR-0011B   | TBD                                 | 0                            | 685     | 0       | 0       | 0                         |
| <b>Total, 2012 Accelerated Completions</b>                                      |                                     |                              | 113,310 | 0       | 0       |                           |
| <b>2035 Accelerated Completions</b>   |                                     |                              |         |         |         |                           |
| Initial Tank Retrieval Systems, River Protection, WA, ORP-0014                  | 230,561                             | 79,437                       | 12,577  | 17,389  | 17,668  | 103,490                   |
| A-8 Electrical Substation Upgrade, Richland, WA, RL-0040                        | 14,766                              | 400                          | 1,004   | 7,690   | 4,393   | 1,279                     |
| Saltstone Vault #2, Savannah River, SC, SR-0014C                                | 15,572                              | 2,893                        | 10,081  | 2,598   | 0       | 0                         |
| High Level Waste Removal from Filled Waste Tanks, Savannah River, SC, SR-0014C  | 352,271                             | 339,644                      | 12,627  | 0       | 0       | 0                         |
| Tank Farm Restoration and Safe Operations, River Protection, WA, ORP-0014       | 188,645                             | 161,148                      | 21,497  | 6,000   | 0       | 0                         |
| Environmental Management/Waste Management Disposal Cell, Oak Ridge, TN, OR-0041 | 132,136                             | 45,550                       | 307     | 396     | 15,503  | 0                         |
| <b>Total, 2035 Accelerated Completions</b>                                      |                                     |                              | 58,093  | 34,073  | 31,183  |                           |
| <b>Defense Environmental Services</b>   |                                     |                              |         |         |         |                           |
| <b>Non-Closure Environmental Services</b>                                       |                                     |                              |         |         |         |                           |
| Spent Nuclear Fuel Dry Storage, ID, HQ-SNF-0012Y                                | 222,970                             | 179,461                      | 43,162  | 0       | 0       | 0                         |
| <b>Total, Non-Closure Environmental Services</b>                                |                                     |                              | 43,162  | 0       | 0       |                           |
| <b>Uranium Enrichment D&amp;D Fund</b>  |                                     |                              |         |         |         |                           |
| <b>D&amp;D Activities</b>   |                                     |                              |         |         |         |                           |
| ETTP 3-Building D&D/Recycle, Oak Ridge, TN, OR-0040                             | 350,500                             | 315,894                      | 34,421  | 0       | 0       | 0                         |
|   |                                     |                              | 34,421  | 0       | 0       |                           |

# Initial Tank Retrieval Systems

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

## Subproject Detail, Hanford Site PBS ORP-0014

### 1. Construction Schedule

| Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
| A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |

|                             |         |         |         |         |         |         |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| FY 2006 Budget Request..... | 4Q 1994 | 4Q 2007 | 3Q 2000 | 1Q 2013 | 230,561 | 230,561 |
|-----------------------------|---------|---------|---------|---------|---------|---------|

### 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

| Fiscal Year | Appropriation | Obligations | Costs  |
|-------------|---------------|-------------|--------|
| Prior Year  | 79,437        | 79,437      | 65,673 |
| 2004        | 12,577        | 12,577      | 12,577 |
| 2005        | 17,389        | 17,389      | 17,389 |
| 2006        | 17,668        | 17,668      | 17,668 |
| 2007        | 25,620        | 25,620      | 25,620 |
| 2008        | 18,387        | 18,387      | 18,387 |
| 2009        | 11,843        | 11,843      | 11,843 |
| 2010        | 13,079        | 13,079      | 13,079 |
| 2011        | 12,703        | 12,703      | 12,703 |
| 2012        | 11,012        | 11,012      | 13,622 |
| 2013        | 7,071         | 7,071       | 12,000 |
| 2014        | 3,775         | 3,775       | 10,000 |

### 3. Subproject Description, Justification and Scope

The Total Project Cost change from the FY 2005 Request is a result of the deletion of a mixer pump for the AN-101 Retrieval System from the baseline.

The project will provide mixing and pumping systems for the retrieval of radioactive wastes from ten double-shell tanks at Hanford and the waste transfer system between the existing tank farms and the Waste Treatment and Immobilization Plant. The typical retrieval system for the selected tanks consists of 300 horsepower mixer pumps to mobilize solids in the tank and a transfer system for removal of the tank contents. Tank internal components, such as thermocouple trees, will be replaced with higher strength equipment to withstand the forces induced by the mixer pumps. Monitoring and control systems will be installed to measure performance of the mixer pumps and tank operations. Remote

decontamination equipment and disposable containment equipment will be utilized for removal and disposal of tank components. Waste transfer components include upgrades to valve pits (including new jumpers) and waste transfer lines.

The selected feed and staging tanks contain both supernatant liquids and settled solids, most of which must be mixed before transfer for processing or storage. Initial tank design did not anticipate transfers of settled solids, but consolidation and concentration of wastes stored in these tanks as well as feed specifications supporting vitrification have made mixing and settled solids transfer systems necessary. The consolidation of wastes stored in these double-shell tanks resulted from waste removal from older design and leaking single shell tanks, thereby relieving threats to the environment. Concentration of wastes has avoided the need for construction of additional tanks.

The FY 2006 budget request will be used for detailed design on two retrieval systems; long lead procurement for three retrieval systems, on-going construction on one retrieval system; completion of construction on one retrieval system; completion of startup on one retrieval system; and, performing associated project management.

The tank farm contractor will manage the project for the Office of River Protection. A local architect-engineer will perform design as well as title III engineering services during construction. Long-lead procurements and construction contracts will be competitively bid. Fixed-price contracts will be utilized to the maximum extent possible.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3 and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

#### Compliance with Project Management Order

- Critical Decision – 0: Approved Mission Need – FY 1993 \*
- Critical Decision – 1: Approved Preliminary Baseline Range – FY 1993 \*
- Critical Decision – 2: Approved Performance Baseline:
  - Single-Shell Tanks retrieval systems received critical decision (CD) – 2/3 approval on June 3, 2004. The single-shell tank system installations are being managed as one sub-project using a graded approach under DOE O 413. Individual critical decisions for each single-shell tank retrieval systems are not beginning performed.
  - Double-Shell Tank retrieval systems received critical decision (CD) – 2/3 approval on June 3, 2004. The Office of River Protection is managing this work as one sub-project using a graded approach under DOE O 413. In this case the Office of River Protection is locally approving critical decision-3 for each sub-system.
- Critical Decision -3: Approved Start of Construction
  - Already Approval through Critical Decision-3: Tank AZ-102; AY-101; AY-102 (January 2004); AN Caustic Supply and Control System (June 2000); AZ-101 and Transfer System AP farm to WTP (April 2002); AN-101; and An 101 infrastructure (September 2002).

- Remaining Critical Decision-3: AN-102 (2009); AN-104 (2008); AN-107 (2010); AP-102; and AP-104 (2007).
- Critical Decision – 4: Approved Start of Operations or Completion of Construction – 1Q, FY 2013

\*At this time this project originated, all projects followed DOE Order 430, so no comparable dates for Critical Decision 0/1 are available.

#### 4. Details of Cost Estimate

| (dollars in thousands)   |                      |                      |
|--|----------------------|----------------------|
|  | Current<br>Estimates | Previous<br>Estimate |
| Design Phase   |                      |                      |
| Preliminary and Final Design Costs.....  | 26,000               | 28,182               |
| Design Management Costs (2.8 percent of Total Estimated Cost).....             | 5,560                | 6,020                |
| Project Management Costs (3.0 percent of Total Estimated Cost).....            | 5,870                | 6,360                |
| Subtotal, Design Phase.....  | 37,430               | 40,562               |
| Execution Phase  |                      |                      |
| Buildings and improvements to land.....  | 2,050                | 2,218                |
| Specialized Equipment.....   | 80,280               | 88,090               |
| Other (major utilities/comp items, specialized facilities, etc.).....          | 8,087                | 13,750               |
| Removal costs less salvage.....  | 13,350               | 14,470               |
| Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance..... | 26,658               | 20,970               |
| Project Management.....  | 11,000               | 11,920               |
| Construction Management.....   | 17,420               | 18,880               |
| Subtotal, Execution Phase.....   | 158,845              | 170,298              |
| Contingencies  |                      |                      |
| Design Phase (0.1 percent of Total Estimated Cost).....                        | 238                  | 238                  |
| Execution Phase (1.5 percent of Total Estimated Cost).....                     | 2,884                | 1,355                |
| Subtotal, Contingencies (1.6 percent of Total Estimated Cost).....             | 3,122                | 1,593                |
| Total, Execution Phase (Total Estimated Cost).....                             | 199,397              | 212,453              |
| Other Project Costs  |                      |                      |
| Conceptual Design.....   | 1,595                | 1,595                |
| NEPA.....  | 10                   | 10                   |
| Other Project Costs.....   | 29,559               | 36,867               |
| Subtotal, Other Project Costs.....   | 31,164               | 38,472               |
| Total, Project Cost.....   | 230,561              | 250,925              |

# A-8 Electrical Substation Upgrade

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line [ | ] in the left margin.)

## Subproject Detail, Richland PBS RL-0040

### Significant Changes

Total Project Cost has decreased from \$14,801,000 (FY 2005 Congressional Request) to \$14,766,000 (FY 2006 Congressional Request) as a result of a number of changes to the project scope. A revised engineering analysis determined that electrical power to the Hanford outer areas from Substation A-8 at 251-W would be functional. As a result, scope for refurbishments to Substation A-7 at 151-KW facility has been deleted. A new overhead 13.8 kV line from A-8 substation to A-7 substation will be installed instead. This will provide adequate electrical power to outer areas at Hanford including the water pump stations at 100B and 100D that provide water to the Hanford Site and the 100K and 100D Areas (Spent Nuclear Fuel and N-Reactor support facilities).

### 1. Construction Schedule

| Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
| A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |

|                             |         |         |         |         |        |        |
|-----------------------------|---------|---------|---------|---------|--------|--------|
| FY 2006 Budget Request..... | 1Q 2005 | 4Q 2005 | 1Q 2006 | 4Q 2006 | 14,766 | 14,766 |
|-----------------------------|---------|---------|---------|---------|--------|--------|

### 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

| Fiscal Year | Appropriation | Obligations | Costs |
|-------------|---------------|-------------|-------|
| 2003        | 400           | 400         | 231   |
| 2004        | 1,004         | 1,004       | 1,029 |
| 2005        | 7,690         | 7,690       | 7,690 |
| 2006        | 4,393         | 4,393       | 4,393 |
| 2007        | 1,279         | 1,279       | 1,423 |

### 3. Subproject Description, Justification and Scope

As part of the Hanford Site clean-up project, the U.S. Department of Energy (DOE) has embarked upon a course of actions to update and maintain Hanford Site core infrastructure. The infrastructure includes utilities such as water, sewer, electrical, roads, telecommunication and facilities. Such infrastructure systems must be maintained to provide long-term safe and reliable support for the cleanup mission.

Present site cleanup activities are scheduled through FY 2032. Hanford site core infrastructure systems were originally installed with an expected life of 20 years. Most of these systems have been in service for over 55 years, well beyond their expected useful life. Deterioration and system failures are becoming more frequent and more significant.

The project scope has four major components, allowing the project to be phase-funded, including:

- (1) Definitive Design for all phases to be funded in FY 2004
- (2) Renovations to Substation 251-W (A-8) to be funded in FY 2005
- (3) Installation of a 13.8 kV electrical line from 251-W (A-8) to 151-KW (A-7) to be funded in FY 2006
- (4) Relocation of the dispatch center from 251-W (A-8) to 2101-M to be funded in FY 2007.

Substation 251-W (A-8), located in the 600 Area, consists of two 50 MVA (230-13.8 kV) transformers, three 230 kV Oil Circuit Breakers, two 13.8 kV grounding transformers, and supporting switchyard equipment. This substation serves as the Hanford Site electrical dispatch center and houses the Supervisory Control and Data Acquisition (SCADA) System. The SCADA system monitors status and alarms, and provides remote control to allow the dispatcher to change electrical routings through four primary substations (three in the 100/200 Areas and one in the 300 Area) and two switching stations in the 300 Area. The renovation to the A-8 Substation will modernize 33- to 46-year-old equipment and allow for the downsizing of the 50 MVA transformers, which are significantly underutilized.

Substation 151-KW (A-7) is located north of 100-KW Area. This substation supplies electrical power to vital cleanup facilities, such as the 100-B and 100-D Area Water Plants, Spent Nuclear Fuel Project, and N-Reactor support facilities. The major scope of this project will be to install 5.5 miles of 13.8 kV electrical distribution line from A-8 to A-7 substation.

The Electrical Utilities SCADA and dispatch center will be relocated from 251-W to 2101M. This project will provide the necessary space for the relocation and support equipment from 251-W to 2101M. The existing electrical distribution system in 2101M will be utilized to supply normal power requirements of the relocated SCADA and dispatch center equipment. Evaluation of new and existing loads will be required to determine appropriate power sources.

The equipment and systems that are planned for replacement have deteriorated to a point where they could contribute to unscheduled power outages to key facilities. The 251-W substation contains major equipment that is 33- to 46-year-old and is beyond its useful life. Hanford site cleanup mission is scheduled until 2032. This project will improve overall electrical system reliability and help meet DOE's long-term environmental cleanup goals. This modification will also allow for downsizing from the existing 50 MVA transformers, which are significantly underutilized. Increased maintenance costs,

loss of productivity during downtime, schedule impact, and safety concerns can create an adverse impact on the site mission.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3 and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

#### Compliance with Project Management Order

- Critical Decision – 0: Approve Mission Need – 3Q FY 2003
- Critical Decision - 1: Preliminary Baseline Range - 3Q FY 2003
- Critical Decision - 2: Approve Baseline - 4Q FY 2004
- Critical Decision - 3: Start of Construction - 1Q FY 2005
- Critical Decision - 4: Start of Operations - 4Q FY 2007

A cost-plus contract will be used for Architect-Engineering services in Title II design and Title III engineering, and for construction management services. A firm-fixed price contract will be used to acquire construction activities.

## 4. Details of Cost Estimate

|  | Current<br>Estimates | Previous<br>Estimate |
|--|----------------------|----------------------|
| Design Phase   |                      |                      |
| Preliminary and Final Design Costs .....                                       | 835                  | 856                  |
| Design Management Costs .....  | 0                    | 0                    |
| Subtotal, Design Phase.....  | 835                  | 856                  |
| Execution Phase  |                      |                      |
| Buildings and improvements to land.....  | 5,167                | 1,055                |
| Specialized Equipment.....   | 3,646                | 9,415                |
| Inspection, Design, and Project Liaison, Testing, Checkout and Acceptance..... | 558                  | 682                  |
| Project Management.....  | 549                  | 736                  |
| Construction Management.....   | 800                  | 617                  |
| Subtotal, Execution Phase.....   | 10,720               | 12,505               |
| Contingencies  |                      |                      |
| Design Phase (1.1 percent of Total Estimated Cost).....                        | 89                   | 25                   |
| Execution Phase (16.1 percent of Total Estimated Cost).....                    | 2,319                | 400                  |
| Subtotal, Contingenices (17.5 percent of Total Estimated Cost).....            | 2,408                | 425                  |
| Total, Execution Phase (Total Estimated Cost).....                             | 13,963               | 13,786               |
| Other Project Costs  |                      |                      |
| Conceptual Design.....   | 400                  | 400                  |
| NEPA.....  | 0                    | 10                   |
| Other Project Costs.....   | 403                  | 605                  |
| Subtotal, Other Project Costs.....   | 803                  | 1,015                |
| Total, Project Cost.....   | 14,766               | 14,801               |

# **Environmental Management Waste Management Disposal, Oak Ridge, Tennessee (OR-0041)**

(Changes from FY 2005 Congressional Budget Request are denoted with a vertical line || in the left margin.

## **Significant Changes**

The Fiscal Year 2006 budget request reflects a decrease in the Total Estimated Cost of \$12,157,000 to \$132,136,000 and a decrease in the Total Project Cost of \$16,527,000 to \$295,424,000. The waste generation forecast used for planning the out-year construction and operation of the Facility continues to fluctuate as the Oak Ridge Reservation cleanup continues to mature. The most recent waste generation forecast used to develop the FY 2006 budget request reflects the ability to reduce the capacity of the facility from 2,200,000 cubic yards to 1,700,000 cubic yards. This forecast supports the current baseline incorporated into the Oak Ridge Reservation Accelerated Closure Contract signed in October 2003. The schedule for filling the facility and placing the final cap is forecasted to extend to 2015 to accommodate the cleanup schedule for the EM program.

## 1. Construction Schedule History

|  | Fiscal Quarter        |                       |                                   |                                      | Total<br>Estimated<br>Cost<br>(\$000) | Total<br>Project<br>Cost<br>(\$000) |
|--|-----------------------|-----------------------|-----------------------------------|--------------------------------------|---------------------------------------|-------------------------------------|
|  | A-E Work<br>Initiated | A-E Work<br>Completed | Physical<br>Construction<br>Start | Physical<br>Construction<br>Complete |                                       |                                     |
| <b>FY 1998 Budget Request</b> (A-E and technical design only)..... | N/A                   | N/A                   | FY 1999                           | FY 2001                              | 85,000                                | 170,000                             |
| <b>FY 1999 Budget Request</b> (Preliminary Estimate).....          | "                     | "                     | "                                 | "                                    | 85,000                                | 185,000                             |
| <b>FY 2000 Budget Request</b> (Pre-Award Estimate).....            | "                     | "                     | FY 2000                           | "                                    | 58,500                                | 225,880                             |
| <b>Congressional Notification</b> (May 2000)                       |                       |                       |                                   |                                      |                                       |                                     |
| # Base facility (400,000 cy).....                                  | FY 2000               | FY 2001               | FY 2001                           | FY 2001                              | 19,500                                | 65,505                              |
| # Upgrades for Classified Facility.....                            | "                     | "                     | "                                 | "                                    | 1,300                                 | 5,304                               |
| <b>Total FY 2000 Congressional Notification</b> (May 2000).....    |                       |                       |                                   |                                      | <u>20,800</u>                         | <u>70,809</u>                       |
| <b>Congressional Notification</b> (December 2000)                  |                       |                       |                                   |                                      |                                       |                                     |
| # Base facility (400,000 cy).....                                  | FY 2000               | FY 2001               | FY 2001                           | FY 2001                              | 20,800                                | 70,809                              |
| # Provision for Contract Changes.....                              | "                     | "                     | "                                 | "                                    | 3,330                                 | 3,330                               |
| <b>Total FY 2000 Budget Update</b> .....                           |                       |                       |                                   |                                      | <u>24,130</u>                         | <u>74,139</u>                       |
| <b>FY 2002 Budget Request</b>                                      |                       |                       |                                   |                                      |                                       |                                     |
| # Base facility (400,000 cy).....                                  | FY 2000               | FY 2001               | FY 2001                           | FY 2001                              | 24,130                                | 74,139                              |
| # Expanded facility (400,000 to 2,000,000 cy).....                 | "                     | "                     | "                                 | "                                    | 83,097                                | 160,799                             |
| <b>Total FY 2002 Budget Update</b> .....                           |                       |                       |                                   |                                      | <u>107,227</u>                        | <u>234,938</u>                      |
| <b>Congressional Notification</b> (July 2001)                      |                       |                       |                                   |                                      |                                       |                                     |
| # Base facility (400,000 cy).....                                  | FY 2000               | FY 2001               | FY 2001                           | FY 2002                              | 24,130                                | 74,139                              |
| # Provision for Contract Changes.....                              | "                     | "                     | FY 2004                           | FY 2005                              | 1,691                                 | 1,691                               |
| # Expanded facility (400,000 to 2,000,000 cy).....                 | "                     | "                     | "                                 | "                                    | 83,097                                | 160,799                             |
| <b>Total FY 2002 Budget Update</b> .....                           |                       |                       |                                   |                                      | <u>108,918</u>                        | <u>236,629</u>                      |

| Fiscal Quarter     |                    |                             |                                | Total Estimated Cost (\$000) |          | Total Project Cost (\$000) |
|--------------------|--------------------|-----------------------------|--------------------------------|------------------------------|----------|----------------------------|
| A-E Work Initiated | A-E Work Completed | Physical Construction Start | Physical Construction Complete | Privatized                   | Non-Priv |                            |

**Congressional Notification**

(July 2003)

|   |         |         |         |         |        |         |         |
|---|---------|---------|---------|---------|--------|---------|---------|
| # Base facility (400,000 cy).....                       | FY 2000 | FY 2001 | FY 2001 | FY 2002 | 24,044 | 0       | 67,253  |
| # Expanded facility (400,000 cy to 1,200,000 cy)        | FY 2003 | FY 2004 | FY 2004 | FY 2005 | 21,506 | 0       | 69,735  |
| # Expanded facility (1,200,000 cy to 2,200,000 cy)..... |         |         |         |         | 0      | 113,645 | 171,294 |
| Total FY 2003 Budget Request.....                       |         |         |         |         | 45,550 | 113,645 | 308,282 |

**FY 2005 Budget Request**

|   |         |         |         |         |        |        |         |
|---|---------|---------|---------|---------|--------|--------|---------|
| # Base facility (400,000 cy).....                       | FY 2000 | FY 2001 | FY 2001 | FY 2002 | 24,044 | 0      | 67,253  |
| # Expanded facility (400,000 cy to 1,200,000 cy)        | FY 2003 | FY 2004 | FY 2004 | FY 2005 | 21,506 | 0      | 69,735  |
| # Expanded facility (1,200,000 cy to 2,200,000 cy)..... | FY 2005 | FY 2005 | FY 2005 | FY 2008 | 0      | 30,462 | 98,537  |
| Final Cap Facility.....                                 | FY 2014 | FY 2014 | FY 2014 | FY 2015 | 0      | 68,281 | 76,426  |
| Total FY 2005 Budget Update.....                        |         |         |         |         | 45,550 | 98,743 | 311,951 |

**FY 2006 Budget Request**

|   |         |         |         |         |        |        |         |
|---|---------|---------|---------|---------|--------|--------|---------|
| # Base facility (400,000 cy).....                       | FY 2000 | FY 2001 | FY 2001 | FY 2002 | 24,044 | 0      | 67,253  |
| # Expanded facility (400,000 cy to 1,200,000 cy)        | FY 2003 | FY 2004 | FY 2004 | FY 2005 | 20,706 | 0      | 68,935  |
| # Expanded facility (1,200,000 cy to 1,700,000 cy)..... | FY 2005 | FY 2005 | FY 2005 | FY 2007 | 800    | 23,807 | 90,955  |
| Final Cap Facility.....                                 | FY 2014 | FY 2014 | FY 2014 | FY 2015 | 0      | 62,779 | 68,281  |
| Total FY 2006 Budget Update.....                        |         |         |         |         | 45,550 | 86,586 | 295,424 |

**Defense Site Acceleration Completion/2035 Accelerated Completions/Environmental Management Waste Management Disposal, Oak Ridge, Tennessee**

**FY 2006 Congressional Budget**

## 2. Financial Schedule (Operating Expense Funded)

(dollars in thousands)

| Fiscal Year           | Appropriation | Obligations   | Costs         |
|-----------------------|---------------|---------------|---------------|
| Defense Privatization |               |               |               |
| 1997                  | 0             | 0             | 0             |
| 1998                  | 5,000         | 0             | 0             |
| 1999                  | 14,500        | 0             | 0             |
| 2000                  | 0             | 14,239        | 0             |
| 2001                  | 0             | 5,261         | 0             |
| 2002                  | 26,050        | 7,000         | 20,645        |
| 2003                  | 0             | 19,050        | 3,399         |
| 2004                  | 0             | 0             | 0             |
| 2005                  | 0             | 0             | 21,506        |
| <b>Total</b>          | <b>45,550</b> | <b>45,550</b> | <b>45,550</b> |

(dollars in thousands)

| Fiscal Year                                     | Appropriation | Obligations   | Costs         |
|---|---------------|---------------|---------------|
| Defense Site Acceleration Completion<br>Account |               |               |               |
| 2004  | 307           | 307           | 307           |
| 2005  | 396           | 396           | 396           |
| 2006  | 15,503        | 15,503        | 15,503        |
| 2007  | 7,601         | 7,601         | 7,601         |
| 2008  | 0             | 0             | 0             |
| 2009  | 0             | 0             | 0             |
| Outyears  | 62,779        | 62,779        | 62,779        |
| <b>Total</b>                                    | <b>86,586</b> | <b>86,586</b> | <b>86,586</b> |

## 3. Project Description, Justification and Scope

The Environmental Management Waste Management Facility (EMWMF) consists of a disposal cell with ancillary facilities to support operations and an area to support potential development for future treatment, storage, and disposal facilities. The disposal facility currently has a capacity of 400,000 cubic yards, with a build-out of an additional 800,000 cubic yards capacity scheduled to come on line by June 2005. It is an above-grade earthen structure that is compliant with the Resource Conservation and Recovery Act. The project is being implemented under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and is currently authorized to receive up to 1,700,000 cubic yards of wastes from CERCLA remediation projects. Maximum capacity needed to accommodate the EM program needs at Oak Ridge has been determined to be 1,700,000 cubic yards, consistent with the facility volume authorized in the Record of Decisions.

**Defense Site Acceleration Completion/2035 Accelerated  
Completions/Environmental Management Waste Management  
Disposal, Oak Ridge, Tennessee**

**FY 2006 Congressional Budget**

The EMWMF offers several benefits to the Oak Ridge Reservation Accelerated Cleanup. On-site disposal capacity streamlines and expedites cleanup activities. Large volumes of waste from the cleanup of the Oak Ridge Reservation make off-site transportation and disposal costs significantly higher than on-site disposal costs. Removal of additional waste sources will reduce the total risk at the Oak Ridge Reservation. Consolidating waste management and disposal activities, as opposed to capping multiple, discrete waste units in place with continued maintenance and institutional controls, will reduce the future mortgage for the Oak Ridge Reservation.

The capacity of the facility is forecasted to be 1,700,000 cubic yards, which is consistent with the facility capacity that was approved in the November 1999 Record of Decision. Privatization appropriations funded the initial 400,000 cubic yard facility and the first 800,000 cubic yard expansion. Any remaining funding from these Privatization appropriations will be used on the remaining 500,000 cubic yard build out. The remaining funding requirements for the 500,000 cubic yard build out and final cap will be requested as an expense funded project appropriated within the Defense Site Acceleration Completion appropriation. A final cap will be placed over the entire closed facility at the conclusion of facility operations rather than separate caps as each increment of the disposal cell reaches capacity. The operations scope for the facility includes installation of an interim cap as each increment is filled up. Since the permanent cap for the closed facility will be constructed at the end of the expansion, it will be funded and executed under a separate contract.

A total of \$163,288,000 from the Defense Site Acceleration Completion appropriation will provide for the operation of the EMWMF, including the actual disposal of the waste into the EMWMF, and for support of the project by the closure contractor.

## 4. Details of Cost Estimate

|   | (dollars in thousands) |                      |
|---|------------------------|----------------------|
|   | Current<br>Estimate    | Previous<br>Estimate |
| Design Phase  |                        |                      |
| Design for the Environmental Management/Waste Management Disposal Facility.....     | 1,800                  | 1,800                |
| Subtotal, Design Phase (1 percent of Total Estimated Cost).....                     | 1,800                  | 1,800                |
| Execution Phase   |                        |                      |
| Phase 1 - Construction costs for the initial 400,000 cy EMWMF (percent of TEC)..... | 22,244                 | 22,244               |
| Phase 2 - Expansion from 400,000 to 1,200,000 cy (percent of TEC).....              | 18,446                 | 18,446               |
| Contract Changes on Expansion.....  | 2,260                  | 3,060                |
| Phase 3 - Expansion from 1,200,000 to 2,500,000 cy (previous estimate).....         | 0                      | 0                    |
| Contract Changes on Expansion (previous estimate).....                              | 0                      | 0                    |
| Phase 3 - Expansion from 1,200,000 to 2,500,000 cy (percent of TEC).....            | 0                      | 30,462               |
| Contract Changes on Expansion.....  | Incl in Ph3            | Incl in Ph 3         |
| Phase 3 - Build-out from 1,200,000 to 1,700,000 cubic yards.....                    | 24,607                 | 0                    |
| Contract Changes on Build-out.....  | Incl in Ph3            | Incl in Ph 3         |
| Final Cap of Facility.....  | 62,779                 | 68,281               |
| Contract Changes on Final Cap.....  | Incl in Ph3            | Incl in Ph 3         |
| Subtotal, Execution Phase.....  | 130,336                | 142,493              |
| Privatization Interest on Design/Construction/Closure.....                          | Incl in Ph3            | Incl in Ph 3         |
| Total, Line-Item Costs (Total Estimated Costs).....                                 | 132,136                | 144,293              |

In general, the EMWMF project cost estimate is rated at a high-level of confidence. This rating is based primarily on the fact that the costs are derived from fixed-price contracts that have been negotiated and put into place. Additionally project baselines have been subjected to multiple reviews from both internal and external entities to determine the reasonableness of project estimates. All reviews have indicated that the project scope is well defined, the required technology is based on existing industrial standards, and the labor and material estimates are consistent with current standards. Finally, the EMWMF cost data compares favorably with cost data from similar facilities across the DOE complex.

## 5. Method of Performance

The DOE developed the approach to construct the EMWMF without impacting the remediation it is intended to support. The Department chose privatization of the facility (for the first 1,200,000 cubic yards of disposal capacity) by purchasing design and construction services from the private sector. For the first 400,000 cubic yards, the private sector vendor who did the design and construction is also providing the disposal services.

The first increment of facility expansion (Phase 2) of 800,000 cubic yards is scheduled for completion in April 2005 with waste disposal operations in the additional cells to start around June 2005. The final 500,000 cubic yard build-out and the cap for the entire facility will be funded with the Defense Site Acceleration Completion appropriation and any remaining prior year Privatization appropriations. Facility construction utilizes several separate and distinct contracts: Phase 1 – base facility 400,000

cubic yards and Phase 2 first 800,000 cubic yard expansion increment were/are separate privatization contracts. Phase 3 – final build-out from 1,200,000 cubic yards up to 1,700,000 cubic yards; and Phase 4 – cap for entire facility will be non-privatization contracts.

Several external independent reviews of the EMWMF project have been completed. Detailed regulatory reviews were completed by the State of Tennessee and U.S. Environmental Protection Agency Region 4 in the areas of protection of human health and the environment, cost effectiveness, and compliance. These reviews were conducted under the CERCLA and culminated in the issuance of the EMWMF ROD in November 1999, which formally documented the decision to build an on-site disposal facility at Oak Ridge. Further, regulatory reviews of the facility design were conducted for each phase in the form of a Remedial Design Report/Remedial Action Work Plan. The Phase 1 Remedial Design Report/Remedial Action Work Plan was approved in April 2001; the revision to the Remedial Design Report/Remedial Action Work Plan for Phase 2 was approved in July 2004. Each of the remaining two phases will undergo similar review and approval.

In addition, the EMWMF was also the subject of a detailed external independent review conducted by the Office of Field Integration (currently the Office of Engineering and Construction Management). The Office of Field Integration conducted a detailed review of this project with a team of technical, regulatory, and cost estimating subject matter experts. Results of the review were presented in a report submitted to Congress in May 1999 and indicated that the project is well defined, technically sound, and the planning, cost estimating, and management procedures being used are consistent with “industry best standard practices.” The primary outstanding item identified and tracked in the Corrective Action Plan, securing regulatory approval of the final design, occurred in March 2001. Finally, the Corps of Engineers validated the lifecycle baseline for the project in February 2003.

The project will be conducted in accordance with the project management requirements in DOE Order 413.3 and DOE Manual 413.3-1, Program and Project Management for the Acquisition of Capital Assets.

#### Compliance with Project Management Order\*

- Critical Decision – 0: Approved Mission Need – October 1996
- Critical Decision – 1: Approved Preliminary Baseline Range – July 1997
- Critical Decision – 2: Approved Performance Baseline – December 1999
- Critical Decision – 3: Approved Start of Construction – January 2001
- Critical Decision – 4: Approved Start of Operations – May 2002

\* Since this was a privatization project started before the DOE Order 413.3 was in place, all dates are equivalent to Critical Decision Dates (with the exception of CD-4).

## 6. Schedule of Project Funding

(dollars in thousands)

|  | Prior Year    | FY 2004      | FY 2005       | FY 2006       | Outyears       | Total          |
|--|---------------|--------------|---------------|---------------|----------------|----------------|
| <b>Project Cost</b>  |               |              |               |               |                |                |
| <b>Design Phase</b>  |               |              |               |               |                |                |
| Payments to Vendors (400K facility)<br>PRIV. Funds.....                          | 24,044        | 0            | 0             | 0             | 0              | 24,044         |
| Payments to Vendors (800K facility)<br>PRIV. Funds.....                          | 0             | 0            | 20,706        | 0             | 0              | 20,706         |
| Payments to Vendors (500K facility)<br>PRIV. Funds.....                          | 0             | 0            | 800           | 0             | 0              | 800            |
| Payments to Vendors (1,600K<br>facility) NON-PRIV. Funds.....                    | 0             | 307          | 396           | 15,503        | 7,601          | 23,807         |
| Payments to Vendors (final cap)<br>NON-PRIV. Funds.....                          | 0             | 0            | 0             | 0             | 62,779         | 62,779         |
| <b>Total, line item cost (Federal and Non-<br/>Federal).....</b>                 | <b>24,044</b> | <b>307</b>   | <b>21,902</b> | <b>15,503</b> | <b>70,380</b>  | <b>132,136</b> |
| <b>Other Project Costs</b>   |               |              |               |               |                |                |
| Payments to Vendors (400K facility<br>operations).....                           | 14,601        | 5,545        | 6,457         | 0             | 0              | 26,603         |
| Payments to Vendors (800K facility<br>operations).....                           | 0             | 0            | 0             | 7,342         | 14,709         | 22,051         |
| Payments to Vendors (500K facility<br>operations)<br>Facility Support/Other..... | 0             | 0            | 0             | 0             | 42,818         | 42,818         |
| Support/Other.....   | 26,067        | 2,400        | 2,918         | 3,389         | 23,042         | 57,816         |
| Perpetual Care.....  | 4,000         | 1,000        | 1,000         | 1,000         | 7,000          | 14,000         |
| <b>Total , Other Project Costs</b>   | <b>44,668</b> | <b>8,945</b> | <b>10,375</b> | <b>11,731</b> | <b>87,569</b>  | <b>163,288</b> |
| <b>Total Project Cost (TPC).....</b>   | <b>68,712</b> | <b>9,252</b> | <b>32,277</b> | <b>27,234</b> | <b>157,949</b> | <b>295,424</b> |

## 7. Related Annual Funding Requirements

(dollars in thousands)

|  | Current<br>Estimates | Previous<br>Estimate |
|--|----------------------|----------------------|
| Given the nature of the privatization contract, these operating costs are shown as part of the Total Estimated Cost..... | 0                    | 0                    |
| Total related annual funding.....  | 0                    | 0                    |

