

**The original documents are located in Box 19, folder “Nuclear Fuel Assurance Act: GAO Report (2)” of the Loen and Leppert Files at the Gerald R. Ford Presidential Library.**

**Copyright Notice**

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Gerald Ford donated to the United States of America his copyrights in all of his unpublished writings in National Archives collections. Works prepared by U.S. Government employees as part of their official duties are in the public domain. The copyrights to materials written by other individuals or organizations are presumed to remain with them. If you think any of the information displayed in the PDF is subject to a valid copyright claim, please contact the Gerald R. Ford Presidential Library.

THE WHITE HOUSE

WASHINGTON

November 29, 1975

MEMORANDUM FOR:

AL ALM  
DAVE ELLIOTT  
BOB FRI  
JOHN HILL  
MYRON KRATZER  
HUGH LOWETH  
JIM MITCHELL  
JERRY PARSKY  
DICK ROBERTS  
SAM TUTHILL  
BILL VOIGT

FROM:

GLENN SCHLEEDE

SUBJECT:

DRAFT RESPONSE TO CONGRESSMAN  
ANDERSON ON GAO'S REPORT ON  
URANIUM ENRICHMENT

Attached for your review, comment and correction is a draft of a consolidated response to Congressman Anderson's letter to the President requesting an the Administration's evaluation of GAO's final report.

May I have your comments as soon as possible, but no later than noon, Monday, December 1, so that we can be sure that we have available by Monday night, if needed, a complete and correct evaluation.

I can be reached over the weekend via the White House operator.

Thanks for your help.

cc: Mr. Cavanaugh  
Dr. Connor  
Mr. Leppert  
Mr. O'Donnell

Congressman John Anderson:

This letter and its attachment are in response to your request for Administration comments on the recently issued report by the General Accounting Office entitled, "Evaluation of the Administration's Proposal for Government Assistance to Private Uranium Enrichment Groups".

While, as described below, we have major substantive comments and disagreements on the report and its conclusions, there are a number of areas in which the GAO conclusions have made an important contribution to the portions of the report which:

- . Highlight the need for an early commitment to expand uranium enrichment capacity in the U.S.
- . Recognize the need for the U.S. to be an aggressive supplier of uranium enrichment services, to achieve the Nation's energy, economic and non-proliferation objectives.
- . Explain that there is little difference between privately and Government-owned capacity in the ability to safeguard nuclear materials and protect classified technology.
- . Stress the desirability of encouraging private industrial participation in financing and owning enrichment plants.
- . Support enactment of legislation, similar to that proposed by the President, to provide Government assurances and guarantees to interested private firms.

There are a number of other areas, summarized below and detailed in the attachment to this letter, where we disagree with the GAO report, generally because it is too narrow in its perspective, incomplete in the factors considered, and incorrect in its analyses and conclusions:

1. There are several important aspects of the Federal budget impact that are not considered when Federal financing and ownership of an Add-on plant is recommended.
2. The report incorrectly concludes that there is greater certainty in getting a Government-owned add-on plant on line when needed in the 1980's than a privately-financed diffusion plant; and that a Government plant provides more flexibility in sizing and scheduling.

3. The GAO report considers only construction costs when concluding that a Government add-on plant would be cheaper. When operating costs are considered there would be little or no difference in cost of enrichment services from an add-on plant and the proposed free standing diffusion plant.
4. The final GAO report reaches several of its conclusions on the basis of a proposal from UEA which is still subject to ERDA-UEA negotiations, and the report seems to misunderstand (a) the sequence of steps necessary and (b) the approvals now being sought from the Congress.
5. The GAO report continues to reflect a misunderstanding of the status of gaseous diffusion and centrifuge technology and the relationship of technologies to the need for Government cooperation and temporary assurances to permit private firms to finance and own uranium enrichment plants.
6. GAO concludes that the approach proposed in the Nuclear Fuel Assurance Act is acceptable for centrifuge and other "advance" technologies, but then concludes also that private centrifuge ventures should accept more risk -- a conclusion that is not justified.
7. Contrary to the conclusions of the GAO report, a successful private venture utilizing diffusion technology would have a direct relationship to the success of private centrifuge ventures.
8. GAO does not take into account a number of disadvantages of its recommendation that a Government Corporation be created to take over existing enrichment facilities and an add-on facility -- as a means of avoiding the budget and appropriations process; nor does it justify its assertion that such a Corporation would be more effective than current arrangements.
9. The GAO assertions that the UEA proposal contemplates an "essentially riskless" environment and that it would help little in creating a "viable competitive private market" are incorrect. Also, the report's analysis of risk is highly theoretical.

10. The GAO does not consider some important factors before reaching its conclusion that the UEA project (still under negotiation) is "not acceptable" on the basis of inadequate assumption of risks and "shifting" of risks to the Government.
11. The GAO report seems to reflect a strong bias against the proposal from the Uranium Enrichment Associates (UEA), perhaps because (a) it is the only proposal received by the Government that may provide the basis for financing and owning the next increment of capacity by private industry, and (b) for nuclear reasons, it uses diffusion technology.
12. The GAO report does not seem to recognize that following its recommendations would substantially delay and may prevent ever achieving a private competitive uranium enrichment industry in the U.S.

Thank you for the opportunity to provide you with the Administration's evaluation of the GAO report. We consider this a very important matter warranting the earliest possible action by the Congress. We also consider it important that complete information be made available to the Congress so that all aspects of the President's proposal can be evaluated by the Joint Committee on Atomic Energy and by the full Congress.

If I can provide additional information, please let me know.

Sincerely,

COMMENTS ON GAO'S REPORT, "EVALUATION OF THE ADMINISTRATION'S  
PROPOSAL FOR GOVERNMENT ASSISTANCE TO PRIVATE URANIUM  
ENRICHMENT GROUPS

---

Areas of Agreement

There are a number of areas where the report reflects useful information and conclusions; for example the report:

- . Highlights the need for an early commitment to expand uranium enrichment capacity in the U.S.
- . Recognizes the need for the U.S. to be an aggressive supplier of uranium enrichment services, to achieve the Nation's energy, economic and non-proliferation objectives.
- . Explains that there is little difference between privately and Government-owned capacity in the ability to safeguard nuclear materials and protect classified technology.
- . Stresses the desirability of encouraging private industrial participation in financing and owning enrichment plants.
- . Supports enactment of legislation, similar to that proposed by the President, to provide Government assurances and guarantees to interested private firms.

Areas of Disagreement

There are a number of other areas, detailed below, where the report is too narrow in perspective, incomplete in the factors considered, incorrect in its analysis and conclusions:

1. There are several important aspects of the Federal budget impact that are not considered when Federal financing and ownership of an Add-on plant is recommended.
  - . Overall budget constraints, particularly over the next few years, raise serious doubts as to whether the Federal government can commit more than \$2 billion for an add-on government enrichment plant and provide continued or expanded funding for other stages in the nuclear fuel cycle, particularly for reactor R&D and assistance at the "back-end" of the fuel cycle. For example:
    - \$429 million is being spent in 1976 on the LMFBR program and this must grow in future years.
    - \$15 million in 1976 for uranium resource assessment must expand in future years.
    - Funding at the "back-end" for reprocessing R&D and waste management has been small and large increases are desired.

- . At the uranium enrichment stage, the negative cash flow will be about \$300 million in 1976 and will grow substantially with improvement and upgrading of existing plants. Negative cash flow will continue until the early 1980's without an add-on plant and would continue into the 1990's with an add-on plant. Apply a discount rate equivalent to that paid by the Government would mean that taxpayer investments in past and current enrichment facilities and operations would not be recovered until the 21st century.
  - . Even without building an add-on plant, Government funding for nuclear energy will continue to grow greater than that for all other energy sources. These growing funding requirements must compete with other national requirements.
2. The report incorrectly concludes that there is greater certainty in getting a Government-owned add-on plant on line when needed in the 1980's than a privately-financed diffusion plant; and that a Government plant provides more flexibility in sizing and scheduling.
- . There may be some slippages in the schedule for a diffusion plant now estimated by UEA, but ERDA indicates that it could not have a Government plant on line sooner.
  - . ERDA has concluded that a full-size add-on plant (approximately 8.8 million SWU capacity) would have to be built--rather than a "half-size plant contemplated earlier.
  - . There are uncertainties associated with a Government add-on that now appear greater than for a stand-alone plant proposed by UEA. UEA contemplates using two nuclear plants that are already partially designed as the source of electrical power. Such nuclear plants apparently are not available for an add-on plant, making it necessary to build two 1200 megawatt fossil fuel plants -- which normally would be expected to take less time to plan and construct than nuclear plants.
  - . ERDA believes such plants could be built but that (a) the government may have to guarantee securities for the plants, and (b) plants would have to meet clean air requirements--which add uncertainty--including:
    - Prohibitions against significant deterioration in air quality, with restrictions not yet known.
    - Federal "new source performance standards" which require use of "scrubbers" or low sulfur fuel.
    - Air pollutant emission limitations imposed by states in which the plants would be located.
    - National primary and secondary ambient air quality

standards.

- Perhaps new standards now being contemplated by EPA (e.g., for sulfates) but not yet established. Restrictions on strip mining of coal may constrain the availability of low sulfur coal that would certainly be needed if the plants did not use scrubbers.

3. The GAO report considers only construction costs when concluding that a Government add-on plant would be cheaper. When operating costs are considered there would be little or no difference in cost of enrichment services from an add-on plant and the proposed free standing diffusion plant.

- . GAO compares a \$2.7 billion estimate for a UEA stand-alone plant with a \$2.1 billion estimate for an add-on plant. More recent estimates indicate a cost of \$2.92 billion for construction of the proposed UEA plant and \$2.46 billion in comparable costs for an equivalent sized add-on at Portsmouth.
- . The implication by GAO that the add-on plant would provide cheaper enrichment services is incorrect because operating costs -- principally for electric power are not considered. Electric power makes up about 43% of the costs per SWU and capital costs about 38%. UEA plans to use nuclear power which is estimated to be 20% cheaper than power from coal-fired plants, which ERDA expects as the source of power for a Portsmouth add-on. The end result would be essentially no difference in cost per SWU from an add-on or the proposed stand-alone plant.
- . GAO's cost comparison also fails to take into account (a) the substantial advantages of moving toward a private competitive industry, and (b) the greater potential of drawing on foreign sources of financing (but with US control) if private industry is involved.

4. The final GAO report reaches several of its conclusions on the basis of a proposal from UEA which is still subject to ERDA-UEA negotiations, and the report seems to misunderstand (a) the sequence of steps necessary and (b) the approvals now being sought from the Congress.

- . The proposal from UEA which contemplates construction of a diffusion plant has provided a basis for negotiations leading toward a possible cooperative agreement; and the three proposal from firms wishing to construct centrifuge plants are also expected to provide the basis for negotiations.
- . Negotiations with UEA are still underway but there are



unresolved issues. ERDA is not yet satisfied that an agreement has been negotiated which fully protects the public interest, and the basis for agreement would not be recommended until ERDA is satisfied.

- . The proposed Nuclear Fuel Assurance Act would make clear ERDA's authority to negotiate and enter into cooperative agreements with firms such as the four that have submitted proposals, but no such agreement could be effective until a 45 day period had been allowed for review by the Congress through the JCAE (a well-established procedure under the Atomic Energy Act, as amended). The proposed Act would also authorize design and construction planning for an add-on Government-owned plant, should it not be possible to achieve acceptable agreements with private firms.
- . Congressional approval is sought now only for the legislation to authorize agreements. Such approval would not commit the JCAE to accept now the basis for any cooperative agreement with UEA or any other firm that might later be submitted for the JCAE's review.

5. The GAO report continues to reflect a misunderstanding of the status of gaseous diffusion and centrifuge technology and the relationship of technologies to the need for Government cooperation and temporary assurances to permit private firms to finance and own uranium enrichment plants.

- . GAO incorrectly assumes that the type of technology selected (diffusion, in the case of UEA) should be the basis for determining whether or not Government assurances are needed. Government assurances will be needed by several firms during the transition to a private, competitive industry whether those firms select diffusion or centrifuge technology.
- . There is virtually no disagreement that gaseous diffusion technology must be used in at least the next increment of capacity (of approximately 9 million SWU). Labelling gaseous diffusion technology as "technologically obsolescent" has no real relevance to the discussion even if subsequent plant use centrifuge technology, as is now expected.
- . There is no clear basis for the GAO conclusion that diffusion technology should be ineligible for use in a private venture, particular when the product from both technologies are the same and when the firm proposing to use diffusion technology (UEA) is already facing competition for customers from centrifuge ventures and foreign suppliers.

6. GAO concludes that the approach proposed in the Nuclear Fuel Assurance Act is acceptable for centrifuge and other "advance" technologies, but then concludes also that private centrifuge ventures should accept more risk -- a conclusion that is not justified.

- . While the U.S. is well ahead of other nations in advanced centrifuge technology, we do not yet know the economics and reliability, for example, of mass production of the required large number of centrifuge units, or the operating, maintenance and replacement costs of such mass produced units.
- . Gas centrifuge technology, being less fully developed, is inherently riskier than diffusion and there is no reasonable expectation that less support (risk sharing) by the Government would be required than is necessary for diffusion technology.
- . Laser technology, the other "advanced" technology referred to by GAO, is still in early stages of development.

7. Contrary to the conclusions of the GAO report, a successful private venture utilizing diffusion technology would have a direct relationship to the success of private centrifuge ventures. A successful diffusion venture could demonstrate:

- . That business and financial problems common to the enrichment business -- regardless of technology used -- can be resolved; e. g., that private industry can raise capital for enrichment plants and establish satisfactory relationships with customers, both domestic and foreign.
- . That private industry financing and ownership is possible while maintaining all necessary controls and safeguards.
- . The end of uncertainty as to whether the Government has the resolve to end its monopoly and take the steps necessary for a transition to a private competitive industry.

8. GAO does not take into account a number of disadvantages of its recommendation that a Government Corporation be created to take over existing enrichment facilities and an add-on facility -- as a means of avoiding the budget and appropriations process; nor does it justify its assertion that such a Corporation would be more effective than current arrangements.

- . Creating a new Government corporation to take over existing plants and for "just one more" Government-owned plant would perpetuate the period of uncertainty with respect to Government intentions toward ending its monopoly and moving toward a private industry.
- . The GAO report does not consider the disruption of ongoing ERDA and contractor resources that would be entailed in such a major reorganization, the time that would inevitably be involved in getting a new Corporation started, and the high probability that ERDA resources would be diverted from the management of (a) the program to move toward a private industry, and (b) the maintenance of a viable "hedge" plan.
- . The assertion that management of Government facilities by a new Government corporation would be "more effective" is not justified in the report -- other than than freedom from the budget and appropriations process, which may be undesirable.
- . The proposal to create a Government corporation so that costs of constructing a new Government owned plant would not show up in the Federal Budget is somewhat misleading. Also, whether borrowing is from the Federal Treasury or the money market, net outlays would nevertheless add to the Federal Budget deficit--as in the case of TVA. Borrowing from the Treasury would add to the total national debt.
- . The report does not cite other disadvantages of the proposal to create a Government Corporation and extend the period of the Government's monopoly:
  - Uranium enrichment is not an activity that can be performed well only by the Federal Government. It is essentially a commercial/industrial activity.

- Uranium enrichment service capacity must expand rapidly over the next few years and that expansion could occur in the private sector -- rather than swell the Federal sector.
- As the Nation's reliance on nuclear power grows, maintaining a Federal monopoly would expand Federal control over the Nation's electrical energy supply.
- An entrenched Government corporation would make efforts to end that monopoly even more difficult.
- The Nation would forego the advantages of private competition which can provide incentives over the long run for lower costs, improved efficiencies and technological advancement -- as well as a more diverse base for utilities to obtain their fuel.

9. The GAO assertion that the UEA proposal contemplates an "essentially riskless" environment and that it would help little in creating a "viable competitive private market" are incorrect. Also, the report's analysis of risk is highly theoretical.

- . The project carries risk with respect to loss of all (although remote) or part (not remote) of equity and/or loss of return on equity, intangible costs such as delayed payout, loss of alternative business opportunities, loss of services of key personnel, etc.
- . The report does take adequately into account the risks that private firms would have in dealing with multi-billion dollar projects involving classified technology which as not yet been proven in a commercial setting. Without exception, potential entrants in the enriching industry and others who have studied this matter (with the possible exception of GAO) have concluded that uranium enrichment presents abnormal business risks.
- . The report fails to note that, in the absence of private industry involvement, the Federal Government would bear all risks for the entire life of the plant -- rather than limited risk during the periods of construction and initial commercial operation.
- . The report calls for "more risk" by centrifuge proposers, but gives no indication of what risks might be acceptable or how they should be obtained.

- . With respect to the contribution of diffusion of a viable competitive market, it should be noted that:
    - The diffusion process may well be competitive for still future increments of capacity; its availability in the market place would represent a positive force as it relates to competition.
    - Competition is already at work and UEA and the centrifuge projects are both seeking customers.
10. The GAO does not consider some important factors before reaching its conclusion that the UEA project (still under negotiation) is "not acceptable" on the basis of inadequate assumption of risks and "shifting" of risks to the Government.
- . It is appropriate for the Government to warrant Government-developed technology since the Government would be paid a royalty for it. If the warranties were inappropriate for diffusion, the same logic would suggest they were inappropriate for centrifuge.
  - . The chances of failure of a diffusion plant to work are very remote. There is no real financial risk to the Government inasmuch as Government costs, if any, would be recovered from private projects.
  - . Project owners do assume substantial risks.
  - . The result of the undertaking (together with centrifuge projects, which is essentially riskless to the Government, would be the end of Government involvement in new plants and a successful transition to a competitive private uranium enrichment industry.
11. The GAO report seems to reflect a strong bias against the proposal from the Uranium Enrichment Associates (UEA), perhaps because (a) it is the only proposal received by the Government that may provide the basis for financing and owning the next increment of capacity by private industry, and (b) for unclear reasons, it uses diffusion technology.
- . It should be recalled that UEA is responding to an invitation for private industry participation issued openly to all who were interested and qualified over two years ago -- under a program established to comply with the Atomic Energy Act which requires that "The development, use and control of atomic energy shall be directed so as to ... strengthen free competition in private enterprise."

12. The GAO report does not seem to recognize that following its recommendations would substantially delay and may prevent ever achieving a private competitive uranium enrichment industry in the U.S.

- . The report supports legislation similar to the Nuclear Fuel Assurance Act for "advance" technology but undercuts the effort to move toward a private competitive industry by recommending (a) summarily rejecting the UEA proposal -- even before negotiations on it are completed, (b) building more Government-owned capacity, and (c) creating a Government Corporation.
- . Ending a Government monopoly is extremely difficult but following the GAO recommendations would increase the difficulty. The progress and momentum of the last three years would be diminished or destroyed, and uncertainty over the Government's real intentions would emerge once again -- undercutting extensive efforts that have been undertaken by private industry. Building more Government-owned capacity (after a period of many years without constructing new plants) could not help but cast doubts -- among potential private participants and customers, foreign and domestic -- about current or future assertions that the Government is serious in its efforts to involve industry and end its monopoly.
- . Contrary to implications in the report, there is no strong reason to suggest that it would be easier or more effective to begin the transition to a competitive industry with centrifuge technology.

November 10, 1975

Dear John:

The President has asked me to thank you for your November 7 letter concerning the final draft of the GAO report on the Nuclear Fuel Assurance Act, and to assure you that the points you raised are under review. You will hear further as soon as possible.

With kindest regards,

Sincerely,

Vernon C. Loeb  
Deputy Assistant  
to the President

The Honorable John B. Anderson  
House of Representatives  
Washington, D.C. 20515

bcc: w/incoming to Glenn Schleede for further action.  
~~bcc: w/incoming~~ to Charles Leppert for coordination of reply  
with Glenn Schleede

VCL:VO:vo



11-10  
JOHN B. ANDERSON  
16TH DISTRICT, ILLINOIS

CHAIRMAN, REPUBLICAN CONFERENCE

MEMBER:  
JOINT COMMITTEE ON  
ATOMIC ENERGY  
COMMITTEE ON RULES

MICHAEL J. MASTERSON  
ADMINISTRATIVE ASSISTANT

Congress of the United States  
House of Representatives  
Washington, D.C. 20515

November 7, 1975

DISTRICT OFFICE:  
ROCK RIVER SAVINGS BUILDING  
401 W. STATE STREET  
ROCKFORD, ILLINOIS 61101  
(815) 962-8807

WASHINGTON OFFICE:  
1101 LONGWORTH BUILDING  
WASHINGTON, D.C. 20515  
(202) 225-5676

DON WOLFENBERGER  
LEGISLATIVE ASSISTANT

The Honorable Gerald R. Ford  
The White House  
Washington, D.C. 20500

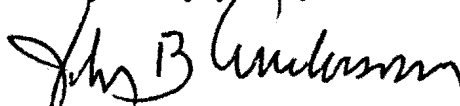
Dear Mr. President:

The final draft of the General Accounting Office report on the Nuclear Fuel Assurance Act has been received by the Joint Committee on Atomic Energy and has been forwarded to the members. In the report I note that the Administration raised objections to the draft report and those objections were addressed by GAO in the final draft.

It is not clear to me that the air has yet been completely cleared on several important points. To aid in my developing a precise understanding of these issues, I would appreciate receiving Administration comments on the final draft of this report as well as their responses to your critique of the draft report.

With best personal regards, I am

Very truly yours,

  
JOHN B. ANDERSON  
Member of Congress

JBA:ds



THE WHITE HOUSE  
WASHINGTON

Jim Cannon to give substantive  
response

cc to Glenn Schleier

VO has original to ack. +  
give back to me



JOHN B. ANDERSON  
16TH DISTRICT, ILLINOIS

CHAIRMAN, REPUBLICAN CONFERENCE

MEMBER:  
JOINT COMMITTEE ON  
ATOMIC ENERGY  
COMMITTEE ON RULES

MICHAEL J. MASTERTON  
ADMINISTRATIVE ASSISTANT

Congress of the United States  
House of Representatives  
Washington, D.C. 20515

November 7, 1975

DISTRICT OFFICE:  
ROCK RIVER SAVINGS BUILDING  
401 W. STATE STREET  
ROCKFORD, ILLINOIS 61101  
(815) 962-8807

WASHINGTON OFFICE:  
1101 LONGWORTH BUILDING  
WASHINGTON, D.C. 20515  
(202) 225-5676

DON. WOLFENBERGER  
LEGISLATIVE ASSISTANT

The Honorable Gerald R. Ford  
The White House  
Washington, D.C. 20500

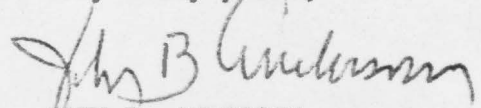
Dear Mr. President:

The final draft of the General Accounting Office report on the Nuclear Fuel Assurance Act has been received by the Joint Committee on Atomic Energy and has been forwarded to the members. In the report I note that the Administration raised objections to the draft report and those objections were addressed by GAO in the final draft.

It is not clear to me that the air has yet been completely cleared on several important points. To aid in my developing a precise understanding of these issues, I would appreciate receiving Administration comments on the final draft of this report as well as their responses to your critique of the draft report.

With best personal regards, I am

Very truly yours,

  
JOHN B. ANDERSON  
Member of Congress

JBA:ds



THE WHITE HOUSE  
WASHINGTON

December 18, 1975

TO: CHARLIE LEPPERT  
FROM: *Glenn*  
Glenn Schleede

For your information.

Attachment



EXECUTIVE OFFICE OF THE PRESIDENT

OFFICE OF MANAGEMENT AND BUDGET

WASHINGTON, D.C. 20503

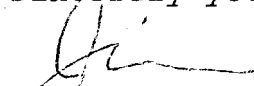
December 11, 1975

Honorable John B. Anderson  
House of Representatives  
Washington, D.C. 20515

Dear John:

In response to your recent letter to the President, I am enclosing a copy of the Administration's comments on the report issued by the General Accounting Office on October 31, 1975, entitled "Evaluation of the Administration's Proposal for Government Assistance to Private Uranium Enrichment Groups."

Sincerely yours,



James T. Lynn  
Director

Enclosure

ADMINISTRATION COMMENTS ON GAO'S REPORT, "EVALUATION OF  
THE ADMINISTRATION'S PROPOSAL FOR GOVERNMENT ASSISTANCE  
TO PRIVATE URANIUM ENRICHMENT GROUPS"

---

Contents	Page
Summary	1
Areas of Agreement with Report	1
Areas of Disagreement with Report	2
1. Inadequate picture of background and status of proposals and steps contemplated in Administration's proposal -- including Congressional review.	2
2. Rejection of UEA proposal before negotiations are completed.	3
3. Importance of commercializing <u>both</u> diffusion and centrifuge technologies.	4
4. Government add-on plant not more "flexible".	5
5. Government add-on plant will not be on line sooner.	5
6. Add-on plant is not less costly.	6
7. Private diffusion plant <u>is</u> important to create a competitive industry.	7
8. Business risk to private ventures are understated.	8
9. Under assesses Federal budget implications.	9
10. Ignores disadvantages of creating a Government corporation.	10
11. Discourages achievement of a private competitive uranium enrichment industry.	11

COMMENTS ON GAO'S REPORT, "EVALUATION OF THE ADMINISTRATION'S  
PROPOSAL FOR GOVERNMENT ASSISTANCE TO PRIVATE URANIUM  
ENRICHMENT GROUPS

---

SUMMARY

GAO concludes that (a) the proposal submitted by the private consortium (UEA) that wishes to finance, build, own and operate a gaseous diffusion plant should not be accepted, (b) ERDA should be authorized to build an add-on diffusion plant instead, (c) a Government corporation should be established to manage Government uranium enrichment facilities, and (d) legislation similar to that proposed by the Administration should be considered but that it should be limited to agreements with firms proposing to use "advanced" uranium enrichment technologies.

The Administration disagrees with these conclusions, including the one that legislation should permit cooperation and temporary assurances only for firms using centrifuge or other advanced technologies.

The Administration believes the GAO report is deficient in that it does not consider all relevant factors in its analysis and some of the findings on which the overall conclusions are based are incorrect.

These deficiencies are discussed in the pages that follow. If a more complete analysis had been done, substantially different overall conclusions could have resulted.

AREAS OF AGREEMENT

While disagreeing with the overall conclusions, there are a number of areas where we do agree. For example, the report:

- . Highlights the need for an early commitment to expand uranium enrichment capacity in the U.S.
- . Recognizes the desirability for the U.S. to be an aggressive supplier of uranium enrichment services, to achieve the nation's energy, economic and non-proliferation objectives.
- . Explains that there is essentially no difference between privately and Government-owned capacity in the ability to safeguard nuclear materials and protect classified technology.

- . Recognizes that the goal of private entry in uranium enrichment is desirable.
- . Recognizes that provisions for Government cooperation and temporary assurances similar to those proposed in the Nuclear Fuel Assurances Act will be necessary to overcome obstacles to private industry involvement.

#### AREAS OF DISAGREEMENT

1. The GAO Report does not give an adequate picture of (a) the background leading to the four proposals now before ERDA from private firms wishing to enter the uranium enrichment industry, (b) the current status of those proposals, and (c) the steps contemplated in the Administration's proposal -- including Congressional review -- which are designed to protect the public interest.
  - . The policy announced in 1971 of encouraging private industrial involvement in uranium enrichment, the enrichment technology access program begun by AEC in 1972, and the requests for proposals from private industry are fully consistent with Atomic Energy Act which requires that "The development, use and control of atomic energy shall be directed so as to . . . strengthen free competition in private enterprise."
  - . Two different proposals have been received from one venture, Uranium Enrichment Associates (UEA).
    - One was received in December 1974 and this was refined in ERDA-UEA discussions during February and March 1975 which sought to clarify all the forms of assistance that might be required rather than to arrive at the minimum forms and levels of assurances that might be required. The result was reviewed by several agencies and several concluded that the total package of possible forms of assistance was unacceptable.
    - A second proposal was submitted by UEA in May 1975 following intensive discussions which revealed that substantially less in Government cooperation and assurances was necessary than had been suggested by the February-March discussions.

ERDA now has before it:

- One proposal from Uranium Enrichment Associates (UEA), which firm proposes to build a full scale diffusion (9 million separative work unit - SWU) plant near Dothan, Alabama.
- Three proposals have been received -- from Exxon Nuclear, Centar, and Garrett Corporation -- which firms propose to build demonstration scale centrifuge plants, which would later be expanded (to 3 million SWU capacity). These proposals are being evaluated and, if found acceptable, could provide the basis for beginning negotiations toward cooperative agreements, in January 1976.

An agreement could not be signed by ERDA with any of the four firms until:

- The NFAA is enacted.
- An appropriations bill providing contract authority to cover contingent liability is enacted (even though no outlays are expected).
- ERDA is satisfied that cooperative agreements are fully protective of the public interest.
- The Joint Committee on Atomic Energy would have a 45-day period during which it could act to disapprove the agreement if it were not found satisfactory. ERDA would keep the JCAE currently informed of the status of prospective agreements during negotiations and well before the 45-day period begins.

Thus far, the Congress has been asked to approve only the NFAA. However, approval of the NFAA or of an appropriations act would not constitute Congressional approval of any potential cooperative agreement with a prospective uranium enrichment firm.

2. The GAO report, in recommending that the UEA proposal not be accepted, fails to take into account that it is a proposal on which negotiations are still being held -- rather than a final agreement ready for Congressional review.



- . Negotiations are still underway between ERDA and UEA. There are unresolved issues on which ERDA is not yet satisfied.
- . There will be a full opportunity for Congressional review before an agreement with UEA (or any other private venture) could be signed.

3. The GAO report does not recognize that commercialization of both diffusion and centrifuge technologies is important in the development of a competitive private uranium enrichment industry and is in the National interest.

- . The economics of the diffusion process are well established and the technology is highly developed in the United States. Nevertheless, additional improvements are possible. The diffusion process represents the economic standard against which other enrichment processes must compete and prove competitive for subsequent increments of capacity.
- . The economics of the centrifuge process, though projected to be attractive, have not yet been demonstrated. There is universal agreement that centrifuge plants should be constructed as rapidly as possible to establish their economic potential, but it is premature to rely solely on centrifuge technology and regard gaseous diffusion as inappropriate for commercial use.
- . The availability of more than one technology in a commercial atmosphere would contribute to competition and could benefit utilities and consumers of electricity.
- . When the product from both technologies is the same, i.e., uranium enrichment, there is no basis for excluding arbitrarily the use of one technology in a private venture.
- . The firm proposing to use diffusion technology (UEA) is already facing competition for customers from centrifuge ventures and foreign suppliers.

4. The GAO report contends that a Government add-on plant would have more flexibility "to deal with problems of changing demand or poor projections" and thus minimize the amount of needed additional diffusion capacity, but (a) it does not recognize that this is largely a moot point since both alternatives require construction of a full scale project and (b) "flexibility" would be enhanced by commercialization of diffusion technology.
  - . Several months ago, ERDA believed a half-size add-on plant might be adequate to bridge the gap between the expected capacity of existing plants and the time when centrifuge plants would be available.
  - . ERDA now believes a full-sized plant is required because of the greater demand for uranium enrichment capacity due to (a) higher prices for natural uranium and (b) delays in the recycling of uranium and plutonium.
  - . The availability of both diffusion and centrifuge technologies in a commercial framework provides more flexibility with respect to meeting market requirements than would a single technology.
  - . The greatest flexibility would result from acceptable cooperative agreements with all four of the firms now having proposals before ERDA -- resulting in early starts on four plants.
5. The GAO Report is incorrect in its conclusion that a Government-owned add-on plant could be on line sooner than a privately-owned free standing diffusion plant.
  - . According to current schedules, the add-on plant would not be on line sooner than the UEA plant. Both of these schedules are subject to some uncertainty and it is not now possible to conclude that one could be available earlier than the other.
  - . There are some uncertainties, particularly with respect to electrical power supply, which now appear greater for a Government add-on plant than for the UEA's proposed plant:



- UEA plans to use electrical power from new nuclear plants which -- because design, long lead-time procurement and certain steps toward licensing are underway -- could be completed more quickly than usual for nuclear plants.
- Such nuclear plants apparently are not available for an add-on Government plant within the desired time frame, making it necessary to build one or two new 1200 to 1300 megawatt coal-fired electrical plants. ERDA believes such coal-fired plants could be built; however, (a) the government may have to guarantee securities for the plants and transmission lines, and (b) plants would have to meet clean air requirements -- which add uncertainty -- including:
  - . Prohibitions against significant deterioration in air quality, which requirements are now being considered by Congress.
  - . New Source Performance Standards and National Ambient Air Quality Standards set by the U.S. Environmental Protection Agency (EPA), and perhaps new standards (e.g., for sulfates) which have not yet been set.
  - . Air pollutant emission limitations in air quality implementation plans set by the state in which plants are located.

Generally, requirements now applicable can be met with the installation of scrubbers or the use of low sulfur coal. One potential power supplier has informed ERDA that scrubbers would not be used. If low sulfur coal is needed, restrictions on strip mining and other constraints on coal production and transportation would also have to be met.

6. The GAO report is not correct in concluding that a Government add-on plant is less costly than a private stand-alone plant because (a) GAO considered only the construction costs, and (b) when operating costs are considered it appears that there would be little or no difference in the costs of enrichment services from an add-on plant and the proposed free standing plant.



- . GAO compares a \$2.7 billion construction estimate for a UEA stand-alone plant with a \$2.1 billion estimate for an add-on plant at Portsmouth, Ohio. Capital costs account for about 40% of the price per SWU from a diffusion plant.
  - . Electrical power accounts for roughly the same percentage of costs per SWU but the actual percentage will depend on whether it comes from coal or nuclear sources. UEA plans to use nuclear plants which provide electrical power at rates below those of new coal fired plants. A higher power cost differential of only 5 mills per kilowatt hour could mean more than \$11 per SWU in higher operating costs at the add-on plant or more than \$100 million per year when coal is used. The end result is likely to be as high or higher cost per SWU.
  - . GAO's cost comparison also fails to take into account broader factors such as (a) the long term competitive advantages of moving toward a private industry, and (b) the greater potential of drawing on foreign sources of financing (but without sacrificing U.S. control) if private industry is involved.
7. The GAO report is incorrect in its conclusion that a private diffusion plant would not contribute to the creation of a private competitive industry.
- . At the present time the four existing private ventures (one diffusion and three centrifuge) are at the proposal stage, but already there is competition among them for customers, both domestic and foreign.
  - . A successful diffusion venture would demonstrate:
    - That business and financial problems common to the uranium enrichment business -- regardless of the technology used -- can be resolved; e.g., that private industry can raise capital for enrichment plants and establish satisfactory relationships with customers, both domestic and foreign.
    - That private financing and ownership is possible while maintaining all necessary controls and safeguards.

- The end of uncertainty as to whether the Government has the resolve to end its monopoly and take the steps necessary for a transition to a private, competitive industry.

8. The GAO report's analysis of risk (a) understates the risk to UEA, (b) overestimates the risk to the Federal Government, and (c) concludes that private firms using centrifuge technology should assume more risk, but doesn't say what level is acceptable or how it should be obtained.

- . As indicated earlier, the UEA proposal is still under negotiation and thus no final conclusion about the risk can be stated. However, it is clear from the proposal that substantial risks are involved. For example:
  - At a minimum, domestic equity investors will be putting up more than \$200 million. All or part of that equity could be lost. The chances of losing at least part of the equity is not remote.
  - Return on equity is also at risk. In addition, there would be less tangible costs such as delayed payout on investments, loss of alternative business opportunities, services of key managerial and technical personnel, etc.
  - Once commercial operability of a plant has been established, the obligations of the Government would terminate and the private sector would carry essentially full risk for the expected 25 or more years of plant operation.
- . The report does not take adequately into account the risks that private firms would have in dealing with multi-billion dollar projects involving classified technology which has not been proven in a commercial setting.
- . In its assessment of Government risk-sharing, the report fails to consider adequately that:
  - even under the most severe consequences (need for a Government take-over of a project) -- let alone



the more likely circumstances, Government funds would not be at risk. Government funds would all be recovered, normally from the private project but, in any case, from the sale of uranium enrichment services.

- under the GAO alternative where the Government finances and owns an add-on plant, the Government bears all the risks for the entire life of the plant.

- . As indicated earlier, advanced technologies have more uncertainties and are likely to require more Government sharing of risk. In any case, the report is very vague as to what level or type of risk that would be considered acceptable by GAO.
- . As extensive hearings before the Joint Committee on Atomic Energy have indicated, all who have studied the issue have concluded that uranium enrichment presents abnormal business risks.

9. The GAO report does not give adequate attention to the budget impact of its recommendation for an add-on plant in light of (a) overall budgetary constraints, (b) probable need for more Federal assistance in other nuclear energy research, development and demonstration, (c) competition for funds from other programs, including non-nuclear energy R&D, or (d) the long period of time before taxpayers are repaid for past and current investment in Government enrichment facilities -- let alone a new add-on plant.

- . The need to get Federal spending under control, as reflected in efforts in the Administration and the Congress, raises serious doubts as to the wisdom of committing more than \$2.8 billion for construction and initial operation of an add-on Government plant.
- . Large sums are already being devoted to nuclear programs (e.g., over \$400 million for the breeder; over \$200 million in net outlays for uranium enrichment) in FY 1976. These programs and other nuclear R&D will require even more in future years. For example, pressures are increasing for the Government to do more on reprocessing and long term waste management.

A commitment of Federal funds for enrichment -- where technology is available and industry willing to provide financing -- could preclude additional funding for other nuclear areas, as may be appropriate.

- . If more money has to be spent on uranium enrichment, it probably will become increasingly difficult to explain the relative funding levels for nuclear and non-nuclear programs -- or the relationship to other competing demands for Federal funds.
- . With the commitments already made to uranium enrichment in Federal plants, there will not be a cumulative positive cash flow until the 1980's. Building a Government add-on plant would incur costs which would not be recouped until after 1990.

10. The GAO report does not identify many disadvantages associated with the creation of a Government corporation to run present Government plants and an add-on plant or justify its conclusion that a Government corporation would be more effective than the current arrangements for managing enrichment plants.

- . The proposal to create a Government corporation so that costs of constructing a new Government owned plant would not show up in the Federal Budget is misleading. Whether borrowing is from the Federal Treasury or the money market, net outlays would nevertheless add to the Federal Budget deficit -- as in the case of TVA. Borrowing from the Treasury would add to the total national debt.
- . Creating a new Government corporation to take over existing plants and for "just one more" Government-owned plant would create a new bureaucracy that would tend to perpetuate the period of uncertainty with respect to Government intentions toward ending its monopoly and moving toward a private industry.
- . The assertion that management of Government facilities by a new Government corporation would be "more effective" is not justified in the report -- other than freedom from the budget and appropriations process, which may be undesirable.



- . The GAO report does not consider the disruption of ongoing ERDA and contractor resources that would be entailed in such a major reorganization; the time that would inevitably be involved in getting a new corporation started; and the high probability that ERDA resources would be diverted from the management of (a) the program to move toward a private industry, and (b) the maintenance of a viable contingency plan to build a Government plant in the unlikely event private ventures did not succeed.
- . The report does not cite other disadvantages of the proposal to create a Government corporation and extend the period of the Government's monopoly:
  - Uranium enrichment is not an activity that should be performed by the Federal Government. It is a commercial/industrial activity.
  - Uranium enrichment service capacity must expand rapidly over the next few years and that expansion could occur in the private sector -- rather than enlarge the Federal sector.
  - The Nation would forego the advantages of private competition which would provide incentives over the long run for lower costs, improved efficiencies, and technological advancement -- as well as a more diverse base for utilities to obtain their fuel -- and which will more aggressively pursue foreign markets for uranium enrichment.

11. The GAO report does not seem to recognize that following its recommendations would substantially delay and may prevent ever achieving a private competitive uranium enrichment industry in the U.S.

- . Ending a Government monopoly is extremely difficult and following the GAO recommendations would increase the difficulty. The progress and momentum of private industry over the last three years would be diminished or destroyed, and uncertainty over the Government's real intentions would emerge once again -- undercutting the extensive efforts that have been undertaken by private industry. Building more Government-owned



capacity (after a period of about 20 years without constructing new plants) could not help but cast doubts -- among potential private participants and customers, foreign and domestic -- about current or future assertions that the Government is serious in its efforts to involve industry and end its monopoly.

- . Contrary to implications in the report, there is no reason to suggest that it would be easier or more effective to begin the transition to a competitive industry with centrifuge technology when diffusion technology is at hand.