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GAO United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-250264

September 17, 1992

147800

The Honorable Philip R. Sharp
Chairman
Subcommittee on Energy and Power
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

This letter responds to your September 11, 1992, request that, among other things, we evaluate two cash flow projections developed by the Timbers Corporation for the proposed uranium enrichment corporation (UEC) that would be created by H.R.776. In addition, as you requested, we are providing you with a revised cash flow projection for the proposed new corporation as contained in H.R.776. Our revised projection will aid you and your staff as you work with the conference committee considering the uranium enrichment restructuring provisions of the energy policy bills passed by the House and the Senate.

In summary, the two projections prepared by the Timbers Corporation in March 1992 should not be used to predict expected cash flows for the proposed corporation. These projections incorporate several assumptions that would not apply to the corporation that would be created by H.R.776 as passed by the House in May 1992. In addition, the projections use revenue and cost figures that need to be updated or revised because of recent program changes. Our revised projection uses more recent Department of Energy (DOE) revenue and cost estimates and makes adjustments to reflect recent changes in H.R.776. The revised projection shows that from 1993 through 2005, the corporation will return revenues totaling about $3.8 billion to the government.

In March 1992 the Timbers Corporation prepared two cash flow projections for the proposed enrichment corporation that would have been established by H.R.776 as approved by the House Committee on Energy and Commerce. The first

Timbers projection considered only the revenues and costs associated with DOE's existing (signed) enrichment contracts with nuclear utilities and did not assume any new sales. We believe, and officials representing DOE and the Timbers Corporation agree, that this is not a realistic assumption because the new corporation would be expected to make new sales.

The second Timber's Corporation projection used revenue and cost projections found in a 1990 independent assessment of DOE's uranium enrichment program. That projection needs to be updated because, in part, it included expected sales of highly enriched uranium to the U.S. Navy. Because of the excess supply of highly enriched uranium created in part by the disarmament of nuclear weapons, the U.S. Navy will discontinue these purchases in 1992. In addition, the projection made several assumptions that do not apply to the corporation that would be created by H.R.776 as later passed by the House in May 1992. For example, the projection assumed that the new corporation would (1) pay almost $1 billion for removing the radioactive and hazardous materials and decontaminating the uranium enrichment plant in Oak Ridge, Tennessee, and (2) pay $650 million into a fund to clean up the two other existing enrichment plants located in Portsmouth, Ohio, and Paducah, Kentucky. To the contrary, H.R.776 as passed by the House would not require the corporation to be responsible for these costs. Rather, it would require the U.S. government and domestic nuclear utilities to meet these obligations.

To provide you with an updated cash flow projection that can be used during the ongoing conference to resolve the differences between the House and Senate versions of the enrichment restructuring legislation, we updated and revised the Timbers projections to reflect the provisions embodied in H.R.776. For example, we included DOE's latest revenue and cost estimates and adjusted these estimates by removing the payments for the cleanup of the existing plants. We also made a number of technical adjustments, such as converting all cost and revenue numbers to 1993 dollars. Enclosure I is a revised cash flow projection that reflects these changes. The revised cash flow shows that the corporation would return about $3.8 billion to the U.S. Treasury from 1993 through 2005.

The revised cash flow is presented in basically the same format as the Timbers projections and includes all of the Timbers assumptions except for those that needed to be changed per H.R.776. For example, the revised cash flow projection retains the Timbers assumption that the new corporation will need to retain an amount up to two times the annual cost of borrowing money to build an enrichment plant using the new laser enrichment technology. The notes to enclosure I explain the assumptions built into the cash flow projection and their source.

Because of time constraints we did not fully evaluate the other Timbers assumptions, nor did we conduct a fully independent review of the logical structure of the model itself. We simply (1) updated the expected revenues and costs to reflect DOE's latest projections, which DOE officials told us are the best available; (2) revised the cost estimates to reflect the corporation as established by the House-passed version of H.R.776; and (3) made a number of technical corrections. We recognize that significant and important market uncertainties could cause the revised estimate to change significantly. For example, the estimate assumes that there will be no market impact from the commercial sale of blended down highly enriched uranium obtained from the disarmament of nuclear weapons. Similarly, decisions yet to be made in the legislative process now underway could have a significant impact on the estimates. However, in the time available, we were not able to conduct a sensitivity analysis of the model's results with respect to these uncertainties.

We conducted our work in September 1992 in accordance with generally accepted government auditing standards, except as noted above. In addition, as requested, we did not obtain official agency comments on the revised cash flow projection.

Unless you publicly announce its contents earlier, we plan no further distribution of this letter until 30 days after its date. At that time, we will send copies to appropriate congressional committees; the Secretary of Energy; and the Director, Office of Management and Budget. We will also make copies available to others upon request.

If you have any questions, please call me on (202) 275-1441 or Mr. Robert E. Allen, Jr., on (301) 903-3712. Major contributors are listed in enclosure II.

Sincerely yours,

Victor S. Rezendes
Director, Energy and Science Issues

Enclosures - 2

GAO REVISIONS TO THE TIMBERS CORPORATION CASH FLOW PROJECTIONS FOR THE UEC[a] AS PROPOSED BY H.R. 776														
(Dollars in Constant 1993 Millions)														
	Fiscal Year													
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	Average 1993-2005
DOE'S[b] FINANCIAL PROJECTIONS														
Gross revenues	$1,462.0	$1,547.4	$1,565.5	$1,355.8	$1,508.7	$1,572.4	$1,524.0	$1,384.2	$1,305.2	$1,216.2	$1,345.7	$1,365.5	$1,330.3	$1,421.8
Operating costs (labor, power, etc)	1,370.7	1,413.4	1,267.6	1,220.0	1,280.0	1,236.9	1,113.2	1199.8	1161.3	1111.4	1198.1	1183.5	1172.1	1225.2
Net operating income	91.3	134.0	297.9	135.8	228.7	335.5	410.8	184.4	143.9	104.8	147.6	182.0	158.2	196.5
Adjustments (not paid by corp.)														
TVA[c] payments	160.0	160.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.6
Waste management	31.0	49.0	54.0	56.0	51.0	48.0	50.0	47.0	49.0	43.0	42.0	42.0	42.0	46.5
Corrective actions	135.0	120.0	127.0	134.0	131.0	107.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	58.0
D&D[d] fund	0.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	75.0	69.2
AVLIS[e] R&D[f]	105.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1
Power cost adjustment	77.0	8.8	21.9	22.7	23.1	24.3	24.9	26.4	26.9	27.9	27.8	27.4	-62.0	21.3
Total adjustments	508.0	412.8	277.9	287.7	280.1	254.3	149.9	148.4	150.9	145.9	144.8	144.4	55.0	227.7
Net income (after adjustments)	$599.3	$546.8	$575.8	$423.5	$508.8	$589.8	$560.7	$332.8	$294.8	$250.7	$292.4	$326.4	$213.2	$424.2
UEC PAYMENT DEDUCTIONS														
Lease payments - A	73.1	77.4	78.3	67.8	75.4	78.6	76.2	69.2	65.3	60.8	67.3	52.8	51.1	68.7
Debt repayment	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8
AVLIS royalties	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	15.5	2.4
AVLIS predeployment	122.3	122.3	122.3	122.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.6
AVLIS debt service	0.0	0.0	0.0	0.0	109.3	109.3	109.3	109.3	109.3	109.3	109.3	109.3	109.3	75.6
Total deductions	222.2	226.5	227.4	216.9	211.5	214.7	212.2	205.3	201.3	196.9	203.3	204.3	202.6	211.1
Net income (after deductions)	$377.1	$320.3	$348.4	$206.6	$297.3	$375.1	$348.5	$127.5	$93.5	$53.8	$89.1	$122.1	$10.6	$213.1
Retained earnings	54.6	54.6	54.6	54.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8
Lease payment - B	322.5	265.7	293.8	152.0	297.3	375.1	348.5	127.5	93.5	53.8	89.1	122.1	10.6	196.3
Cumulative retained earnings	54.6	109.3	163.9	218.5	218.5	218.5	218.5	218.5	218.5	218.5	218.5	218.5	218.5	
CORPORATE FUNDS TO TREASURY														
Lease payment - A	73.1	77.4	78.3	67.8	75.4	78.6	76.2	69.2	65.3	60.8	67.3	52.8	51.1	68.7
Debt repayment	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8	26.8
AVLIS royalties	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	15.5	2.4
Lease payment - B	322.5	265.7	293.8	152.0	297.3	375.1	348.5	127.5	93.5	53.8	89.1	122.1	10.6	196.3
Total per year	$422.4	$369.9	$398.9	$246.6	$399.5	$480.5	$451.4	$223.5	$185.5	$141.4	$183.1	$217.1	$103.9	$294.1
Total cumulative	$422.4	$792.2	$1,191.1	$1,437.6	$1,837.2	$2,317.7	$2,769.1	$2,992.7	$3,178.2	$3,319.7	$3,502.8	$3,719.9	$3,823.9	

ENCLOSURE I

[a]Uranium Enrichment Corporation.

[b]Department of Energy.

[c]Tennessee Valley Authority.

[d]Decontamination and decommissioning.

[e]Atomic vapor laser isotope separation process.

[f]Research and development.

Notes: 1. Gross revenues, operating costs, and net operating income. Projections use DOE's Uranium Enrichment Enterprise financial projections dated August 13, 1992. Net operating income equals gross revenues less operating costs.

2. Adjustments. The following costs are included in DOE's operating costs, but because they are not the responsibility of UEC, the costs are added back: TVA payments, waste management, corrective actions, D&D fund, and AVLIS R&D costs. Power cost adjustments update DOE's operating costs using the most current costs for power.

3. Debt repayment. Annual debt service (principal and interest) for initial debt of $364 million to be repaid over 20 years as established under H.R.776. GAO used a 4-percent real interest rate to determine the principal and interest payments.

4. Lease payments. This projection uses the Timbers Corporation assumptions:

Lease payment A: 5 percent of Gross Revenues.

Lease Payment B: A second payment which is variable each year equal to remaining cash flow after the UEC has established a retained earnings level appropriate for its operations (i.e., net income less retained earnings equals lease payment B).

5. AVLIS royalties. This projection uses the Timbers analysis assumption that the UEC will construct a 3-million separative work unit (SWU) plant. The output of this facility will be sold at $100/SWU. This equals $300 million per year, with a 5-percent royalty. AVLIS is assumed to be operational, starting in 2004. GAO escalated the $100/SWU to 1993 constant dollars by using a 3-percent inflation rate.

6. AVLIS predeployment. This analysis uses the Timbers assumptions that:

DOE's estimate of $638 million less the fiscal year 1992 appropriation of $163 million equals $475 million allocated evenly over 4 years. GAO escalated the $475 million to 1993 constant dollars using a 3-percent inflation rate.

7. AVLIS debt service. This analysis uses the Timbers assumptions that:

The corporation will build a 3-million SWU plant for a capital cost of $1 billion amortized over 30 years at a risk-adjusted real interest rate of 10 percent. AVLIS construction assumed to start in 1997.
GAO escalated the AVLIS capital costs of $1 billion to 1993 constant dollars using a 3-percent inflation rate.

8. Net income. Net operating income less total payments and deductions (except lease payment B).

9. Retained earnings. This analysis uses the Timbers assumption that:

An amount up to two times the debt service anticipated for AVLIS capital construction is required.

10. Other DOE assumptions:

Two gaseous diffusion plants (GDPs) operate throughout the period.
No government purchases of enrichment services.
No market impact from the commercial sale of blended down highly enriched uranium (HEU).
No increase in efficiencies as a result of operating the enrichment enterprise under a corporation.

11. Other assumptions:

No profit margin impact from AVLIS sales.
DOE estimated power costs are paid by the UEC.
No additional costs due to liability insurance.

MAJOR CONTRIBUTORS TO THIS LETTER

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