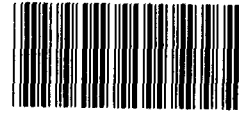


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Testimony



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Comments on Smith Barney's Uranium  
Enrichment Analysis

Statement of  
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Before the  
Subcommittee on Energy and the Environment  
Committee on Interior and Insular Affairs  
House of Representatives

and the

Subcommittee on Energy and Power  
Committee on Energy and Commerce  
House of Representatives



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Mr. Chairmen and Members of the Subcommittees:

We appreciate the opportunity to present our views on the May 1990 Smith Barney, Harris Upham and Co. Incorporated financial assessment of the Department of Energy's (DOE) uranium enrichment program, specifically the issue of unrecovered government costs. We will also discuss Smith Barney's conclusions related to environmental and decommissioning costs and the eventual sale of the program to the private sector.

In summary, Smith Barney concluded the following:

- The enrichment program should be restructured as a government corporation and should operate in a competitive, businesslike manner. Over the last several years, we too have supported restructuring the program as a government corporation subject to the Government Corporation Control Act.
  
- All past costs have been recovered, and DOE's customers have overpaid about \$1.2 billion, rather than underpaid about \$9.6 billion as we have reported. In reality, total costs have not been recovered through revenues; rather, Smith Barney assumed that DOE could reduce total costs by making various adjustments and policy decisions. Our position is that only the Congress can authorize these

reductions. Although we do not believe that full cost recovery is possible, DOE estimates that the corporation's future earnings could be substantial. As a result, we have suggested that the Congress require the repayment of \$3 billion that DOE is pricing to recover, rather than rely solely on unspecified dividends and/or uncertain future stock sales.

- The government should retain responsibility for environmental and decommissioning costs associated with enriched uranium production before the corporation's formation. Smith Barney did not identify the costs that should be borne by the corporation nor did the company specify a method to allocate total costs between the government and the corporation. Because these costs are largely undefined, we support legislative proposals that would require the corporation to establish a fund to decommission the three existing plants with the government matching the corporation's contributions.
  
- At some future time (not specified) the corporation could be sold to the private sector. Unless problems related to licensing uncertainties, increased competition, and billions of dollars in liabilities are adequately resolved, we doubt whether any significant private sector interest will be forthcoming.

Before discussing these issues in greater detail, I will briefly describe DOE's enrichment program and summarize the Smith Barney report.

#### OVERVIEW OF THE URANIUM ENRICHMENT PROGRAM

The federal government has enriched uranium for national defense purposes and commercial nuclear power plants for over 30 years. Throughout the 1970s, the expected growth of nuclear power led DOE to expand enriched uranium production capacity at its three gaseous diffusion plants, begin construction of a large-scale gas centrifuge enrichment plant, and accumulate a stockpile of enriched uranium.

However, the anticipated demand for U.S. enrichment services did not materialize, and foreign suppliers cut into DOE's domestic and foreign markets. By 1986 the program was beset by many problems that left it facing a bleak financial future. The problems included (1) multibillion-dollar payments under long-term contracts with the Tennessee Valley Authority (TVA) for electricity the program did not use, (2) potentially large decommissioning and environmental cleanup costs for the three aging gaseous diffusion plants, (3) billions of dollars in unrecovered costs, and (4) market uncertainties due to increased competition.

In response to the problems facing the program and the need to ensure its continued viability, DOE initiated various actions. For example, DOE canceled the gas centrifuge plant; permanently shut down one of its existing three gaseous diffusion plants; and developed a new, more flexible contract for providing enrichment services. In addition, DOE made capital improvements at the two remaining gaseous diffusion plants that allow them to use cheaper "off-peak" power. DOE also proposed that the Congress restructure the program as a government corporation.

#### SUMMARY OF THE SMITH BARNEY REPORT

In January 1990 DOE entered into a contract with Smith Barney to assess the feasibility of restructuring the enrichment program. DOE wanted an objective review of the program and an independent opinion concerning the best option to maximize its financial value. Smith Barney delivered the report to DOE on May 15, 1990.

In the report, the company concluded that DOE's uranium enrichment enterprise should be transferred to a wholly owned government corporation as the first step toward creating a private company to operate the business. The report noted that a government corporation should be able to make business decisions without budgetary constraints and political interference.

Smith Barney also cited a number of issues that could affect the future financial viability of the uranium enrichment program. The company noted that (1) power costs to operate the gaseous diffusion plants could increase as a result of clean air legislation; (2) costs to construct the proposed atomic vapor laser isotope separation (AVLIS) plant could double; and (3) overseas suppliers, most notably the Soviet Union, could further erode DOE's market share. Smith Barney also noted that the program has ongoing liabilities, such as unrecovered government costs<sup>1</sup> and environmental cleanup and decommissioning costs, that could impair its ability to compete effectively in the world market.

#### GAO'S VIEWS ON THE SMITH BARNEY ANALYSIS

Smith Barney concluded that the enrichment program should be restructured as a government corporation and should operate in a competitive, businesslike manner. Over the last several years, we too have recommended that the enrichment program be restructured as a government corporation. We believe that a government corporation could establish a flexible pricing strategy to stimulate demand among utilities, particularly those that have not renewed their

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<sup>1</sup>Unrecovered government costs represent the cumulative net investment in the enrichment program, that is, the difference between total investment (initial investment, capital improvements, operations, and imputed interest) and total revenues.

contracts with DOE because they are waiting to see where the program is headed.

However, we differ with Smith Barney's conclusions that all past costs have been recovered. We also question the method that the Congress or DOE would use to implement Smith Barney's proposal that the government retain responsibility for environmental and decommissioning costs associated with enriched uranium production before the corporation's formation. Further, until problems related to licensing uncertainties, increased competition, and billions of dollars in liabilities are adequately resolved, we doubt whether any significant private sector interest will be forthcoming.

#### Past Unrecovered Costs

One issue--past unrecovered costs--has hindered congressional initiatives to restructure the program as a government corporation. Smith Barney concluded that unrecovered costs are largely irrelevant in view of the overall objective of establishing a viable, competitive corporation to enrich uranium. We have consistently pointed out that full cost recovery is not practical and have recommended that the Congress define a reasonable amount of costs to be recovered, including allowing DOE to write off at least \$4.1 billion spent on upgrading the gaseous diffusion plants and constructing the gas centrifuge plant.

As of the end of fiscal year 1988, we calculate unrecovered costs to be \$9.6 billion. As shown in table 1, this total compares with Smith Barney's calculation of \$8.7 billion before certain assumed write-offs and adjustments.

Table 1: Unrecovered Costs for DOE's Uranium Enrichment Program  
Dollars in Billions

	<u>GAO</u>	<u>Smith Barney</u>
Initial 1969 Value	\$1.5	\$ 1.5
<u>Increases</u>		
Interest and investment	<u>8.1</u>	<u>7.2</u>
Total costs	<u>9.6</u>	<u>8.7</u>
<u>Decreases</u>		
Cost adjustments	0.0	-4.2
Write-offs	<u>0.0</u>	<u>-5.7</u>
Total decreases	<u>0.0</u>	<u>-9.9</u>
Total	<u>\$9.6<sup>a</sup></u>	( <u>\$1.2</u> ) <sup>b</sup>

<sup>a</sup>As of the end of fiscal year 1988. For comparative purposes, Smith Barney used our methodology and calculated this amount to be \$10 billion through fiscal year 1989.

<sup>b</sup>As of the end of fiscal year 1989.

The difference between our and Smith Barney's calculations of total costs results from differing interest rates and other items, such as appropriation transfers and reprogramming amounts. We did not reconcile appropriation transfers and reprogramming differences. To calculate imputed interest, we used the average



cost of government borrowing as determined annually by the Department of the Treasury for government enterprises that sell goods and services to the public, such as DOE's enrichment program. Smith Barney used the long-term bond rate as of January 1969 to impute interest on the initial \$1.5 billion investment and used annual short-term Treasury rates to impute interest on the difference between annual appropriations and revenues. We can see some logic to the rates used by Smith Barney. However, if the Treasury would have to borrow the cumulated unrecovered costs in any 1 year, it would borrow the funds at the average cost of the government's debt at that point in time.

As can be seen from table 1, the most significant difference between our and Smith Barney's unrecovered cost calculations occurs in the treatment of adjustments and write-offs. First, Smith Barney assumed that DOE could reduce total costs by \$4.2 billion to reflect the market value of DOE's uranium ore inventory and overfeeding activities (\$2.1 billion), underpayments by government customers between 1970 and 1985 (\$1.1 billion), and other adjustments (\$1.0 billion). We have not evaluated Smith Barney's uranium ore inventory or other adjustments in prior work and did not have time to do so for these hearings. However, in December 1989 we estimated that DOE's government customers are responsible for about \$764 million of the \$9.6 billion of unrecovered costs.<sup>2</sup>

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<sup>2</sup>Letter to the Chairman, Subcommittee on Energy Research and Development, House Committee on Science, Space, and Technology.

Second, Smith Barney assumed a \$5.7 billion write-off, which represents 50 percent of the cost of the canceled gas centrifuge plant, unneeded upgrades to the gaseous diffusion plants, unneeded power purchases from TVA (\$2.6 billion), and related interest charges. We have supported the write-off of the gas centrifuge and gaseous diffusion upgrades under generally accepted accounting principles as unusual and nonrecurring investment decisions that did not reach completion or result in revenues.<sup>3</sup>

On the other hand, DOE incurred the TVA demand payments to ensure the availability of electricity for ongoing operations at two plants. We do not believe this write-off is necessary to ensure the competitiveness of the corporation because DOE has (1) been pricing its enrichment services to recover \$3 billion, including the TVA costs, over the next 12 years and (2) projected that the new corporation could generate over \$3 billion in net income by the year 2000 and over \$8 billion by 2008.

As a result of these assumed write-offs and adjustments, Smith Barney concluded that all past costs have been recovered and that DOE's customers actually overpaid \$1.2 billion. In reality, total costs have not been recovered through revenues; rather, Smith Barney assumed that DOE could reduce total costs through various

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<sup>3</sup>Uranium Enrichment: Congressional Action Needed to Revitalize the Program (GAO/RCED-88-18, Oct. 19, 1987).

adjustments and policy decisions that we believe should be made only by the Congress.

Environmental Compliance and Decommissioning Costs

Smith Barney proposes that the government assume all environmental compliance and decommissioning costs prior to the formation of the corporation and that DOE initiate a comprehensive decommissioning cost study. The report implies that the corporation at most would be responsible for environmental and decommissioning costs after the time it is formed but does not specify a method to allocate these costs.

These costs are largely undefined. Last year we estimated that environmental and decommissioning costs could total almost \$6 billion (1988 dollars) over the next 20 years. Yet DOE has not completely characterized or identified enrichment plant waste sites, and past experience indicates that such costs increase as more information becomes available. Smith Barney reported that DOE's estimates for decommissioning the Oak Ridge plant alone could be as much as \$8 billion, depending on the cleanup required. For the three existing plants, these costs could total \$24 billion.

We have long said that decommissioning costs should be paid by the beneficiaries of the service provided. If DOE had implemented our 1979 recommendation to price its enrichment services to set

aside funds for decommissioning, we might not be debating this issue today.<sup>4</sup> In August 1988 DOE finally determined that its commercial and government customers should each bear about 50 percent of these costs. To date, no fund has been established, but various proposals to restructure the uranium enrichment program would require the corporation to establish a fund to decommission the three existing plants. We have supported the formation of a fund to help pay these costs rather than burden the taxpayers with this responsibility. We further suggest that the corporation be responsible for decommissioning all three plants to encourage it to put money into the fund and that the government match the corporation's payments. In so doing, the government would help meet its responsibility for one-half of these costs.

#### Feasibility of Privatization

Smith Barney concluded that transferring the enrichment program to a government corporation is needed before the program can be sold to the private sector. Establishing a private sector enterprise is, according to Smith Barney, the best way to maximize the value of enrichment operations and ensure that the government receives the highest possible price for its past investment. In 1986 DOE solicited expressions of interest for the private operation of the enrichment facilities. DOE received 16 responses.

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<sup>4</sup>Cost to Retire Uranium Enrichment Facilities Should Be Included in Current Uranium Enrichment Charges (GAO/EMD-79-94, Sept. 6, 1979).

None contained a serious proposal, although the American Enrichment Company, Inc., offered to take over the gas centrifuge facility at no cost. On the basis of this experience and for several other reasons, we have concerns whether the corporation could be privatized. Let me mention some of these concerns.

#### Obtaining Licenses

Licensing facilities that are between 30 and 40 years old could be difficult. Before the corporation could be privatized, each plant would have to obtain an operating license from the Nuclear Regulatory Commission. No enrichment facility has ever been licensed in this country, and because of their age, the plants may not meet regulatory criteria related to, for example, seismic requirements. Also, unforeseen problems may exist with environmental contamination, particularly waste disposal sites. We have previously reported that DOE does not have complete information on the types and amounts of material in these sites. Also, Smith Barney suggests that the corporation deploy AVLIS. This plant too would have to receive an operating license.

#### Increasing Competition

An oversupply of enrichment capacity exists worldwide. Since many domestic utilities will not have contracts with DOE after 1995, the U.S. market will become a battleground for suppliers.

In particular, DOE estimates that the Soviet Union has excess capacity of up to 9 million separative work units (a measure of the effort required to enrich uranium) and sells its product for about 50 percent less than DOE. This excess capacity coupled with domestic utilities' need to purchase enriched uranium at the lowest cost leads DOE to expect that the Soviet Union will become more active in the U.S. market. Recently, the administration asked an interagency trade policy group to examine the feasibility of DOE's entering into an agreement to purchase some of the Soviet Union's excess inventory. Also, DOE reports that China is becoming much more aggressive in the U.S. marketplace. Finally, a for-profit consortium of three domestic utilities; URENCO (a European producer); and Fluor-Daniel, Incorporated, has announced plans to build an enrichment plant in Louisiana.

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In summary, we concur with Smith Barney's recommendation to restructure the enrichment program as a government corporation, but we cannot agree that DOE's customers have paid for all past costs. Obviously, the existing program cannot recover all such costs, and the new corporation should not be burdened to the point of being noncompetitive. However, because DOE estimates that the corporation's future earnings could be substantial, we have suggested that the Congress require the repayment of \$3 billion, rather than rely solely on unspecified dividends and/or uncertain

future stock sales that may not materialize unless problems related to licensing uncertainties, increased competition, and billions of dollars in liabilities are adequately resolved.

Also, Smith Barney did not identify total environmental or decommissioning costs and did not specify a method to allocate these costs between the government and the corporation. Since these costs are largely undefined, but could amount to billions, the Congress should immediately require the program--regardless of its structure--to begin setting aside funds for these costs. DOE estimates that government purchasers are responsible for 50 percent of the decommissioning costs; therefore, the government should share these costs by matching the corporation's fund contributions. This requirement should continue until the existing plants have been decommissioned.

We hope our views on the Smith Barney analysis and other information are useful to you. We would be pleased to respond to any questions that you or other Members of the Subcommittees may have.