Uranium Enrichment Decontamination and Decommissioning Fund

1995 Report

U.S. Department of Energy
Office of Environmental Management
Washington, D.C. 20585

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MESSAGE FROM THE ASSISTANT SECRETARY

A recurring theme throughout the Federal Government and the Department of Energy is "Accomplish More Work with Fewer Dollars." In the Environmental Management program, I have set forth a vision that, in ten years, we will complete cleanup at most sites. As a part of the plan for achieving this vision, we have committed to complete remediation at all three gaseous diffusion plants and complete facility decontamination for suitable reuse at the Oak Ridge K-25 Site by 2006. We will meet this challenge through the use of improved methods for accomplishing the work.

- In 1995, the Department adopted a new strategy for decontamination and decommissioning of the plants that emphasizes metal recycle and waste minimization. This new strategy has lowered the estimated cost from the \$17.4 billion we reported in 1994 to \$9.2 billion this year.
- Changes in the contracting process have resulted in a greater number of competitive bids being received on individual projects, thus reducing cost.
- The Department removed combustibles and other materials that posed hazards in order to lower cost of surveillance and maintenance of shutdown buildings.

I am happy to report that the Department is making progress in achieving the Ten-Year Vision at the three gaseous diffusion plant sites. We have continued decontamination and decommissioning activities at the Oak Ridge K-25 Site, and initiated projects to stop the spread of groundwater contamination at the Paducah and Portsmouth sites.

We pledge to seek further opportunities to reduce the cost of cleanup at the gaseous diffusion plants while meeting our obligation to be stewards of the environment.

A handwritten signature in cursive script that reads "Alvin L. Alm".

Alvin L. Alm
*Assistant Secretary for
Environmental Management*

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The K-25 Site located in Oak Ridge, Tennessee.

The Portsmouth Gaseous Diffusion Plant located in Ohio.

The Paducah Gaseous Diffusion Plant located in Kentucky.

K-25 SITE DISPOSITION PROCESS MODEL

NEW STRATEGY LOWERS COST OF D&D

The past year has been one of challenge and change for the Department of Energy, and in particular, for the Office of Environmental Management. We evaluated the strategy and approach to decontamination and decommissioning (D&D) of the gaseous diffusion plants and changed it to one which emphasizes recycle, reuse, and waste minimization. It permitted us to lower the estimated cost for performing this work from the \$17.4 billion reported in 1994 to \$9.2 billion in 1995. This new approach is consistent with the National Academy of Sciences' report on ways of lowering the cost of D&D.

Recycle and Reuse

The gaseous diffusion plants contain vast amounts of metals including steel, aluminum, copper, and nickel which can be recycled and reused either within the Department or in the private sector. Table 1 shows the estimated quantities at each site.

Certain equipment can be decontaminated to free release limits and sold; then the proceeds from the sale can be used to offset the cost of the cleanup. Examples of these are industrial motors, transformers, and coal handling equipment.

Table 1. Metals available for recycle

<u>GDP</u>	<u>Tons of Metal</u>
K-25 Site	460,811
Paducah	371,056
Portsmouth	350,910
Total	1,182,777

Transformers, motors, and coal handling equipment can be reused.

Metals from the gaseous diffusion plant equipment can be recycled into waste containers and other products.

In fiscal year 1995, the Department embarked on several projects at the K-25 Site which have demonstrated that metals in the process equipment can be effectively decontaminated for recycle and reuse. A small scale project demonstrated that metals from a converter could be used to produce stainless steel; then this steel was manufactured into a 1/4-scale model waste

container which meets the specifications of a vitrification canister imposed by the Defense Waste Processing Facility. In another demonstration project, six large horsepower (>1000 HP) process motors were cleaned to free release standards.

In 1996, the Department will conduct a small scale project that recycles metal from K-25 gaseous diffusion plant equipment into various full scale waste containers, which will then be used for remediation wastes. The demonstration of recycle

techniques will establish the basis for D&D of one of the major process buildings at K-25, which is anticipated to start in fiscal year 1998.

As we open up the K-25 Site to more private sector participation in 1996, we expect additional innovative, entrepreneurial ideas for cleanup of the site and converting it for industrial reuse. We are optimistic that by partnering with the private sector and leveraging our resources, costs for D&D will be minimized.

PROGRESS IN GDP CLEANUP

MAJOR ACCOMPLISHMENTS

The Office of Environmental Management participates in the pilot program under the Government Performance and Results Act (Results Act) of 1993. We established four quantifiable and specific performance measures to assess outputs and outcomes at the subproject level: the number of assessments completed, the number of interim actions completed, the number of remedial actions completed, and the number of D&D actions completed. Table 2 summarizes the performance measures for D&D Fund projects in 1995 and 1994.

D&D

Two primary functions are performed under D&D: surveillance and maintenance (S&M) and decontamination and decommissioning including demolition. Most of these activities take place at the shutdown K-25 Site.

The S&M program provides the general maintenance, security, fire protection, and utility services necessary to ensure protection of workers, the public, and the environment from hazards associated with the buildings while they are awaiting decommissioning. At the K-25 Site, over 12 million square feet of floor space in over 65 facilities, including the five process buildings, receive routine S&M. Several S&M program tasks that were completed in 1995 are expected to result in annual cost savings of \$9 million. These include reduction of hazards through removal of combustibles (wood, paper, and flammable liquids), PCB-

contaminated lube oils, and process coolant storage tanks located in S&M facilities.

In 1995, two major D&D demolition activities were nearing completion at the K-25 Site: demolition of the powerhouse and demolition of the cooling towers. Both projects were performed as incentive task orders resulting in a cost savings of \$14 million and \$7 million, respectively, as compared to the baseline estimates in the 1995 Baseline Environmental Management Report.

Table 2. Performance Measures

	<u>FY 1995</u>		<u>FY 1994</u>	
	<u>Scheduled</u>	<u>Completed</u>	<u>Scheduled</u>	<u>Completed</u>
Assessments	7	7	3	3
Interim Actions	4	4	4	4
Remedial Actions	8	8	5	5
D&D	2	2	2	2

The powerhouse site presented a hazard from its advanced deterioration, including cracks in the walls.

Explosive charges were used to implode the boiler building.

The powerhouse site with barge access is available for commercial development.

Powerhouse

The K-25 Powerhouse Demolition Project is the first D&D Fund project to be completed using an incentive contracting approach. Fourteen facilities were demolished as part of the K-25 Powerhouse Demolition Project, including the boiler building.

The project was originally estimated to cost \$29 million under the old management and operating contractual approach. It was completed seven months ahead of schedule at a final cost just over \$15 million for a total savings of \$14 million.

One of the major objectives of this project was to maximize recycling. As can be seen in the photograph depicting the implosion of the boiler building, significant quantities of structural steel were included in the building. Over 6,477 tons of steel, copper, stainless steel, and other miscellaneous metals were recycled to a scrap metal broker reducing the price bid for the project.

This site is available for commercial redevelopment and has easy access to river, rail, and highway transportation.

The aging cooling tower facilities posed a fire hazard that could release airborne contamination. ▲

Cooling Towers

Under the Cooling Tower Demolition Project all six out-of-service cooling tower superstructures were demolished. The superstructures, which are each roughly half the area of a football field and as high as a six-story building, were constructed primarily of wood with corrugated cement/asbestos board siding. The wood was contaminated with chemical preservatives.

Cooling tower vents are removed and the superstructure is demolished.

The below-grade structure will be filled and covered in FY 1996. ►

REMEDIAL ACTION

Remedial action activities involve the cleanup of radioactive and hazardous substances from soils and water. Major contaminants at the three sites include uranium, a naturally occurring radioactive element enriched at the gaseous diffusion plants; trichloroethylene (TCE), a volatile organic compound (VOC) commonly used as an industrial solvent; polychlorinated biphenyls (PCBs), a carcinogenic substance used in electrical and process equipment; and Technetium-99 (Tc-99), a manmade radionuclide. As shown in the graph, the Department has

identified 388 release sites at the gaseous diffusion plants, completed preliminary assessments at all of the sites, and completed the required cleanup at 110 of the sites.

Groundwater Cleanup

The Department has made progress to slow the spread of groundwater contamination at both the Paducah and Portsmouth sites through the use of innovative technologies.

Paducah

Northwest Plume Treatment Facility

The Paducah Gaseous Diffusion Plant is the source for a large,

off-site groundwater plume, which extends from the northwest corner of the site. Primary plume contaminants include TCE and Tc-99. The plume is approximately two square miles in area containing three billion gallons of contaminated groundwater. On-site sources are believed to be a degreasing facility; waste burial grounds; and a cylinder drop test area, which was used to test the structural integrity of uranium cylinders.

This interim pilot pump and treat facility, which started operation in August 1995, hydraulically controls a high concentration zone of the off-site plume

Remedial Action Release Sites

through four extraction wells placed in the most highly concentrated areas. The facility removes TCE and Tc-99 using air stripping and ion exchange technologies, before discharging clean water to a permitted outfall. The pilot plant also includes treatability testing of an iron filings reactor vessel using a side stream of contaminated

groundwater. Operation of this facility impedes migration of the plume to the Ohio River, located three miles north of the plant, as well as further migration to off-site residential wells. This gives the site additional time to cost effectively plan a final groundwater remedial action incorporating public risk with overall site contamination.

▲ The completed Northwest Plume facility accepts 200 gallons of water per minute to be treated.

Groundwater extraction wells are developed at the Northwest Plume site.

Paducah

Northeast Plume Record of Decision

The approved Record of Decision for the Northeast Plume includes the use of existing operational cooling towers to remove TCE from the plume, saving approximately \$2.5 million by eliminating the need to build new treatment facilities. Once completed, the two major "hot spots" of groundwater contamination at the Paducah site will be contained.

Portsmouth

X-120 Groundwater Treatment Facility

In fiscal year 1995, a new high-efficiency, low-cost groundwater treatment technology was deployed at the Portsmouth Gaseous Diffusion Plant. Conventional treatment methods consist of using vertical wells with electric pumps to pump the groundwater to a surface facility, where air stripping and/or carbon filtration units are used to remove the contaminants. The concentrated contaminants are then shipped to the Department's Toxic Substance Control Act (TSCA) Incinerator in Oak Ridge, Tennessee, for destruction.

The new passive treatment method (not requiring outside energy) incorporates an in-situ (in-place) treatment process using natural gravity flow to bring the groundwater contaminated with TCE into contact with iron filings. The iron filings react with the TCE, breaking down the contaminants into non-hazardous components. The process uses a horizontal well installed into the area of contamination to transport the groundwater by gravity flow to a treatment facility. The well,

approximately 26 feet deep and 1700 feet long, has a 500-foot, screened section in the most concentrated area of the plume. The system is designed to collect up to 1800 gallons of groundwater per day, as compared to the 15 gallons per day per well using the conventional pump and treat method.

Operation of this innovative treatment process began in February 1996. Once the new process is proven to be effective,

it could be used to replace two of the four existing Portsmouth groundwater treatment facilities that process an average of 20 million gallons of groundwater per year, as well as other groundwater treatment facilities throughout the Department of Energy complex. Early estimates show that the innovative passive groundwater treatment system could save up to \$3 million in construction costs over the contemporary methods and could lower operating costs by \$200,000 per year per facility.

Soil Cleanup

Paducah

LASAGNA

The Paducah Gaseous Diffusion Plant performed a remedial demonstration of the LASAGNA process at the site's former cylinder drop test area, containing a significant amount of TCE. The LASAGNA process works in-situ, cleaning the upper "unsaturated" soil area by moving contaminants through a variety of installed vertical or horizontal treatment zones. This movement, about 1 inch per day, is accomplished through a well-proven, civil engineering technique using electric current called electro-osmosis. This remediation option is considerably less expensive than traditional excavation and treatment/disposal methods mainly because soils are left in place during treatment. The process uses no moving parts, and there is minimal operation and maintenance requirements. Once contaminants pass through the treatment zones, the system continues to clean by reversing the electric current.

▲ Workers install the treatment zones for LASAGNA.

Phase I of this study treated a 150 square foot area to a depth of 16 feet, reducing TCE soil contamination by more than 98%. Based on the success of Phase I, a Phase II, full-scale remediation is planned for fiscal year 1996, which will treat an additional 12,480 cubic yards of TCE contaminated soil in the drop test area. As the process is

further applied and refined, remediation costs will continue to decline, promoting the Department's cost-effective clean-up at the GDPs.

LASAGNA Process

**Table 3. Waste Disposition by Site
(Million Pounds)**

	<u>K-25 Site</u>	<u>Portsmouth</u>	<u>Paducah</u>	<u>Total</u>
Commercial:				
Envirocare	12.5	0.8	0.0	13.3
LLW/SEG	<u>1.5</u>	<u>0.0</u>	<u>0.2</u>	<u>1.7</u>
Subtotal	14.0	0.8	0.2	15.0
Departmental:				
Hanford	0.0	0.4	0.0	0.4
TSCA	<u>0.0</u>	<u>0.2</u>	<u>0.7</u>	<u>0.9</u>
Subtotal	0.0	0.6	0.7	1.3
Total	14.0	1.4	0.9	16.3

WASTE MANAGEMENT

Significant quantities of waste from gaseous diffusion plant operations and environmental restoration activities have accumulated at the three plants. In 1995, all sites made progress in disposing of wastes. As Table 3 shows, 15 million pounds were disposed of using commercial facilities, while more than 1 million pounds were disposed of utilizing Departmental facilities.

Financial Statements

**United States Department of Energy
Office of Environmental Management
Uranium Enrichment Decontamination and
Decommissioning Fund**

Financial Statements

September 30, 1995 and 1994

60 East South Temple
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Salt Lake City, UT 84111

Independent Auditors' Report on Financial Statements

*Office of Environmental Management
United States Department of Energy:*

We have audited the accompanying statements of financial position of the Uranium Enrichment Decontamination and Decommissioning Fund (D & D Fund, or Fund) as of September 30, 1995 and 1994, and the related statements of operations and changes in net position (deficit), and cash flows for the years then ended. These financial statements are the responsibility of the management of the Uranium Enrichment Decontamination and Decommissioning Fund. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards; Government Auditing Standards, issued by the Comptroller General of the United States; and Office of Management and Budget (OMB) Bulletin 93-06, Audit Requirements for Federal Financial Statements. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

As discussed in note 5, during fiscal year 1995 the D&D Fund reduced its estimate of the costs to decontaminate and decommission the gaseous diffusion facilities in Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio (Diffusion Facilities) from \$17.3 billion to \$9.2 billion. This reduction was based on a review (1995 estimate) of the Department of Energy's (Department) previous decontamination and decommissioning estimate published in September 1991 (1991 estimate). The estimated costs of decontamination and decommissioning under the 1995 estimate range from \$3.9 billion to \$14.1 billion, with a most likely cost of \$9.2 billion. The 1995 estimate maintained the engineering data from the 1991 estimate but revised certain assumptions, including the approaches to decontamination, waste management, and contract management, and certain changes in regulatory requirements. The 1995 estimate also assumes the recycle of certain metals in the diffusion process equipment and emphasizes waste minimization. The 1991 estimate emphasized the recovery of uranium from the diffusion process equipment, which entailed the construction of expensive decontamination facilities.

As discussed in note 2, the United States Court of Federal Claims (Court) entered a judgment in September 1995 requiring the Department to refund assessments paid by Yankee Atomic Electric Company (Yankee)

totaling nearly \$2.9 million, plus interest at eight percent. This judgment is based on the Court's ruling that the D&D Fund's assessments against Yankee amount to a retroactive price increase for uranium enrichment services, in violation of the fixed-price provisions of its contracts. If the judgment is upheld, Yankee will not pay future assessments amounting to more than \$10 million on its purchases of uranium enrichment services. In addition, the validity of substantially all past and future assessments by the Fund against other domestic utilities would be in question. The Government has appealed the judgment and management believes that the Government will ultimately prevail in this action. No provision for any loss resulting from this litigation is recorded in the accompanying financial statements.

As discussed in note 7, the Energy Policy Act of 1992 (Act) provides for payment from the D&D Fund of the annual cost of remedial action at the Diffusion Facilities to the extent the amount available in the D & D Fund is sufficient. To the extent the amount available in the Fund is insufficient to pay remedial action costs, the Act provides that the Department, not the Fund, will be responsible for such costs. Because the Department may be responsible for remedial action costs, the Fund's recorded liability for remedial action at September 30, 1995 consists only of \$174.5 million of future appropriations for remedial action costs that have been signed into law, plus unexpended appropriations of \$63.1 million. The D&D Fund will make additional accruals of remedial action costs if Congress appropriates additional funds for that purpose. The estimated future cost of remedial action at the Diffusion Facilities is \$4.6 billion as of September 30, 1995.

As discussed in note 10, the Department is presently storing approximately 560,000 metric tons of depleted uranium hexafluoride (UF-6) generated from the operation of the Diffusion Facilities by the Department and its predecessor agencies. The Department estimates that, as of September 30, 1995, its share of the cost of depleted UF-6 will range from \$1.3 billion to \$3.1 billion, with a probable cost of \$1.4 billion, excluding adjustments for inflation after September 30, 1995. However, the extent to which the Department's stockpile of depleted UF-6 will require disposal is dependent on future restrictions on the use of this material for military purposes and on other alternative uses. No provision for the cost of depleted UF-6 disposal is included in the accompanying financial statements, because the Department is presently unable to determine what portion of the stockpile will require disposal.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the United States Department of Energy's Uranium Enrichment Decontamination and Decommissioning Fund as of September 30, 1995 and 1994, the results of its operations and changes in net position (deficit), and its cash flows for the years then ended on the basis of accounting described in note 1.

KPMG Peat Marwick LLP

December 18, 1995

Uranium Enrichment Decontamination and Decommissioning Fund

Statements of Financial Position

September 30, 1995 and 1994
(in thousands)

<u>Assets</u>	<u>1995</u>	<u>1994</u>
Intragovernmental:		
Cash	\$ 1	4,148
Cash equivalents	25,836	52,653
Cash and cash equivalents (note 3)	25,837	56,801
U.S. Treasury securities, net (notes 3 and 4)	240,626	247,154
Accrued interest receivable	3,810	2,350
Due from other program	-	1,168
Governmental:		
Assessments receivable from domestic utilities (note 9):		
Current	141,205	138,300
Long-term	1,759,005	1,874,941
Collateral funds and other deposits	451	2
Total assets	\$ 2,170,934	2,320,716
Liabilities and Net Position		
Intragovernmental - due to other program	\$ 4,019	2,812
Governmental:		
Liabilities covered by budgetary resources:		
Decontamination and decommissioning (note 5)	10,008	14,891
Uranium and thorium licensee claims (note 6)	-	40,369
Remedial action (note 7)	63,090	72,887
Other accrued expenses	1,028	1,009
Total funded liabilities	78,145	131,968
Liabilities not covered by budgetary resources:		
Decontamination and decommissioning (notes 1(g) and 5)	9,213,992	17,381,488
Uranium and thorium licensee claims (notes 1(g) and 6)	251,380	287,292
Remedial action (note 7)	174,495	190,831
Total unfunded liabilities	9,639,867	17,859,611
Total liabilities	9,718,012	17,991,579
Net position (deficit):		
Balances:		
Unexpended appropriations with U.S. Treasury:		
Unobligated	32	9
Obligated	234	233
Invested capital	451	-
Cumulative results of operations	2,092,072	2,188,506
Future funding requirements	(9,639,867)	(17,859,611)
Total net position (deficit)	(7,547,078)	(15,670,863)
Commitments and contingencies (notes 1(g), 2, 5, 6, 7, 8, and 10)		
Total liabilities and net position (deficit)	\$ 2,170,934	2,320,716

The accompanying notes are an integral part of these statements.

Uranium Enrichment Decontamination and Decommissioning Fund

Statements of Operations and Changes in Net Position (Deficit)

Years ended September 30, 1995 and 1994
(in thousands)

	<u>1995</u>	<u>1994</u>
Revenues and financing sources:		
Appropriations (note 8):		
Transfer from uranium enrichment	\$ -	68,531
Defense environmental restoration and waste management	133,700	129,805
Assessments against domestic utilities (note 9)	47,386	34,847
Interest income	23,806	11,251
Total revenues and financing sources	<u>204,892</u>	<u>244,434</u>
Expenses and financing uses:		
Decontamination and decommissioning (note 5)	(8,105,080)	483,490
Uranium and thorium licensee claims (note 6)	5,922	327,661
Remedial action (note 7)	180,265	192,163
Total expenses and financing uses	<u>(7,918,893)</u>	<u>1,003,314</u>
Excess (deficiency) of revenues and financing sources over expenses and financing uses	8,123,785	(758,880)
Net position (deficit), beginning balance	<u>(15,670,863)</u>	<u>(14,911,983)</u>
Net position (deficit), ending balance	<u>\$ (7,547,078)</u>	<u>(15,670,863)</u>

The accompanying notes are an integral part of these statements.

Uranium Enrichment Decontamination and Decommissioning Fund

Statements of Cash Flows

Years ended September 30, 1995 and 1994
(in thousands)

	<u>1995</u>	<u>1994</u>
Cash flows from operating activities:		
Excess (deficiency) of revenues and financing sources over expenses and financing uses	\$ 8,123,785	(758,880)
Adjustments to reconcile excess (deficiency) of revenues and financing sources over expenses and financing uses to net cash provided by (used in) operating activities:		
Net amortization and accretion of premiums and discounts on U.S. Treasury securities	(6,282)	(6,728)
Loss on sale of U. S. Treasury securities	-	1
(Increase) decrease in operating assets:		
Assessments receivable from domestic utilities	113,031	137,668
Accrued interest receivable	(1,460)	(2,350)
Due from other program	1,168	(1,168)
Collateral funds and other deposits	(449)	(2)
Increase (decrease) in operating liabilities:		
Decontamination and decommissioning	(8,172,379)	427,463
Uranium and thorium licensee claims	(76,281)	327,661
Remedial action	(26,133)	21,727
Other accrued expenses	19	1,009
Due to other program	1,207	2,812
Net cash provided by (used in) operating activities	<u>(43,774)</u>	<u>149,213</u>
Cash flows from investing activities:		
Purchases of U. S. Treasury securities	(498,249)	(807,126)
Proceeds from maturities of U.S. Treasury securities	511,059	550,500
Proceeds from sale of U.S. Treasury securities	-	16,199
Net cash provided by (used in) investing activities	<u>12,810</u>	<u>(240,427)</u>
Net decrease in cash and cash equivalents	(30,964)	(91,214)
Cash and cash equivalents, beginning of year	56,801	148,015
Cash and cash equivalents, end of year	<u><u>\$ 25,837</u></u>	<u><u>56,801</u></u>

The accompanying notes are an integral part of these statements.

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

September 30, 1995 and 1994

(1) **Basis of Presentation, Description of Reporting Entity, and Summary of Significant Accounting Policies**

(a) Basis of Presentation

These financial statements have been prepared to report the financial position and results of operations of the Uranium Enrichment Decontamination and Decommissioning Fund (D&D Fund, or Fund), as required by the Chief Financial Officers Act of 1990. The statements have been prepared from the books and records of the Fund in accordance with the applicable form and content requirements of Office of Management and Budget (OMB) Bulletin 94-01 and the Fund's accounting policies, which are summarized in this note. These statements are therefore different from the financial reports, also prepared for the Fund pursuant to OMB directives, that are used to monitor and control the Fund's use of budgetary resources.

The U. S. Department of Energy's (Department's) headquarters, field offices, and the management and operating contractors conducting environmental restoration activities at the Department's facilities discussed in note (1)(b), record D&D Fund activity in their accounting systems. The management and operating contractors integrate their accounting systems with the Department through the use of reciprocal accounts. All management and operating contractors are required under provisions of their respective contracts to maintain a separate set of accounts and records for recording and reporting Fund financial transactions in accordance with the Department's accounting practices and procedures. These financial statements are prepared by extracting and adjusting Fund-related data from the financial records of the Department and its contractors.

(b) Reporting Entity

The Energy Policy Act of 1992 (Energy Policy Act, or Act) transferred the uranium enrichment business to the United States Enrichment Corporation as of July 1, 1993. However, the Act requires the Department to retain ownership and responsibility for the costs of environmental cleanup resulting from the government's operation of the three gaseous diffusion facilities located in Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio (Diffusion Facilities) prior to that date.

The Act established the D&D Fund within the U.S. Treasury as of October 24, 1992, to pay for the costs of decontaminating and decommissioning the Diffusion Facilities (note 5). The

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

September 30, 1995 and 1994

(b) Reporting Entity (continued)

Act further provides that the Fund will reimburse licensees operating uranium or thorium processing sites for the costs of environmental cleanup at those sites, subject to a maximum reimbursement limit (note 6). The Act also provides for payment of the costs of remedial action at the Diffusion Facilities, to the extent that the amount available in the Fund is sufficient (note 7). To pay for these activities, the Act authorizes revenues of \$480 million per year, adjusted annually for inflation, over a fifteen-year period. The revenues will be obtained from Government appropriations and from assessments against domestic utilities.

(c) Basis of Accounting

The D&D Fund records transactions on an accrual basis and a budgetary basis. Under the accrual method, revenues are recognized when earned and expenses are recognized when a liability is incurred, without regard to receipt or payment of cash. Budgetary accounting facilitates compliance with legal constraints and controls over the use of federal funds.

The financial statements are prepared in accordance with the following hierarchy which constitutes a comprehensive basis of accounting:

Individual standards agreed to and published by the Joint Financial Management Improvement Program Principals, based upon recommendations from the Federal Accounting Standards Advisory Board.

Form and content requirements included in OMB Bulletin 94-01, Form and Content of Agency Financial Statements.

Accounting standards contained in agency accounting policy, procedures manuals, and/or related guidance as of March 29, 1991, so long as they are prevalent practices.

Accounting principles published by authoritative standard setting bodies and other authoritative sources in the absence of other guidance in the first three parts of this hierarchy, to the extent that the use of such accounting standards improves the meaningfulness of the financial statements.

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

September 30, 1995 and 1994

(d) Cash Equivalents

Cash equivalents of \$25.8 million at September 30, 1995 and \$52.7 million at September 30, 1994, consist of overnight investments with the U.S. Treasury. For purposes of the statements of cash flows, the D&D Fund considers all Treasury securities with initial maturities of ninety days or less to be cash equivalents.

(e) U.S. Treasury Securities

The Energy Policy Act requires the investment of the D&D Fund's balance with the U.S. Treasury in obligations of the United States.

The D&D Fund classifies its investments in Treasury securities in one of two categories: available-for-sale or held-to-maturity. Held-to-maturity securities are those securities which the Fund has the ability and intent to hold until maturity. All other securities are classified as available-for-sale.

Available-for-sale securities are recorded at fair value. Unrealized holding gains or losses on available-for-sale securities are excluded from earnings and are reported as a separate component of net position until realized. Held-to-maturity securities are recorded at amortized cost, adjusted for the amortization or accretion of premiums or discounts. Premiums and discounts are amortized or accreted over the life of the related security as an adjustment to yield using the effective interest method. Realized gains and losses for securities classified as available-for-sale are included in earnings and are derived using the specific identification method for determining the cost of securities sold. All securities sold prior to maturity are redeemed by the U.S. Treasury at fair value on the date of sale.

(f) Plant and Equipment

Plant and equipment acquired by the D&D Fund are charged to operations when purchased, unless the plant or equipment will be used for purposes other than environmental cleanup. All plant and equipment held by the D&D Fund at September 30, 1995 are used in environmental cleanup activities.

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

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(g) Long-term Liabilities

The Department records its environmental remediation liabilities, including the D&D Fund's liabilities for decontamination and decommissioning and uranium and thorium licensee claims, in current cost, which is the amount that would be paid if all equipment, facilities, and services included in the cost estimate were acquired during the current period. In years that a new or revised current cost estimate is not prepared, liabilities are reduced by current expenditures and are adjusted for estimated cost increases or decreases based on changes in the Consumer Price Index for all urban customers (Consumer Price Index), as published by the Department of Labor.

(h) Revenue Recognition

Revenue from assessments against domestic utilities is recognized when such assessments are authorized by legislation. Revenue recognized includes known adjustments for transfers between utilities and other reconciliation adjustments. Increases or decreases in current and future assessments due to changes in the Consumer Price Index are recognized in each fiscal year as such changes occur.

Revenue from Government appropriations is recognized at the later of the beginning of each fiscal year, when appropriations may be apportioned to the Department by the Office of Management and Budget, or the date the appropriations legislation is signed into law.

(i) General and Administrative Expenses

Salaries, benefits, and related costs of Department personnel involved in the management and oversight of the resources in the D&D Fund are funded under separate appropriations, and are not included in the accompanying financial statements.

(j) Use of Estimates

The Department has made a number of estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities to prepare these financial statements in conformity with the basis of accounting described above. Actual results could differ from those estimates.

Uranium Enrichment Decontamination and Decommissioning Fund

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September 30, 1995 and 1994

(k) **Reclassifications**

Certain reclassifications have been made to the 1994 amounts to conform to the 1995 presentation.

(2) **Litigation**

The Fund is involved in various actions related to the validity of assessments against domestic utilities. In August 1994, the Yankee Atomic Electric Company (Yankee) filed a claim in the United States Court of Federal Claims (Court). Yankee's claim alleged that the Government's assessments against Yankee amount to a retroactive price increase for uranium enrichment services, in violation of the fixed price terms of its contracts. The Court ruled in favor of Yankee, and entered a judgment against the Government in September 1995. The judgment requires the refund of assessments paid by Yankee totaling nearly \$2.9 million, plus interest at eight percent. On November 13, 1995, the Government filed an appeal of the judgment, and management believes that the Government will ultimately prevail in this action.

Should Yankee prevail against the Government in the action discussed in the preceding paragraph, Yankee will not pay future assessments amounting to more than \$10 million, included in the Fund's assessments receivable from domestic utilities. In addition, the validity of substantially all past and future assessments against domestic utilities would be in question.

In December 1995, two other domestic utilities filed claims with the Court alleging that the Government's assessments amount to a retroactive price increase in violation of the fixed-price terms of their contracts.

Domestic utilities have filed six appeals with the Department's Office of Hearings and Appeals, arising from the implementation of rules governing the assessment of domestic utilities under the Energy Policy Act. Management and the Department's legal counsel cannot predict the outcome of the appeals; however, management believes that valid defenses exist against the appeals and will vigorously contest them. Management believes that any liabilities arising from these appeals will not have a material effect on the financial position of the Fund.

The Department anticipates that domestic utilities will file additional claims and appeals related to the assessments.

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

September 30, 1995 and 1994

(3) Cash and Cash Equivalents

Cash and cash equivalents at September 30, 1995 and 1994, consist of the following funds with the U.S. Treasury (in thousands):

	<u>1995</u>	<u>1994</u>
Restricted	\$ 188,052	172,913
Accrued but not paid	74,126	129,156
Due to other appropriations, net	4,019	1,644
Obligated appropriations	234	233
Unobligated appropriations	<u>32</u>	<u>9</u>
Total fund balance with Treasury	266,463	303,955
Less U.S. Treasury securities	240,626	247,154
Cash and cash equivalents	<u>\$ 25,837</u>	<u>56,801</u>

(4) U.S. Treasury Securities

All Treasury securities held at September 30, 1995 and 1994, are classified as held-to-maturity. The market value of Treasury securities held by the D & D Fund as of September 30, 1995 and 1994, was as follows (in millions):

	<u>1995</u>	<u>1994</u>
Maturity:		
91 days to 1 year	\$ 140.4	246.7
1 to 5 years	101.7	-
Total	<u>\$ 242.1</u>	<u>246.7</u>

During fiscal year 1995, all securities were held to their maturity dates. In fiscal year 1994, a security with an amortized cost (in thousands) of \$16,200 was transferred from held-to-maturity to available-for-sale to obtain cash for operations. Proceeds from the sale of this security were \$16,199 and the gross realized loss was \$1.

(5) Decontamination and Decommissioning

During fiscal year 1995, the D&D Fund reduced its estimate of the costs to decontaminate and decommission the Diffusion Facilities from \$17.3 billion to \$9.2 billion, based on a review (1995 estimate) of the decontamination and decommissioning estimate published in September 1991 (1991 estimate). The estimated costs of decontamination and decommissioning under the 1995 estimate range from \$3.9 billion to \$14.1 billion, with a most likely cost of \$9.2 billion. The 1995 estimate maintained the engineering data from the 1991 estimate but revised certain assumptions,

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

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(5) **Decontamination and Decommissioning (continued)**

including the approaches to decontamination, waste management, and contract management, and certain changes in regulatory requirements. The 1995 estimate also assumes the recycle of certain metals in the diffusion process equipment and emphasizes waste minimization. The 1991 estimate emphasized the recovery of uranium from the diffusion process equipment, which entailed the construction of expensive decontamination facilities. Both estimates include the costs of surveillance and maintenance prior to and during the decontamination and decommissioning.

In fiscal year 1994, the Fund recorded a provision of \$483.5 million for estimated cost increases during the year, because the 1991 estimate did not include adjustments for anticipated inflation. Changes in the liability for decontamination and decommissioning from October 1, 1993 through September 30, 1995 may be summarized as follows (in thousands):

Balance, October 1, 1993	\$ 16,968,916
Decontamination and decommissioning costs incurred	(56,027)
Provision for estimated cost increases	<u>483,490</u>
Balance, September 30, 1994	17,396,379
Decontamination and decommissioning costs incurred	(67,299)
Adjustment to new current cost estimate	<u>(8,105,080)</u>
Balance, September 30, 1995	<u>\$ 9,224,000</u>

Of the total liability of \$9.224 billion for decontamination and decommissioning as of September 30, 1995, \$10 million is covered by budgetary resources and \$9.214 billion is not covered by budgetary resources. Of the total liability of \$17.396 billion as of September 30, 1994, \$15 million was covered by budgetary resources and \$17.381 billion was not covered by budgetary resources.

Because the decontamination and decommissioning work is scheduled to be completed in 2023, the length of time over which the work will be performed creates significant uncertainty as to the actual cost of the work. In addition, because the estimate on which the recorded liability is based does not include an estimate of the impact of inflation on such costs, the actual costs may be significantly higher than the recorded liability. The Department is presently unable to determine the impact of time and inflation on the liability for decontamination and decommissioning costs.

Uranium Enrichment Decontamination and Decommissioning Fund

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September 30, 1995 and 1994

(6) Uranium and Thorium Licensee Claims

The Energy Policy Act provides that the D&D Fund will reimburse licensees operating uranium or thorium processing sites for the costs of environmental cleanup at those sites, subject to maximum reimbursements of \$270 million for uranium licensees and \$40 million for the thorium licensee, plus adjustments for inflation. In fiscal year 1994, the Department published a final rule governing reimbursement for such costs and began receiving claims for reimbursement. Claims received through September 30, 1995 amounted to \$176 million. The Department expects that total claims will equal or exceed the maximum reimbursement limits.

Changes in the liability for reimbursement of uranium and thorium licensee claims during the years ended September 30, 1994 and 1995 may be summarized as follows (in thousands):

Balance, October 1, 1993	\$ --
Provision for estimated claims reimbursement	<u>327,661</u>
Balance, September 30, 1994	327,661
Claims reimbursed	(82,060)
Audit costs	(143)
Provision for estimated increase in claims reimbursement and audit costs	<u>5,922</u>
Balance, September 30, 1995	<u>\$ 251,380</u>

The provision for estimated claims reimbursement in fiscal year 1994 included the maximum reimbursement limits established by the Energy Policy Act, plus adjustments for inflation through September 30, 1994, based on the change in the Consumer Price Index. The fiscal year 1995 provision consists of adjustments for inflation through September 30, 1995, plus a provision for audit costs.

The liability of \$251.4 million for uranium and thorium licensee claims at September 30, 1995 is not covered by budgetary resources. Of the total liability of \$327.7 million at September 30, 1994, \$40.4 million was covered by budgetary resources and \$287.3 million was not covered by budgetary resources.

(7) Remedial Action

The Energy Policy Act provides that the annual cost of remedial action at the Diffusion Facilities will be paid from the Fund to the extent the amount available in the D&D Fund is sufficient. To the extent the amount in the Fund is insufficient to pay remedial action costs, the Act provides that the Department will be responsible for such costs.

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

September 30, 1995 and 1994

(7) Remedial Action (continued)

Changes in the liability for remedial action during the years ended September 30, 1994 and 1995, may be summarized as follows (in thousands):

Balance, October 1, 1993	\$ 241,991
Remedial action costs incurred	(170,436)
Provision for remedial action costs	<u>192,163</u>
Balance, September 30, 1994	263,718
Remedial action costs incurred	(206,398)
Provision for remedial action costs	<u>180,265</u>
Balance, September 30, 1995	<u>\$ 237,585</u>

Of the total liability of \$237.6 million for remedial action as of September 30, 1995, \$63.1 million is covered by budgetary resources and \$174.5 million is not covered by budgetary resources. Of the total liability of \$263.7 million as of September 30, 1994, \$72.9 million was covered by budgetary resources and \$190.8 million was not covered by budgetary resources. Because the Act places primary responsibility for remedial action costs with the Department if sufficient resources are not available in the D&D Fund, the Fund's recorded liability for remedial action at the end of each fiscal year includes only the funding for such costs provided by Congress in the D&D Fund appropriation for the succeeding fiscal year, plus the unexpended portion of such appropriations for current and previous fiscal years. The D&D Fund will make additional accruals of remedial action costs if Congress appropriates funds for that purpose. The Department is presently unable to determine the amount of additional remedial action cost, if any, that should be recognized in the Fund's financial statements.

The Department updated its estimate of the future cost of remedial action at the Diffusion facilities in fiscal year 1995. The estimated cost of \$4.6 billion does not include an estimate of the impact of inflation on the cost of the work; therefore, the actual cost may be significantly higher than the estimate. There is also uncertainty with respect to whether Congressional appropriations will be received at the level assumed by the estimate, and the uncertainty inherent in the estimating process. The Department is presently unable to determine the impact of the factors discussed above on the estimated remedial action costs.

(8) Government Appropriations

The Energy Policy Act authorizes annual Government appropriations to the D&D Fund through fiscal year 2007, equal to the difference between \$480 million, adjusted annually for increases in

Uranium Enrichment Decontamination and Decommissioning Fund

Notes to Financial Statements

September 30, 1995 and 1994

(8) Government Appropriations (continued)

the Consumer Price Index, and the assessment against domestic utilities. For fiscal years 1993 through 1995, actual appropriations have not equaled the amounts authorized by the Act. The Fund received appropriations of \$133.7 million during fiscal year 1995. During fiscal year 1994, the Fund received appropriation transfers of \$68.5 million from uranium enrichment and a payment of \$129.8 million from defense environmental restoration and waste management, for a total of \$198.3 million in appropriations revenue. The Fund received no appropriations during fiscal year 1993.

The following is a summary of Government appropriations authorized but not received by the D&D Fund as of September 30, 1995 (in millions):

<u>Year ended September 30.</u>	<u>Appropriations authorized</u>	<u>Appropriations received</u>	<u>Authorized, not received</u>
1993	\$ 331.4	-	331.4
1994	342.8	198.3	144.5
1995	348.2	133.7	214.5
	<u>\$ 1,022.4</u>	<u>332.0</u>	<u>690.4</u>

Government contributions of \$350 million have been appropriated for fiscal year 1996.

(9) Assessments Against Domestic Utilities

The Energy Policy Act authorizes assessments by the D&D Fund against domestic utilities who purchased uranium enrichment services from the Department and its predecessor agencies prior to the Act. The assessments are based on the ratio of such services purchased by domestic utilities to total services provided to domestic and foreign utilities and to the Government. The assessments are limited to \$150 million each year by the Act, and will continue through fiscal year 2007 or until \$2.25 billion, exclusive of indexing adjustments, has been collected. The entire amount of assessments over the fifteen-year assessment period authorized by the Energy Policy Act was recorded as revenue by the Fund during fiscal year 1993. Current and future assessments are adjusted each year based on changes in the Consumer Price Index.

During fiscal years 1995 and 1994, the Fund recognized revenue of \$47.4 million and \$34.8 million, respectively, from reconciliation adjustments and the increase in the current and future assessments against domestic utilities resulting from the increase in the Consumer Price Index during the fiscal year. Management believes all assessments against domestic utilities are collectible.

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(10) Disposition of Depleted Uranium Hexafluoride

The gaseous diffusion process of uranium enrichment produces two streams of uranium hexafluoride (UF-6) - one that has an increased concentration of the uranium isotope U-235 (enriched) and one that has a reduced level of U-235 (depleted). Enriched UF-6 is converted into enriched uranium, used by utilities to generate electricity and by the Government for military purposes. The Department is presently storing approximately 560,000 metric tons of depleted UF-6, containing about 380,000 metric tons of depleted uranium, generated from the operation of the Diffusion Facilities by the Department and its predecessor agencies.

The Energy Policy Act restricts the use of depleted UF-6 to military purposes until October 1998. The Department is preparing to assess strategies for long-term management of the depleted uranium hexafluoride stockpile, including potential alternative uses, and plans to issue a draft environmental impact statement in fiscal year 1998. The ultimate uses of the depleted UF-6 and the need for disposal will be evaluated during the process of preparing the draft environmental impact statement. In fiscal year 1991, a contractor for the Department conducted a study on the ultimate disposition of this material. The study assumed that there would be approximately 620,000 metric tons of depleted uranium, including 240,000 metric tons generated by the United States Enrichment Corporation, in storage by the end of fiscal year 2005. Costs of disposition of depleted UF-6 generated by the United States Enrichment Corporation will be the Corporation's responsibility. The Department estimates that, as of September 30, 1995, its share of the cost of depleted UF-6 disposition will range from \$1.3 billion to \$3.1 billion, with a probable cost of \$1.4 billion, excluding adjustments for inflation after September 30, 1995. However, the extent to which the Department's stockpile of depleted UF-6 will require disposal is dependent on future restrictions of the use of this material for military purposes and on other alternative uses. The Department is presently unable to determine what portion of the stockpile will require disposal. Accordingly, no provision for the cost of depleted UF-6 disposal is included in the accompanying financial statements.