Defense Environmental Management Privatization

Proposed Appropriation Language

For Department of Energy expenses for privatization projects necessary for atomic energy defense environmental management activities authorized by the Department of Energy Organization Act (42 U.S.C. 7101 et seq.), [$153,537,000] *$158,399,000*, to remain available until expended. *(Energy and Water Development Appropriation Act, 2002)*

Defense Environmental Management Privatization

Program Mission

The U.S. Department of Energy (DOE) began working with the private sector in the 1940s when it contracted to design, construct, and operate the facilities used to build nuclear weapons during the Manhattan Project. During the period of weapons production and in the early years of the Environmental Management (EM) program, the management and operating contract was the Department's typical method of contracting. This mechanism contained very general work scope under which the Department reimbursed essentially all contractor costs while also paying the contractor an additional fee based on either a fixed-fee schedule or, in a few cases, based on a subjective determination of performance (i.e., an award fee). However, in recent years DOE has incorporated many private sector contracting and project management practices and principles into its procurement operations, including competition. For example, all eight of the Environmental Management program facilities management contracts awarded since FY 1994 — that is, EM's management and operations, management and integrating and environmental restoration management contracts — have been competitively-awarded, with five of these major contracts awarded to a contractor other than the incumbent.

In an effort to meet the enormous cleanup challenge, EM began in 1996 to selectively apply privatization, an innovative extension of traditional fixed-price contracting. Under privatization, the contractor finances the project and does not receive the contractually specified payments from the government until the projects or services are delivered in accordance with the terms of the contract. The Office of Environmental Management views this approach as an important means of leveraging both market forces and private industry expertise to improve technical and schedule performance and reduce the costs of some of its major cleanup projects.

The Office of Environmental Management's objective in utilizing the privatization approach is to gain an edge through private sector best-in-class management capability, business strategies, technological approaches, schedule enhancements, regulatory experience, and cost efficiencies. The Department believes that the privatization program is the most cost-effective methodology for some selected projects. This type of project funding is widely used in the private sector to finance power plants and other capital investments. In addition, shifting substantial performance risk to the contractor provides greater incentives to contractors to complete projects on schedule and within cost. A further advantage of the EM privatization approach is that it requires full life-cycle project planning up front. Accordingly, the use of privatization is expected to result in cleanup being accomplished sooner in comparison to the traditional management and operating contractor approaches, thus supporting the Environmental Management vision of completing substantial cleanup at most EM sites within the next decade.

The Congress supported this approach through authorizing legislation and the establishment of a separate appropriation account for privatization projects. As specified in the National Defense Authorization Act for FY 1998, contracts for EM Privatization projects must meet the following criteria: (1) be awarded on a competitive basis; (2) require the contractor to construct or acquire any equipment or facilities required to carry out the contract; (3) require the contractor to bear any of the costs of the construction, acquisition, operation of such equipment or facilities that arise before the commencement

of the provision of goods or services under the contract; and (4) provide for payment to the contractor under the contract only upon the meeting of performance specifications in the contract.

This program is budgeted for under the Defense Environmental Management Privatization appropriation account. The Defense Environmental Management Privatization request for FY 2003 is $158,399,000 an increase of $4,862,000 from the FY 2002 appropriation of $153,537,000. The FY 2003 request is required to continue the Advanced Mixed Waste Treatment Project and Spent Nuclear Fuel Dry Storage Project at Idaho.

Program Strategic Performance Goals

The goal of privatization is to accomplish selective EM projects traditionally performed by DOE's Management and Operating/Management and Integrating contractors under cost-plus contracts by using a specialized, fixed-price contracting approach to achieve improved cost, schedule and technical performance. The EM program will:

- Reduce the project risk to the government and achieve cleanup more cost-effectively;
- Provide financial incentives to contractors to substantially reduce EM cleanup costs and accelerate cleanup schedule, while ensuring that an appropriate technical and financial risk/reward balance between DOE and the contractor is maintained; and
- Continue the active support and commitment to ongoing and future privatization projects aimed at reducing the overall cost and improving the schedule of environmental cleanup activities.

Significant Accomplishments and Program Shifts

- **Idaho Advanced Mixed Waste Treatment Project**. The Department authorized British Nuclear Fuels, (BNFL) Inc., to commence facility construction of the Advanced Mixed Waste Treatment Project, Idaho Falls, Idaho, in FY 1999. Site mobilization activities were also performed in FY 1999. However, in September 1999, two private organizations filed suit against the Department in an attempt to halt progress on the Advanced Mixed Waste Treatment Project. The complaint alleged: (1) violations of the National Environmental Policy Act for failure to give adequate public notification and opportunity to comment in Wyoming, and (2) an inappropriate procurement process, with inadequate public notification and involvement, resulting in the award of the privatized contract to BNFL, Inc. A settlement agreement on the lawsuit was reached on March 26, 2000. On March 27, 2000, the Secretary of Energy announced his decision to proceed with a revised plan to build the Advanced Mixed Waste Treatment Project Facility. As part of this decision, the Secretary put on hold plans to build the incinerator component of the facility. This decision allows DOE to continue making progress toward meeting its obligation to Idaho to remove 65,000 m^3 retrievably stored waste from the State in accordance with the 1995 Settlement Agreement and Consent Order with a target date of December 31, 2015, but no later than December 31, 2018. This allowed the Department, upon issuance of required permits, to begin construction of a majority of the Advanced Mixed Waste Treatment Project facility to process most of the site's existing stored transuranic waste and alpha mixed low-level waste. Phase I permitting was completed on July 19, 2000 followed by start of

Phase II construction on August 22, 2000. Completed transition of the Transuranic Storage and Retrieval Enclosure to BNFL Inc. in June 2001; Completed enclosure (siding and roof) of the treatment facility in October 2001; Detailed design essentially completed in December 2001; Complete modification and construction of the Characterization Facility planned for March 2002; Complete all major procurements and equipment installation planned for August 2002; Complete all readiness activities supporting start of retrieval operations including BNFL Inc. and DOE line management assessments and Operational Readiness Reviews planned for September 2002. Complete Phase II construction on December 31, 2002 and Phase III Facility Construction will commence on March 31, 2003. Will start Decontamination and Decommissioning in January, 2016, (depending on the quantities of waste treated under Option 2 of the contract, if executed).

Idaho Spent Nuclear Fuel Dry Storage Project. The Department awarded a contract to Foster Wheeler Environmental Corporation on May 19, 2000, for the Spent Nuclear Fuel Dry Storage project at Idaho Falls, Idaho. The contract scope includes the design, licensing, permitting, construction, and operation of a Dry Transfer Facility and an Independent Spent Fuel Storage Installation. The estimated capital cost of the project is $223,563,000. This estimate is based on the selected contractors proposed price of $181,048,000 plus $42,515,000 for incentives for early completion, economic price adjustments, and risks that remain with DOE consistent with the terms of the contract.

Oak Ridge Environmental Management Waste Management Facility Project. In December 1999, following the issuance of the Record of Decision and submittal of the Privatization Project report to Congress, a fixed-price, performance-based contract was awarded to Waste Management Federal Services, Inc. for the design, construction, operation and capping of the Environmental Management Waste Management Facility at the Oak Ridge Reservation. No funding is required for FY 2003.

Oak Ridge Paducah Disposal Facility. Planning activities initiated in FY 2000 for waste disposal alternatives at the Paducah Gaseous Diffusion Plant will conclude in FY 2003 with a Record of Decision (ROD). The ROD has slipped approximately 10 months to allow for a seismic field investigation to determine specific ground acceleration design values for the proposed siting location to support a refined preliminary cost estimate. This investigation was initiated in June 2001. In FY 2003, the Administration proposes to defer this project pending the Record of Decision.

Oak Ridge Portsmouth Disposal Facility. An evaluation of environmental alternatives for disposal of wastes generated by site-wide remediation and future decontamination and decommissioning activities at the Portsmouth Gaseous Diffusion Plant is currently in progress. In FY 2003, the Administration proposes to eliminate this project to permit EM to accelerate other higher risk reduction activities.

Funding Profile

(dollars in thousands)

	FY 2001 Comparable Appropriation	FY 2002 Original Appropriation	FY 2002 Adjustment	FY 2002 Comparable Appropriation	FY 2003 Request
Privatization	119,692	153,537	0	153,537	158,399
Subtotal, Privatization	119,692	153,537	0	153,537	158,399
Use of prior year balances	-25,092	0	0		0
Rescission of prior appropriations	-97,000	0	0		0
Total, Privatization	-2,400	153,537	0	153,537	158,399

Public Law Authorization:

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

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

Public Law 106-377, “The Energy and Water Development Appropriations Act, 2001"

Public Law 106-398, “The National Defense Authorization Act for Fiscal Year 2001"

Funding Schedule

	FY 2001	FY 2002	FY 2003
ID-WM-104 / Advanced Mixed Waste Treatment Project	94,600	52,000	105,000
ID-105 / Spent Nuclear Fuel	25,092	49,332	53,399
OR-174 / Environmental Management/Waste Management Facility	0	26,050	0
OR-364 / Transuranic Waste Treatment	0	10,826	0
OR-574 / Paducah Disposal Facility	0	13,329	0
OR-674 / Portsmouth Disposal Facility	0	2,000	0
Total, Privatization	119,692	153,537	158,399

Funding by Site

(dollars in thousands)

	FY 2001	FY 2002	FY 2003	$ Change	% Change
Idaho Operations Office	119,692	101,332	158,399	57,067	56.3%
Oak Ridge Operations Office	0	52,205	0	-52,205	-100.0%
Subtotal, Privatization	119,692	153,537	158,399	4,862	3.2%
Use of prior year balances	-25,092	0	0	0	0.0%
Rescission of prior appropriations	-97,000	0	0	0	0.0%
Total, Privatization	-2,400	153,537	158,399	4,862	3.2%

Detailed Program Justification

(dollars in thousands)

FY 2001	FY 2002	FY 2003

ID-WM-104 / Advanced Mixed Waste Treatment Project;
Idaho Falls, Idaho **94,600** **52,000** **105,000**

This project has been in development at the Idaho National Engineering and Environmental Laboratory since 1993. A contract was awarded to BNFL, Inc., on December 20, 1996, for the retrieval, sorting, characterization, storage, pre-treatment, treatment, certification, and loading for transportation of 65,000 cubic meters of transuranic and alpha mixed waste located in retrievable storage at the Idaho National Engineering and Environmental Laboratory Radioactive Waste Management Complex (target date of December 31, 2015, but no later than December 31, 2018). The contract has an option for treatment of up to 120,000 cubic meters of additional DOE mixed wastes. The project scope is to treat Idaho National Engineering and Environmental Laboratory transuranic and alpha mixed waste, as well as other DOE mixed waste in the complex, through a private sector treatment facility located at the Idaho National Engineering and Environmental Laboratory.

The primary wastes to be treated are DOE laboratory and process wastes generated at Rocky Flats and various DOE facilities. These wastes are currently stored in drums, boxes and bins at the Idaho National Engineering and Environmental Laboratory Transuranic Storage Area of the Radioactive Waste Management Complex.

The wastes consist of a heterogeneous mixture of solid materials including paper, cloth, rubber, plastic, glass, graphite, bricks, concrete, metal, nitrate salts, process sludges, miscellaneous components, and some absorbed liquids. Some wastes also contain Toxic Substance and Control Act regulated materials such as polychlorinated biphenyls. No more than 4,100 kilograms of elemental mercury and approximately 2.1 million kilograms of lead is expected in the 65,000 cubic meters.

The Advanced Mixed Waste Treatment Project is a privatized, fixed-price contract and will be performed in three phases. Phase I consists of facility permitting, preliminary facility/process design, and establishing the facility safety basis, which was completed on July 19, 2000. Phase II consists of final facility/process design, facility construction, and testing, which was completed on August 22, 2000. Phase III consists of facility operations, Resource Conservation and Recovery Act closure, and decontamination and decommissioning. The service provided by the contractor shall treat waste to meet Waste Isolation Pilot Plant Waste Acceptance Criteria and Toxic Substances Control Act requirements. Transportation support for shipment of the waste from the Idaho National Engineering and Environmental Laboratory to the Waste Isolation Pilot Plant is required and will be performed under a separate Waste Isolation Pilot Plant-managed contract.

In accordance with the Idaho Settlement Agreement, facility construction will be complete by December 31, 2002, and operations will commence no later than March 31, 2003. Initial operations will result in shipments of waste from the Advanced Mixed Waste Treatment Project to the Waste Isolation Pilot Plant, expected to begin in the second quarter of FY 2003. Decontamination and Decommissioning will start in January, 2016, (depending on the quantities of waste treated under Option 2 of the contract, if executed).

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Funding requested through FY 2004 will provide for the physical construction phase (including advance procurement of major equipment) of this project. These funds will cover the remote possibility of termination of the contract and will eventually be used to reimburse capital expenditures after service commences. The contractor's (BNFL, Inc.) current schedule is to complete construction of the Advanced Mixed Waste Treatment Project in the fourth quarter of FY 2002 and begin retrieval operations in the first quarter of FY 2003.

Metrics
No quantifiable corporate performance measures are associated with this project.

ID-SNF-105 / Spent Nuclear Fuel Dry Storage; Idaho Falls, Idaho 25,092 49,332 53,399

The Spent Nuclear Fuel Dry Storage Project will provide Nuclear Regulatory Commission-licensed interim dry storage of three types of Spent Nuclear Fuel at the Idaho National Engineering and Environmental Laboratory. The fuel currently resides in facilities at the Idaho National Engineering and Environmental Laboratory, at various universities, and at foreign research reactors.

This project includes the following services:

- Design and Nuclear Regulatory Commission license for a spent nuclear fuel dry transfer and storage facility (the contractor is the licensee.) The License application which includes the Safety Analysis Report and Environmental Report, among others, will be submitted in FY 2002.
- Conceptual design for a Nuclear Regulatory Commission licensed transportation system to transfer the spent nuclear fuel out of Idaho.
- Dry Transfer Capability to allow cask receipt from the Management and Operations Contractor and dry transfer of spent nuclear fuel assemblies into standard dry storage canisters. The standard canisters are designed for storage in a future federal repository.
- Construction of the Independent Spent Fuel Storage Installation as defined by Nuclear Regulatory Commission license.
- Loading of the designated fuels into the Independent Spent Fuel Storage Installation.
- Operation of the Dry Transfer Facility and Independent Spent Fuel Storage Installation in accordance with the contractor's Nuclear Regulatory Commission license conditions through April 2010.

The dry transfer and interim storage facilities may also be used to transfer other DOE-owned spent nuclear fuel to dry storage. The need for spent nuclear fuel transfer capability spans 35 years.

An October 17, 1995, Federal court-ordered agreement between the State of Idaho, DOE, and the Navy directs that all spent nuclear fuel will be out of wet storage by December 31, 2023, and shipped out of the State of Idaho by January 1, 2035.

This project is being continued on schedule.

(dollars in thousands)

FY 2001	FY 2002	FY 2003

Metrics
No quantifiable corporate performance measures are associated with this project.

OR-174 Environmental Management Waste Management Facility; Oak Ridge, Tennessee **0** **26,050** **0**

The project provides on-site waste disposal services from a private vendor for low-level, hazardous, Toxic Substance and Control Act defined, and mixed wastes generated at Oak Ridge. This project is required to support the Oak Ridge Federal Facilities Agreement and the efficient cost-effective disposal of site-wide Comprehensive Environmental Response, Compensation, and Liability Act wastes.

No funding is required for FY 2003.

Metrics
No quantifiable corporate performance measures are associated with this project.

OR-364 Transuranic Waste Treatment **0** **10,826** **0**

A fixed price contract was awarded by DOE-Oak Ridge Operations Office to Foster Wheeler Environmental Corporation in August 1998. This contract consists of four phases. Phase I (Licensing and Permitting) consists of obtaining all necessary licenses and permits and designing the facility, and will be funded from the base program. Phase II will consist of construction of the treatment system and any pre-testing required by the Waste Isolation Pilot Plant, Nevada Test Site, or the regulatory agencies, and is funded by the Privatization program. Phase III will consist of removal of sludge waste from the tanks and treatment of sludge and solid waste in the licensed/permitted facility. Phase IV will consist of decontamination and decommissioning.

No funding is required for FY 2003.

Metrics
No quantifiable corporate performance measures are associated with this project.

	(dollars in thousands)		
	FY 2001	FY 2002	FY 2003
OR-574 / Paducah Disposal Facility Privatization: Paducah, Kentucky	**0**	**13,329**	**0**

An environmental evaluation of site-wide waste disposal alternatives is currently in progress and will result in a Record of Decision in FY 2003. One alternative being evaluated is to construct an on-site Comprehensive Environmental Response, Compensation, and Liability Act cell. Should the on-site cell alternative be selected in the Record of Decision, it would authorize the construction of the facility and reflect the broad Stakeholder support for the project.

In FY 2003, the Administration proposes to defer this project pending the Record of Decision.

Metrics
No quantifiable corporate performance measures are associated with this project.

OR-674 / Portsmouth Disposal Facility: Portsmouth, Ohio	**0**	**2,000**	**0**

The envisioned on-site disposal of waste at Portsmouth consists of a disposal cell with ancillary facilities to support operations.

In FY 2003, the Administration proposes to eliminate this project to permit EM to accelerate other higher risk reduction activities.

Total, Privatization	119,692	153,537	158,399

Explanation of Funding Changes from FY 2002 to FY 2003

	FY 2003 vs. FY 2002 ($000)
ID-WM-104/ Advanced Mixed Waste Treatment Project; Idaho Falls, Idaho	
# Increased funding from $52M in FY 2002 to $105M in FY 2003 represents continuing construction of the Advanced Mixed Waste Treatment Project Facility in preparation of facility operations and other project related activities in accordance with DOE Headquarters assigned funding scheduling.	53,000
ID-SNF-105/ Spent Nuclear Fuel Dry Storage; Idaho Falls, Idaho	
# This project is being continued on schedule.	4,067
OR-174/ Environmental Management Waste Management Facility; Oak Ridge, Tennessee	
# No funding is required in FY 2003.	-26,050
OR-364 / Transuranic Waste Treatment	
# No funding is required for FY 2003.	-10,826
OR-574/ Paducah Disposal Facility Privatization; Paducah, Kentucky	
# In FY 2003, the Administration proposes to defer this project pending the Record of Decision.	-13,329
OR-674/ Portsmouth Disposal Facility; Portsmouth, Ohio	
# In FY 2003, the Administration proposes to eliminate this project to permit EM to accelerate other higher risk reduction activities.	-2,000
Total Funding Change, Privatization	4,862

98-PVT-2, Spent Nuclear Fuel Dry Storage; Idaho Falls, Idaho

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 1998 Budget Request *(Preliminary Estimate)*	N/A		2Q 1999	3Q 2001	87,000	123,831
FY 1999 Budget Request *(Preliminary Estimate)*	N/A		"	"	87,000	123,831
FY 2000 Budget Request *(Preliminary Estimate)*	N/A		"	3Q 2003	120,000	163,750 [a]
FY 2001 Budget Request *(Current Estimate)*	2Q 2000	2Q 2003	2Q 2003	3Q 2004	197,858	245,809
FY 2002 Budget Request (*Current Estimate)*	3Q 2000	4Q 2003	4Q 2003	1Q 2006 [b]	223,563 [c]	273,027 [d]
FY 2003 Budget Request *(Current Estimate)*	3Q 2000	4Q 2003	4Q 2003	1Q 2006	223,563	273,027

[a] This Total Project Cost estimate was based on a hybrid of the management and operating and U.S. Army Corps of Engineers estimates and significantly underestimated the design and construction costs for a Nuclear Regulatory Commission licensed facility.

[b] The contract date for completion of Phase II, including construction and start-up, is December 31, 2005. The contract does not include a date for start of physical construction; the contractor's planned date for construction start is 4Q FY 2003. The contractor's planned date for construction completion is 3Q FY 2005.

[c] This Total Estimated Cost estimate is based on the selected contractor's proposed price of $181,048 in FY 1999 dollars, adjusted by $42,515 for contract clauses that will increase cost. Contract clauses provide for economic price adjustments (Phase II) and incentive for early completion. The estimate also reflects risk that remains with DOE consistent with the terms of the contract.

[d] In addition to the Total Estimated Cost, the Total Project Cost includes contract costs for Phase IB (Licensing) and Phase III (Operations). This Total Project Cost estimate is based on the contractor's proposed price of $217,409 in FY 1999 dollars adjusted by $55,618 for the Total Estimated Cost-related adjustments noted in footnote c and for contract clauses that provide for Phase III economic price adjustments.

2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs
Capital (Design and Construction)			
1997	0	0	0
1998	27,000	0	0
1999	20,000	0	0
2000	4,985	51,985	0
2001	25,092	25,092	0
2002	49,332	49,332	74,718
2003	53,399	53,399	0
2004	43,755	43,755	0
2005	0	0	129,211
2006	0	0	19,634
Outyears	0	0	0
Total	223,563	223,563	223,563

The timing of the requested appropriations reflects the funds needed for obligation to the contract in the event the contractor accelerates the project schedule for long-lead procurement and construction. The Spent Nuclear Fuel Dry Storage Project contract is a fixed price contract (with the exception of Phase I-B) with the project schedule and cost profile largely controlled by the contractor. The appropriations total also reflects the fact that the contract contains terms that result in some risk remaining with DOE. Examples of such risk include changes in regulatory requirements, uncertainties associated with the condition of the spent nuclear fuel, and the ability of DOE to make spent nuclear fuel available as required to complete Phase II.

The Spent Nuclear Fuel Dry Storage Project contract allows an economic price adjustment for Contract Phases II, III, and IV. The values in the schedule above include the estimated adjustment for Phase II.

The Spent Nuclear Fuel Dry Storage Project contract includes a provision for an incentive of $13,000 per day for each day that the start-up of the facility occurs in advance of December 31, 2005. This incentive is more than offset by savings achieved by getting fuel out of old generation storage sooner, due to the high costs associated with those old facilities. If the schedule were advanced 14 months to an October 31, 2004, start-up, the incentive earned would amount to approximately $5,460,000. The $5,460,000 is used in the funding projections. In addition to the potential to earn incentive, there is also a provision for assessing liquidated damages in the amount of $13,000 for each day the facility start-up occurs later than the December 31, 2005, date.

3. Project Description, Justification and Scope

The Spent Nuclear Fuel Dry Storage Project will provide Nuclear Regulatory Commission-licensed interim dry storage of three types of spent nuclear fuel at the Idaho National Engineering and Environmental Laboratory. The fuel currently resides in facilities on the Idaho National Engineering and Environmental Laboratory, at various universities and at foreign research reactors.

This project includes the following services:

- Design and the Nuclear Regulatory Commission license for a spent nuclear fuel dry transfer and storage facility. (The contractor is the licensee.)
- Conceptual design for a Nuclear Regulatory Commission licensed transportation system to transfer the spent nuclear fuel out of Idaho.
- Dry Transfer Capability to allow cask receipt from the management and operating and dry transfer of spent nuclear fuel assemblies into standard dry storage canisters. The canisters are standard canisters designed for storage in a future federal repository.
- Construction of the Independent Spent Fuel Storage Installation as defined by the Nuclear Regulatory Commission license.
- Loading of the designated fuels into the Independent Spent Fuel Storage Installation.
- Operation of the Dry Transfer Facility and the Independent Spent Fuel Storage Installation in accordance with the contractor's Nuclear Regulatory Commission license conditions through April 2010.

An October 17, 1995, Federal court-ordered settlement agreement between the State of Idaho, DOE, and the Navy directs that all spent nuclear fuel will be out of wet storage by 2023 and shipped out of the State of Idaho by January 1, 2035. The Order additionally mandates an appropriation request for fiscal year 1998 for DOE to initiate procurement of dry storage at the Idaho National Engineering and Environmental Laboratory.

The feasibility of modifying existing Idaho National Engineering and Environmental Laboratory facilities to provide these functions was evaluated. It was determined that new facilities would be needed to meet programmatic requirements. Reasons behind this determination include:

- The cost of modifying current Idaho National Engineering and Environmental Laboratory facilities is not significantly lower than the cost of new facilities.
- The cost of attempting to obtain a Nuclear Regulatory Commission license for existing Idaho National Engineering and Environmental Laboratory facilities, as well as the associated technical issues of licensing DOE-regulated facilities, would be cost and schedule prohibitive. Note: A determination was made by DOE General Counsel with concurrence from the Nuclear Regulatory Commission that interim fuel storage for these three fuel types, primarily of commercial origin, will be Nuclear Regulatory Commission licensed.
- The dry transfer and interim storage facilities may be needed to transfer other DOE-owned spent nuclear fuel to dry storage. The need for spent nuclear fuel transfer capability spans 35 years.

The project facilities will be constructed near the Idaho Nuclear Technology and Engineering Center, formerly known as the Idaho Chemical Processing Plant.

The spent nuclear fuel will be delivered to the contractor in a shipping cask from on-site shipments. The contractor will receive, process, and store three selected fuel types that, based on currently available fuel condition data, are believed to be undamaged and have intact cladding. However, these selected fuels may require special handling and treatment to meet the Nuclear Regulatory Commission requirements for placement in an Independent Spent Fuel Storage Installation.

Waste generated by fuel transfer operations should be minimized, but process generated waste stream disposal shall be the responsibility of the contractor. The fuel will not be disposed of in Idaho and fuel disposal is not within the scope of this contract. The contract mandates the use of the preliminary design specifications for standardized Spent Nuclear Fuel canisters that are acceptable to the repository.

The funding request covers design and license application preparation, construction costs of the dry transfer facility, procurement of the storage canisters, and the dry storage system. Upon completion of the fixed price design and license application deliverable, which includes acceptance of the license application by the Nuclear Regulatory Commission, a single payment will be made from the privatization account for Phase I-A. The cost plus fixed fee effort during the period the Nuclear Regulatory Commission is reviewing the license application and until they issue the license, will be paid monthly from the operation account. The fixed price construction of the facilities will be amortized over the first 800 units of spent fuel processed and paid out of the privatization account at fixed unit prices when the fuel is successfully placed in the Nuclear Regulatory Commission licensed Independent Spent Fuel Storage Installation. Also, if it would become necessary, the funds appropriated for design, licensing, and construction must be available from privatization funds to cover termination of the contract for the convenience of the Government.

The estimated capital cost of the project ($223,563,000) is based on the actual contract price (including an estimate of earned incentive, escalation, and risk that remains with DOE) and is supported by the independent government cost estimate prepared by the U. S. Army Corps of Engineers. Due to estimates of overall time frames to design, license and construct the facility, the contract start-up schedule was established as December 31, 2005. The contract contains an incentive for earlier start of operation as well as a provision for assessing liquidated damages in the event of a delay.

In addition to the privatization request, a total of $49,464,000 will be provided from the Defense Environmental Restoration and Waste Management Appropriation to make payments for the Nuclear Regulatory Commission licensing support, dry transfer and interim storage operations.

Other costs to DOE will include support activities required by the Idaho National Engineering and Environmental Laboratory Management and Operations contractor to provide support to DOE and deliver spent nuclear fuel to the successful vendor in the out-years. The cost of these activities is included in the budget plans for the Idaho National Engineering and Environmental Laboratory Management and Operations Contractor, and is not included in this data sheet.

The project was subject to an external independent project assessment performed by Lockwood Greene Technologies, Inc. in September 1998. A Readiness Review (Task A) was completed and a report containing eight findings was generated. The Department of Energy accepted the report's recommendations and developed a Task A Corrective Action Plan. All findings have been closed except approval of the Project Execution Plan. Approval of this plan is expected April 2001.

There are no critical decisions remaining on this project. The CD-0, Approve Mission Need was completed by HQ in March 1996. The CD-1, Approve Preliminary Baseline Range was completed by Headquarters in January 1997. This was accomplished by acceptance of the data sheet by Headquarters and the subsequent Congressional budget request. Supporting documentation included the1996 Conceptual Design Report and cost estimate of July 1996. The CD-2, Approve Performance Baseline was completed by Headquarters January 2000 by approval of the data sheet for the FY 2001 budget request and the Report to Congress. In May 2000, the contract was awarded for the privatized design, construction and start-up of the Nuclear Regulatory Commission licensed facility. The CD-3, Approve Start of Construction, and CD 4, Approve Start of Operations are not applicable due to the nature of the contract and because the Nuclear Regulatory Commission has regulatory authority for the licensing of the facility.

The level of confidence for completing the project within the current total estimate of cost is high because the project is fixed price, utilizes known technology, and is based on a proven Nuclear Regulatory Commission licensed design. Also, although certain risks remain with DOE consistent with the contract, these risks have been analyzed by DOE and are reflected in the current cost estimate.

4. Details of Cost Estimate

(dollars in thousands)

	Current Estimate [a]	Previous Estimate
Total, Engineering design, license application preparation and administration cost	74,718	74,718
Total, Construction Costs (including management and indirect costs)	148,845	148,845
Total, line item costs	223,563	223,563

[a] The current Total Estimated Cost estimate is based on the selected contractor's proposed price of $181,048 in FY 1999 dollars adjusted by $42,515 for contract clauses that will increase cost. Contractual clauses provide for economic price adjustments (Phase II) and incentive for early completion. The estimate also reflects risk that remains with DOE consistent with the terms of the contract. The cost of the licensing phase (Phase 1-B) is not included in the Total Estimated Cost since it is not funded from the privatization account.

5. Method of Performance

The Nuclear Regulatory Commission will license operation of the dry transfer facility and Independent Spent Fuel Storage Installation. The design life for the Independent Spent Fuel Storage Installation is 40 years and the design life for the dry storage canisters is 100 years. The Nuclear Regulatory Commission licensing of the Independent Spent Fuel Storage Installation would be for a 20-year period with a possible extension for another 20 years. The financing, design, permitting, construction, and operation are the responsibility of the contractor. The cost estimate is based on the assumption that the 10 CFR 72.30 c (1) financial assurance requirement for decontamination and decommissioning can be satisfied through a commitment from DOE and not prepayment by the private contractor. After completion of dry transfer of the selected fuel types to the Independent Spent Fuel Storage Installation, the Department will have the right to exercise an option to transfer and store additional fuel (Phase IV). The first phase (Phase I A) of the project will be paid on a fixed price basis upon completion of specified deliverables. The licensing phase (Phase I B) will be performed under a cost plus fixed fee arrangement. The cost of construction and start-up will be amortized over the first 800 units of spent fuel processed. The contractor will be paid when spent fuel assemblies are placed in dry storage based on fixed unit prices established in the contract.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2001	FY 2002	FY 2003	Outyears	Total
Total Project Cost (Agency Requirements)						
Total facility costs (Federal and Non-Federal)	0	0	74,718	0	148,845	223,563
Other project costs						
Facility Licensing and Operations [a]	0	0	3,964	0	45,500	49,464
Facility Support - Management and Operating/Other	0	0	0	0	0	0
Total other project costs	0	0	3,964	0	45,500	49,464

[a] Facility Licensing and Operations costs, including Phase IB (Licensing) and Phase III (Operations) costs, will be paid from operating funds and not privatization funds. Phase IB of the contract is being performed on a cost reimbursable basis due to uncertainty in the overall period of time the licensing process may take. Having this work performed on a cost plus basis rather than a fixed price eliminates the need for the contractor to build in additional contingency into its price, and is expected to result in the best value to the Government.

	(dollars in thousands)					
Total project costs (TPC)[b c]	0	0	78,682	0	194,345	273,027

7. Related Annual Funding Requirements

	(dollars in thousands)	
	Current Estimate	Previous Estimate
Given the nature of the privatization contract, these operating costs are shown in the Total Project Cost.		
Total related annual funding	0	0

[a] The Total Project Cost does not include $768,000 in historical costs incurred during FY 1998 and FY 1999 by the Idaho Engineering and Environmental Laboratory Management and Operating contractor for their past support of this privatization procurement effort. This contract is a Federal procurement.

[b] This Total Project Cost estimate is based on the selected contractor's proposed price of $217,409 adjusted by $55,618 for contract clauses that will increase cost and for the Total Estimated Cost related risk that remains with DOE consistent with terms of the contract. Contractual clauses provide for cost reimbursement for the Nuclear Regulatory Commission licensing activities (Phase IB), economic price adjustments (Phase II and III), and incentive for early completion.

97-PVT-2, Advanced Mixed Waste Treatment Project, Idaho National Engineering and Environmental Laboratory, Idaho

Project Baseline Summary Number (ID-WM-104)

Operating Expense Funded

Significant Changes

The TPC has been reduced to reflect the following:

1. An acceleration of the Phase III waste treatment schedule with an associated reduction in escalation.
2. Identification of increased D&D scope for Government Furnished Equipment and facilities.
3. A reallocation and reduction in Management and Operating contractor support and infrastructure costs for the project.

1. Construction Schedule History

	Fiscal Quarter				Total Estimated Cost [a] ($000)	Total Project Cost [b] ($000)
	A-E Work Initiated	A-E Work Completed	Physical Construction Start	Physical Construction Complete		
FY 1998 Budget Request (*A-E and technical design only*)	N/A	N/A	4Q 1999	1Q 2003	569,400	1,173,000
FY 1999 Budget Request (*Preliminary Estimate*)	N/A	N/A	"	"	569,400	1,078,900
FY 2000 Budget Request (*Current Estimate*)	N/A	N/A	"	"	569,400	1,115,400
FY 2001 Budget Request *(Current Estimate)*	N/A	N/A	1Q 2000	"	569,400	1,114,450
FY 2002 Budget Request (*Current Estimate)*	N/A	N/A	4Q 2000	"	569,400	1,113,000
FY 2003 Budget Request *(Current Estimate with Contingency)*	N/A	N/A	4Q 2000	"	568,300	1,087,684

[a] These estimates are based on a negotiated firm fixed price contract with a commercial firm. The contract includes a provision for price re-determination and economic price adjustment on the operating portion of the contract (Phase III). However, the capital portion of this contract is not subject to either price re-determination or economic price adjustment and is fixed. The FY 2003 estimate is reduced by $1.1M to reflect contract modification A011.

[b] Total Project Cost as defined here is the combined value DOE believes will be necessary to pay for the products or services contractually agreed upon plus other support costs. It includes Budget Authority requests for Privatization of $568.3 million; EM Base Program requests for direct payments to the vendor for Licensing and Permitting of $16.3 million, Facility Operations of $430.6 million, and D&D of $58.8 million. It also includes $6.3 million of M&O support and $7.4 million of other project office costs (e.g. National Environmental Protection Act).

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2. Financial Schedule

(dollars in thousands)

Fiscal Year	Appropriations	Obligations	Costs [a]
Design - N/A			
Construction			
1997	70,000	70,000	0
1998	0	0	0
1999	87,252	87,252	0
2000	109,661	109,661	0
2001	65,000	65,000	0
2002	40,000	40,000	0
2003	105,000	105,000	49,101
2004	91,387	91,387	100,566
2006	0	0	134,255
2006	0	0	134,346
2007	0	0	88,882
2008	0	0	61,150
Total	568,300	568,300	568,300

3. Project Description, Justification and Scope

This project has been in development at the Idaho National Engineering and Environmental Laboratory (INEEL) since 1993. A contract was awarded to BNFL, Inc., on December 20, 1996, for the retrieval, sorting, characterization, storage, pre-treatment, treatment, certification, and loading for transportation of 65,000 cubic meters of transuranic and alpha-contaminated mixed waste located in retrievable storage at the INEEL Radioactive Waste Management Complex (RWMC). The contract has an option for treatment of up to 120,000 cubic meters of additional DOE mixed wastes. The project scope is to treat INEEL transuranic and alpha-contaminated mixed waste, as well as other DOE mixed waste, through a private sector treatment facility located at the RWMC at the INEEL.

[a] This cost profile represents the annual liability increase to the Government for this project based on work performed by the contractor. The liability is liquidated as waste is treated (see costs above).

The primary wastes to be treated are DOE laboratory and process wastes from Rocky Flats and various DOE facilities. These wastes are currently stored in drums, boxes, and bins at the Transuranic Storage Area (TSA) of the RWMC. The wastes consist of a heterogeneous mixture of solid materials including paper, cloth, plastic, rubber, glass, graphite, bricks, concrete, metals, nitrate salts, process sludges, miscellaneous components and some absorbed liquids. Ninety-five percent of the waste is believed to contain both RCRA hazardous waste constituents and radioactivity. Some wastes also contain material regulated under the Toxic Substances and Control Act (TSCA) such as polychlorinated biphenyls (PCBs). No more than 4,100 kilograms (kg) of elemental mercury, and approximately 2.1 million kg of lead is expected in the 65,000 cubic meters. The transuranic waste will be disposed of at the Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico. Non-transuranic wastes which, are not allowed to be disposed of at the WIPP (e.g. low-level and mixed low-level wastes) will be disposed of in accordance with applicable waste disposal requirements.

This project is necessary to process transuranic and alpha-contaminated mixed waste to produce a disposal ready waste that meets all current requirements for storage, transportation and disposal, including the WIPP Waste Acceptance Criteria (WAC) and RCRA Land Disposal Restrictions (LDRs). The process will size and/or re-package waste into standardized containers; eliminate excess liquids and corrosive characteristics; minimize volatile organic compounds and hydrogen gas generation; and reduce hydrogen layers to increase the wattage (radioactive components) allowed per container.

This project is necessary to meet the requirement in the October 1995 Idaho Settlement Agreement to ship all retrievably stored transuranic waste out of Idaho by 2015 (target) and no later than 2018. It is also necessary to meet Site Treatment Plan milestones under the Federal Facility Compliance Act. In accordance with the Settlement Agreement and the STP, facility construction will be completed by December 31, 2002, and operations will commence no later than March 31, 2003. Shipments of waste from the Advanced Mixed Waste Treatment Project are expected to begin in March 2003. The State of Idaho will provide RCRA and Clean Air Act oversight, while EPA Region 10 will provide oversight under TSCA and NESHAPs.

The FY 1997, 1999, 2000, and 2001 appropriations of $70.0 million, $87.252 million, $109.661 million, and $65 million, respectively, and the Budget Requests of $40.0 million for FY 2002, $105 million for FY 2003, and $91.287 million for FY 2004 will provide funding for the physical construction phase (including advance procurement of major equipment) of this project. Additionally, supplemental funding in FY 2001 of $29.6 million was requested to ensure funds sufficient to cover anticipated contractor incurred cost and termination expenses in the remote possibility of termination of the contract as required by the Anti-deficiency Act. The FY 2001 supplemental request does not increase the contract price of the facility. Finally, additional funds may be requested in FY 2004 to cover final, negotiated amounts for current or potential contractor Requests for Equitable Adjustment. These appropriations will be used to reimburse capital expenditures after services commence.

Current and future budget requests will be made within the Defense Environmental Restoration and Waste Management Appropriation for the purpose of making payments to the vendor of $430.6 million for operations and $58.8 million for D&D. Also $4.9 million will be requested to provide M&O support (e.g. implementation of the Memorandum of Agreement between BNFL, DOE-ID and the M&O etc.) for the privatization effort. DOE-ID will require $5.6 million in current and future funding to support the project.

The project has had two external independent reviews. In March-April 1999, the DOE Headquarters Office of Field Integration tasked Logistics Management Institute (LMI) and Robbins-Gioia, Inc. to conduct a limited external independent review of the AMWTP in order to determine whether project documentation was sufficient for DOE to direct the contractor to proceed with Phase II (i.e., facility construction) of the project. The review team determined that the project was ready to proceed with Phase II. Based on discussions and review of project documentation, the review team provided the Department with five findings in the areas of independent government cost estimating, contract price adjustment and price redetermination mechanisms, financing feasibility, the DOE Project Management Plan, and contract unit price redetermination. The review team's findings, as well as well as recommendations, are being addressed in the Department's corrective action plan. The first three findings identified above are being addressed at the Departmental level and will require policy analysis/development, while the latter two findings are being addressed at the project level (i.e., AMWTP).

Concurrent Technologies Corporation performed the second external independent review, titled Review of BNFL Inc. Safety and Quality Management Practices for DOE Projects and Facilities. This review was requested in March 2000 by the Secretary of Energy and the Assistant Secretary for Environmental Management following a mid-February 2000 release of Sellafield inspection reports by the Nuclear Installations Inspectorate (NII) of the United Kingdom. These reports described a number of nuclear quality, management, and safety-related issues that had been found at the Sellafield Nuclear site of BNFL Inc., the corporate parent of BNFL, Inc. The overall objective of the Department's external independent review was to assess the implications of the issues found at Sellafield on BNFL Inc.'s operations at the U.S. DOE sites where BNFL Inc. has management responsibilities. The review team provided four findings specific to the AMWTP. Two of the findings identified exemplary practices and, thus, did not require corrective actions. The other two findings dealt with transition planning for project staffing changes and implementation of a formal Employee Concerns Program. The finding on transition planning is being addressed in the Department's corrective action plan, and the finding on the Employees Concerns Program has been closed.

All Critical Decisions for the AMWTP have been accomplished, as discussed below.

CD-0, Approve Mission Need, was accomplished in May 30, 1995, with the issuance of the Record of Decision on the "Department of Energy Programmatic Spent Nuclear Fuel Management and Idaho National Engineering Laboratory Environmental Restoration and Waste Management Programs Final Environmental Impact Statement."

CD-1, Approve of Preliminary Baseline Range, was accomplished with the December 20, 1996, contract award to BNFL Inc.

CD-2, Approve Performance Baseline, was accomplished with the December 20, 1996, contract award to BNFL Inc.

CD-3, Approve Start of Construction, was accomplished by a May 3, 1999, memorandum from the Acting Assistant Secretary for Environmental Management to the Acting Manager of the Idaho Operations Office.

CD-4, Approval of Start of Operations, was accomplished by a May 3, 1999, memorandum from the Acting Assistant Secretary for Environmental Management to the Acting Manager of the Idaho Operations Office. This project will require both a Final Safety Analysis Report (FSAR) and an Operational Readiness Review (ORR) and acceptance report, prior to starting operations, as required by DOE Order 413.3.

4. Details of Cost Estimate

Total capital cost is $568.3 million based on the fixed-price contract awarded in December 1996 as modified.

5. Method of Performance

The Advanced Mixed Waste Treatment Project is a privatized, fixed-price contract and will be performed in three phases. Phase I consists of facility permitting, preliminary facility/process design, and establishing the facility safety basis; Phase II consists of final facility/process design, facility construction and system testing; Phase III consists of facility operations, RCRA Closure, and Decontamination and Decommissioning. The services shall treat waste to meet RCRA Land Disposal Restrictions and Toxic Substances and Control Act requirements, as well as Waste Isolation Pilot Plant Waste Acceptance Criteria. Transportation support for shipment of the wastes from the INEEL to the WIPP is required and will be performed under a separate WIPP-managed contract.

6. Schedule of Project Funding

(dollars in thousands)

	Prior Years	FY 2001	FY 2002	FY 2003	Outyears	Total
Total Project Cost (Agency Requirements)						
Total Facility Costs (Paid to Vendors)	0	0	0	0	568,300	568,300
Other Project Cost						
Facility Operations – payments to vendors [a]	16,300	0	0	11,560	477,793	505,653
Facility Support – M&O/Other [b]	3,250	1,014	1,097	883	7,487	13,731
Total, Other Project Cost	19,550	1,014	1,097	12,443	485,280	519,384
Total Project Cost	19,550	1,014	1,097	12,443	1,053,580	1,087,684
Less: Non-Agency contribution	0	0	0	0	0	0
Total Project Cost (TPC)	19,550	1,014	1,097	12,443	1,053,580	1,087,684

[a] Of the total, $16.3 million was paid for preliminary facility and process design activities, licensing and permitting (Phase 1 costs) funded from EM base operating program. Outyear payments to vendors include $434.6 million for facility operations and $58.8 million for D&D.

[b] Memorandum of Agreement support, NEPA and other DOE support costs.

7. Related Annual Funding Requirements

(dollars in thousands)

	Current Estimate	Previous Estimate
Given the nature of the privatization contract, these operating costs are shown in the Total Project Cost.	N/A	N/A
Total related annual funding	N/A	N/A